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## A VIAMAP exploration of the Tunisian *tubū<sup>c</sup>*

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### Abstract

In 2018 NEMO-Online published the first author's article "MAT for the VIAMAP – Maqām Analysis Tools for the Video-Animated Music Analysis Project" – with detailed explanations about more performing tools for the analysis of, mainly, solo *maqām* music, be it instrumental or vocal. It was followed by two articles in the same review, the 2019 "The Lost Art of *Maqām*" and the 2021 "Further Analyses from the VIAMAP" which explored further the *maqām* repertoire including performances from the *maqām* mainstream as well as from Syriac (Orthodox), Turkish musicians, and *Cante Jondo* (Flamenco) performances.

This article deals with Tunisian solo performances from the 1932 Congrès du Caire recordings, mainly improvisations of Muḥammad Ghānim on *rubāb* and °Khmayyis° Tarnān on °*ūd* °*arbi*°, in a very limited attempt at analysing a repertoire at a given period of time, here at the beginning of the 1930s. The results confirm previous research: each performance – and each analysis – is unique and, while few characteristics may apply to some – or most – of the performances, the rule remains the existence of substantial differences between different regions, performers and instruments. Furthermore, the results of the analyses of the Tunisian *istikhbārūt* confirm once again, if still needed today, the frequent disparities between theories and practices of music.

### Résumé

#### Exploration des *tubū<sup>c</sup>* tunisiens par la technique du VIAMAP

En 2018, NEMO-online a publié l'article "MAT for the VIAMAP – *Maqām* Analysis Tools for the Video-Animated Music Analysis Project" d'Amine Beyhom, avec des explications détaillées sur la performance des outils de l'analyse de solos *maqāmiques* qu'ils soient vocaux ou instrumentaux. Cet article a été suivi par deux autres articles dans la même revue, intitulés "The Lost Art of *Maqām*" en 2019 et "Further Analyses from the VIAMAP" en 2021, qui explorent davantage le répertoire du *maqām* incluant des performances du répertoire syriaque (orthodoxe), turc et Flamenco (*Cante Jondo*).

Le présent article traite des improvisations tunisiennes en solo, celles de Muḥammad Ghānim sur le *rubāb* et °Khmayyis° Tarnān sur le °*ūd* °*arbi*°, enregistrées pendant le Congrès du Caire en 1932 en essayant d'analyser un répertoire précis et limité dans le temps (ici le début des années 1930). Les résultats confirment les recherches précédentes : chaque performance – et par la suite chaque analyse – est unique et la règle demeure toujours celle de l'existence de différences substantielles entre les différentes régions, interprètes et instruments. Par ailleurs, les résultats des analyses des *istikhbārūt* tunisiennes confirment une fois de plus, faut-il encore le rappeler aujourd'hui, les fréquentes disparités entre la théorie et la pratique de la musique.

### ملخص

#### استكشاف الطبع الموسيقية التونسية عبر تقنية "الفياماب"

في سنة 2018، نشرت مجلة "تم أونلاين" مقالا باللغة الانجليزية للأستاذ أمين بيهم بعنوان « أدوات تحليل المقام عبر الفياماب – مشروع التحليل الموسيقي عبر الفيديوها المتحركة »، والذي قدم تفسيراً مفصلاً حول جدوى هذه الأدوات في تحليل الأداء الموسيقي المقامي المنفرد، سواء كان آلياً أم غنائياً. وقد وقع إرفاد هذا المقال بمقالين آخرين، لنفس الكاتب وفي نفس المجلة، عنوانهما « فن المقام المفقود » في سنة 2019 و« تحليلات أخرى عبر الفياماب » سنة 2021، واللذان يتقدما في استكشاف المدونة المقامية مثل أجزاء من الموسيقى السريانية الأرثوذكسية والموسيقى التركية وموسيقى الفلامنكو (كانتا خوندو *Cante Jondo*).

يتناول مقالنا هذا بالتحليل عبر تقنية الفياماب استخبارات موسيقيين تونسيين، هما محمد غانم على آلة الرباب ونجيس الترنا على آلة العود العربي، والتي وقع تسجيلها خلال مؤتمر الموسيقى العربية سنة 1932. وتؤكد النتائج ما ورد في البحوث السابقة: إذ يتميز كل أداء، وبالتالي كل تحليل، بالفرد وبأكيد وجود اختلافات جوهرية بين مختلف المناطق والمؤدين من جهة أخرى، تؤكد تحليلات الاستخبارات التونسية في هذا الإطار الفوارق الهامة بين النظرية والتطبيق.

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## 1. Introduction

This article is the continuation of three previous articles<sup>(1)</sup> by the first author concerning the new (video) tools used by the CERMAA team<sup>(2)</sup> for the analysis of *maqām* performances. Knowing that the notation and scale tools used in *maqām* analysis are biased as they are based on the ideological premises of Western musicology<sup>(3)</sup>, video animated analyses become one alternative manner of analysing *maqām* and other musics – especially solo performances.

While previous VIAMAP (Video Animated Music Analysis Project) analyses concentrated mainly on more complex performances with numerous modulations and musical or vocal and instrumental techniques, the video analyses proposed in this article concern simpler performances, which develop generally one single *ṭab<sup>c</sup>*<sup>(4)</sup> scale with few modulations. The fourteen analysed instrumental pieces are taken from the Tunisian repertoire – mainly improvisations – recorded at the 1932 Congrès du Caire. We show that the tools developed in the last few years allow for a thorough analysis of this reduced repertoire and, mostly, that even the “simplest” performances by renowned musicians have much to tell about the music that they tried to represent at this occasion.



Figure 1. The Tunisian ensemble at the 1932 Congrès du Caire. Muḥammad Ghānim (center, *rabāb*) sits with °Khmayyis° Tarnān (*°ūd °carbī°*) at his left.

## 2. Prefatory Remarks

There are seven video analyses<sup>(5)</sup> in all explained in this article, which all concern Tunisian music recorded at the 1932 *Congrès du Caire*. The seven video analyses concern fourteen *istikhbār(s) – taqāsīm*<sup>(6)</sup> of the Tunisian tradition (Figure 1). Each video shows the analysis of two successive *istikhbār(s)* each in a different *ṭab<sup>c</sup>* (a Tunisian *maqām*), the first being performed on the *r[a]bāb* by Muḥammad Ghānim, and the second on the *°ūd °carbī°*<sup>(7)</sup> by °Khmayyis° Tarnān.

The videos and *t[u]bū<sup>c</sup>*<sup>(8)</sup> concern, successively:

- **Video 1:** The *ṭab<sup>c</sup> a-r-Rahāwī*<sup>(9)</sup> on *rabāb*, then *ṭab<sup>c</sup> a-dh-°Dhāl°* on *°ūd °carbī°* (CDC HC 50a)<sup>(10)</sup>, ([link to the video](#))
- **Video 2:** The *ṭab<sup>c</sup> al-°Irāq* on *rabāb*, then *ṭab<sup>c</sup> a-s-Sīkā* on *°ūd °carbī°* (CDC HC 50b), ([link to the video](#))
- **Video 3:** The *ṭab<sup>c</sup> a-r-Rāṣd* on *rabāb*, then *ṭab<sup>c</sup> °Raml°*<sup>(11)</sup> *al-Māyā* on *°ūd °carbī°* (CDC HC 51b), ([link to the video](#))
- **Video 4:** The *ṭab<sup>c</sup> a-n-Nawā* on *rabāb*, then *ṭab<sup>c</sup> al-Iṣbu°ayn* (or *al-°Iṣbu°in°*) on *°ūd °carbī°* (CDC HC 52a), ([link to the video](#))
- **Video 5:** The *ṭab<sup>c</sup> Rāṣd a-dh-°Dhāl°* on *rabāb*, then *ṭab<sup>c</sup> a-r-Ramal* on *°ūd °carbī°* (CDC HC 52b), ([link to the video](#))
- **Video 6:** The *ṭab<sup>c</sup> al-Iṣbahān* on *rabāb*, then *ṭab<sup>c</sup> al-Mazmūm* on *°ūd °carbī°* (CDC HC 53a), ([link to the video](#))
- **Video 7:** The *ṭab<sup>c</sup> al-Māyā* on *rabāb*, then *ṭab<sup>c</sup> al-°Mḥayyar°*<sup>(12)</sup> *-Sīkā* on *°ūd °carbī°* (CDC HC 53b), ([link to the video](#))

In all the video analyses, various graphic scales are used according to the *main ṭubū<sup>c</sup>* scales and to the identified modulations, using a Western literal notation on the sides and a central – shifted to the right – Arabic solmization following the one earlier proposed by Beyhom (Figure 2). The notes in the main, first scale (between the tonic and its upper octave – if any) are written

with lowercase letters, while the initial letter is capitalized in the two neighbouring (upper and lower) octaves – this also applies to the English notation used for the scales; Finally, *nīm-* (lowering one quarter-tone) and *tīk-* (raising one quarter-tone) indications in the graphic scales are shortened as “*n-*” and “*t-*” thus, for example, “*n-hij*” for “*nīm-hij*” or “*nīm-HIJĀZ*”, equivalent to an approximate  $f^+$  ( $f$  raised by an approximate quarter-tone)<sup>(13)</sup>.

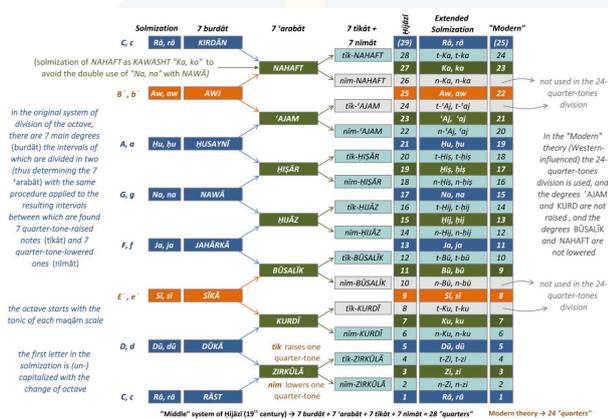


Figure 2. Details of the solmization used in the graphic scales<sup>(14)</sup>. *e* and *b* are respectively equivalent to “*e* - 1 quarter-tone” and “*b* - 1 quarter-tone”.

In the commentaries of the videos, 2 time indications may be used, mainly “*s\_a*” (for “seconds of the analysis”) for the analysis as such, and possibly “*s\_v*” (for “seconds of the video”) for the overall time (in seconds) of the video.

Some of the graphic scales can move slightly vertically to fit the possibly moving tonic or any other degree of the scale, with a horizontal dashed grey line showing the position of the original tonic<sup>(15)</sup>. Intervals of a scale are written (noted) as successive ascending multiples of a theoretical – and approximate in practice – quarter-tone, thus 4424442 for the tense (Western) diatonic scale of *c* on *c*, equivalent to  $c\ 4\ d\ 4\ e\ 2\ f\ 4\ g\ 4\ a\ 4\ b\ 2\ C$ .

Lastly: All the musical pieces are identified under the number of the master recording which is provided in the latest available edition (2015) of the recordings of the *Congrès du Caire*<sup>(16)</sup>, for example for the *Istikhbār Rahāwī* by Muḥam-

mad Ghānim on *rabāb*, then the *Istikhbār °Dhāl°* by °Khmayyis° Tarnān on *°ūd °arbi°*, CDC (for “*Congrès du Caire*”) HC 50a (identifier of the corresponding master recording containing the two *istikhbārāt*).

### 3. Tunisian *ṭubūc* at the 1932 Congrès du Caire

The original idea for this article was the analysis of all the *istikhbārāt* (improvisations) of Tunisian music contained in the 2015 edition of the music recorded at the *Congrès du Caire* of 1932. Unfortunately, one of the master recordings (HC 51a) reproduces a *qaṣīda* with mixed singing and *°ūd* playing, the computer analysis of which is still problematic with the – till today – available tools. The other master recordings (HC 50 to HC 53, excluding 51a) are all divided in two (more or less)<sup>(17)</sup> clearly distinguishable parts, with a first improvisation by Muḥammad Ghānim (Figure 3) on the *rabāb*, and a second one by °Khmayyis° Tarnān (Figure 4) on the *°ūd °arbi°*, which totals 14 different improvisations and *ṭubūc* (Tunisian “modes”). Due to the recordings date, however and as aforementioned, from the 1932 *Congrès*, and due to the particular technique of Tarnān, very limited parts of his performances had to be corrected manually, and signalled by the shortened terms “man. corr.” (for “manual correction”)<sup>(18)</sup>.



Figure 3. Muḥammad Ghānim and his *rabāb* at the 1932 Congrès du Caire.



Figure 4. °Khmayyis° Tarnān and his *°ūd °arbi°* at the 1932 Congrès du Caire.

In the 1988, 2 CD edition of chosen recordings of the 1932 *Congrès du Caire*, Bernard Moussali comments:

"The Tunisian ensemble was selected by d'Erlanger<sup>(19)</sup> and Darwīsh<sup>(20)</sup> as part of a strategy to reconstitute melodies of bygone years, as they conceived them. Muhammad Ghānim (c. 1880-1940) was encouraged to drop his current technique on the *rabāb*, which carried the basic melody line, in favour of a technique close to that of the violin: armed with a long, unusual bow, he provided embellishments and improvisations. °Khmayyis° Tarnān (1894-1964), student of Aḥmad a-t-Ṭuwaylī (c. 1870-1933) began his career as a lutenist and an interpreter of Near-Eastern music. He was encouraged to learn the traditional vocal suites (*ma'lūf*) and to use the *°ūd °carbī°*, the lute of the family of the *quwaytra*, or *°qwītra°* in dialect (diminutive of *qītāra*, from the Indo-European 'guitar'). He went on to become one of the masters of Tunisian music."<sup>(21)</sup>

Were present with the musicians at the *Congrès Mannoubi Snoussi*<sup>(22)</sup>, °Alī a-d-Darwīsh and Ḥassūna Ibn °Ammār<sup>(23)</sup>. For the first time in history, an abridged version of a *nūba* in *ṭab° Rāṣd a-dh-°Dhīl°* was recorded (HC 40 to 45). The performance of the Tunisian musicians was an attempt " 'to go back to the basics' that led to the establishment of the Music Institute of Rāshidiyya in 1934, and to the transcription of the traditional Tunisian heritage. [...This] meant a good deal of reconstruction".

In the Tome 5 of *La Musique Arabe* by Erlanger<sup>(24)</sup>, the scales of the Tunisian *ṭubū°* – with examples for each of them – are notated apart (before the indexes) under fig. 144 to fig. 176. We relied for the graphical analyses on these notated scales and on Mannoubi Snoussi's descriptions of the *ṭubū°* in his *Initiation à la Musique Tunisienne*<sup>(25)</sup>, as well as on Hamdi Makhlouf's knowledge of the Tunisian repertoire.

One main aim of these analyses was the comparison between theory and practice. A second aim was the identification of possible characteristics of the instrumental playing of the performers – and of the instruments. In each of the following sections, each comprising two *istikhbārāt* by, firstly,

Ghānim then secondly Tarnān, a short video – based on a Power Point show – analyses the scale of the *ṭab°* – when given – as proposed in the accompanying CD 1 of Snoussi, to be compared with Erlanger's notation reproduced as a figure in the text. The two descriptions are then compared to the practice through the performances of the two musicians, each of them in one *ṭab°*. Furthermore, Ghānim's and Tarnān's practices are rapidly compared to today's teaching of the *ṭubū°*, when these practices differ one from another.

**Important notice :** As with Snoussi in his explanations, we use in the main text *genos*<sup>(26)</sup> and tetrachord denominations such as *rāst*, *būsalīk* etc. in the below explanations, knowing that the use – and naming – of these tetrachords in Tunisian *ṭubū°* is different from their use – and denominations – in Middle-Eastern *maqām* music. In order to give modern Tunisian musicology its due share, we have added a special section at the end of each *ṭab°* and *istikhbār* analysis, entitled "Modern Tunisian Analysis of the *sayr al-°amal* of *ṭab°* XXX by YYY ZZZ" (and on orange background similar to the one of this notice), in which the *sayr al-°amal* is shortly described using the Tunisian terminology of the *ṭubū°* and *genē*, namely for the latter: *rahāwī* type 1 (433 in multiples of the approximate quarter-tone), *rahāwī* type 2 (or *mu-jannab a-r-rahāwī* 424), °*dhīl°* (433), °*īraq* (334), °*sīkā* (344), °*ḥsīn°* (334), *rāṣd a-dh-°dhīl°* type 1 (433) and type 2 (4253), pentatonic *rāṣd* 424, °*raml° al-māyā* 334, *nawā* 424, *iṣbu°ayn* (262 or 253 or 343), °*ramal°* 253, *iṣbahān* (433), *mazmūm* (442) and *māyā* (433).

#### 4. Analysis 1: The *ṭab° a-r-Rahāwī* by Muḥammad Ghānim on *rabāb*, then *ṭab° a-dh-°Dhīl°* by °Khmayyis° Tarnān on *°ūd °carbī°* (CDC HC 50a)

In these two first *ṭubū°*, some discrepancies between the two authors (Snoussi and Erlanger) as

well as between theories and practices begin to reveal themselves.

#### 4.1 First improvisation by Ghānim on *rabāb*: *Ṭab<sup>c</sup> a-r-Rahāwī*

*Ṭab<sup>c</sup> a-r-Rahāwī* is the only *ṭab<sup>c</sup>* – among those analysed in this article – which is not explained in (Snoussi 2003)<sup>(27)</sup>; it is notated, with an example, on a tonic = *c* in (Erlanger 1949) with a mobile *e* (*e* or *e<sup>b</sup>* – see Figure 5). The division of the scale in this notation favours a sub-tonic *B* (or “*B* minus one quarter-tone”) while the main scale uses a *b<sup>b</sup>* within an upper *būsālīk* tetrachord *g* 424 preceded by alternatively a *rāst* 4334 or a *būsālīk* 4244 tetrachords on *c*.

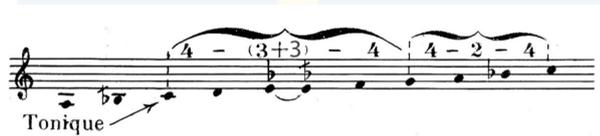


Figure 5. *Ṭab<sup>c</sup> a-r-Rahāwī* as explained in Erlanger (Erlanger 1949, 5: mode no. V, fig. 152), with the French “*Tonique*” indicating the tonic; the lower pentachord is either *c* 4334 (*rāst*) or *c* 4244 (*būsālīk*) with a subtonic *B*. (The second “3” interval of the initial pentachord was computer corrected by the authors; if the note is *e<sup>b</sup>*, the consecutive intervals between *d*, *e<sup>b</sup>* and *f* should evidently be 2+4.)

In his performance, Ghānim uses a range of a fifth above the tonic *c* and of a fourth below it. He uses a high *A* – which could be specific of *ṭab<sup>c</sup> a-r-Rahāwī* – in the lower tetrachord on *G* and *B* (plain)<sup>(28)</sup> as a sub-tonic (in place of the *B*) and three clearly delineated types of *e*, from *e<sup>b</sup>* to *e* (plain), with also an *e<sup>h</sup>*<sup>(29)</sup>. These are substantial differences with the above notated scale, with an additional *ajam* pentachord *c* 4424 and another *ajam* tetrachord 442 on *g* (or at least on the lower *G*), and a more mobile third degree *e<sup>b</sup>* *e*. (Figure 6).

We can also notice (for example around 49 s\_a) small discrepancies between the tonic of the *rabāb* for this *ṭab<sup>c</sup>* and the tonic played occasionally (in parallel) by Tarnān. This is most probably due to the fact that the *ūd* *carbī* of Tarnān, generally tuned in *d d' g c'* (Figure 7 and Figure 8), has an unstopped *c*, while Ghānim’s *rabāb* has two strings tuned as *g*

and *d*, and his tonic *c* must be stopped on the *g* string.

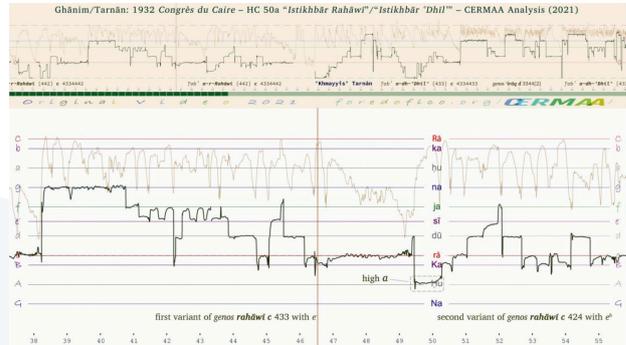


Figure 6. A frame from the video analysis showing the use by Ghānim of a nearly plain *e* around 41.\* s\_a<sup>(30)</sup> evolving towards a (relatively) high *e* (around 42-43 s\_a) then becoming *e<sup>b</sup>* just before 52 s\_a; these changes (mostly between *e* and *e<sup>b</sup>*) could represent one of the specificities of the (today) rare *ṭab<sup>c</sup> Rahāwī*, to which can be added the slightly high *a* (as seen at 50 s\_a in the figure).



Figure 7. Tunings of the *ūd* as shown in (Ṣalāh Maḥdī (al-) 1972, 56): the tuning of the Tunisian *ūd* (in Tunisia) is shown in the central part, the tuning of the “oriental” *ūd* on the left side, while the right side shows the tuning of the “Tunisian” *ūd* in Algeria.



Figure 8. Most used tunings of the *qwiṭra* according to (Guettat 1980, 239).

##### 4.1.1 Modern Tunisian Analysis of the *sayr al-ajam* of *ṭab<sup>c</sup> a-r-Rahāwī* by Muḥammad Ghānim

(3.\* s\_a): Tonic = *c*. (5.\*-21.\* s\_a): exposition of the main *genos rahāwī c* 433/424 of the *ṭab<sup>c</sup> a-r-Rahāwī*. (5.\*-14.\* s\_a): *rahāwī genos c* 433 with *e*. (15.\*-21.\* s\_a): variant “*mujannab*” of *genos rahāwī c* 424 with *e<sup>b</sup>*. (22-31 s\_a): complete scale of *ṭab<sup>c</sup> a-r-*

*Rahāwī*, followed by (31.\*-35 s\_a) by descents to the lower *G* and back to the tonic (36-38 s\_a). (38.\*-48.\*): 1<sup>st</sup> variant (with *e*) of *rahāwī c* 433; (49-58 s\_a): 2<sup>nd</sup> variant “*mujannab*” of *rahāwī c* 424 (with *e<sup>b</sup>*) and end.

#### 4.1.2 Detailed segmentation/Analysis

- 5-14 s\_a: *rahāwī c* type 1 433
- 15-21 s\_a: *rahāwī c* type 2 c 424 (a.k.a. *mujannab a-r-Rahāwī*)
- 22-31 s\_a: *rahāwī c* type 1
- 31-38 s\_a: *rahāwī c* type 1
- 38-49 s\_a: *rahāwī c* type 1
- 49-51 s\_a: *rahāwī c* type 2 424 (a.k.a. *mujannab a-r-Rahāwī*). The descent to *YĀKĀ* (14 s\_a and 33-34 s\_a) seems to be characteristic of the *sayr al-‘amal* of the *ṭab<sup>c</sup>*.

## 4.2 Second improvisation by Tarnān on *‘ūd* *‘carbī*: *Ṭab<sup>c</sup> a-dh-°Dhīl°*

In (Snoussi 2003, 47–48), the author explains that the *ṭab<sup>c</sup> a-dh-°Dhīl°* is close to the “Oriental” *maqām Rāst* on *c* 433(4)433 with the adjunction of a lower *rāst* tetrachord (a “*dhīl*” in Tunisian vernacular, or “*dhayl*” in classical Arabic) 433 on (lower) *G* (Video T.1), the same as with Erlanger (Fig. 16), who notates, however and further, a highly mobile *e* (from *e<sup>b</sup>* to *e* plain, and through *e*) resulting further in the *būsalīk* tetrachord on *c* or on *d*, and with a higher extension – intermingled with the 433 tetrachord on *g* – consisting in a *sīkā* (or *‘irāq*) trichord 34 on *b*.



Video T.1. Graphic analysis of the scale of *ṭab<sup>c</sup> a-dh-°Dhīl°* as in Snoussi’s CD1-14, with high *e* and *b*

[Click here to see the video](#)

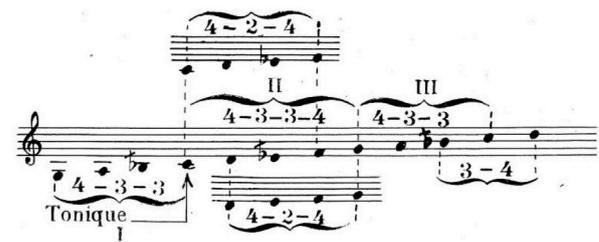


Figure 9. *Ṭab<sup>c</sup> a-dh-°Dhīl°* as in Erlanger (Erlanger 1949, 5: mode no. I, fig. 148).

The theoretical highly mobile *e* in *ṭab<sup>c</sup> a-dh-°Dhīl°* resembles the highly mobile *e* in Ghānim’s performance for the *ṭab<sup>c</sup> a-r-Rahāwī* (see above). The energetic performance of Tarnān on the *‘ūd* *‘carbī*, which encompasses a full octave + fifth, is however much more straightforward, interval wise (Figure 10), as Ghānim’s, although the *e* can be occasionally a little high (92, 99 and 100.\* s\_a – but not a straightforward *e*), but with the occasional use of *e<sup>b</sup>* as at 102.\* s\_a more as passing micro-modulation than as an effective modulation to *genē būsalīk* 424 on *c*. Note also the use of a very high *b* at 105 s\_a and of a *b<sup>b</sup>* at 88.\* s\_a, and the unstable tuning of the tonic, very clearly discernible at the end of the piece (around 176-177 s\_a). Finally, note the passages 60 to 73 s\_a, 128 to 137 s\_a and 156 to 167 s\_a which correspond to (what has become) a characteristic “must do”<sup>(31)</sup> passage – a melodic-rhythmic formula – for this *ṭab<sup>c</sup>*.

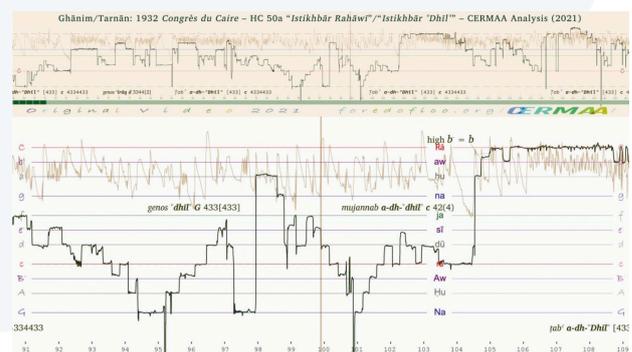


Figure 10. A frame from the video analysis showing the straightforward use of the scale of *ṭab<sup>c</sup> a-dh-°Dhīl°* by Tarnān around 100 s\_a, with micro-modulations of the third degree *e*.

#### 4.2.1 Modern Tunisian Analysis of the *sayr al-ʿamal* of *ṭabʿ a-dh-°Dhīl°* by °Khmāyis° Tarnān

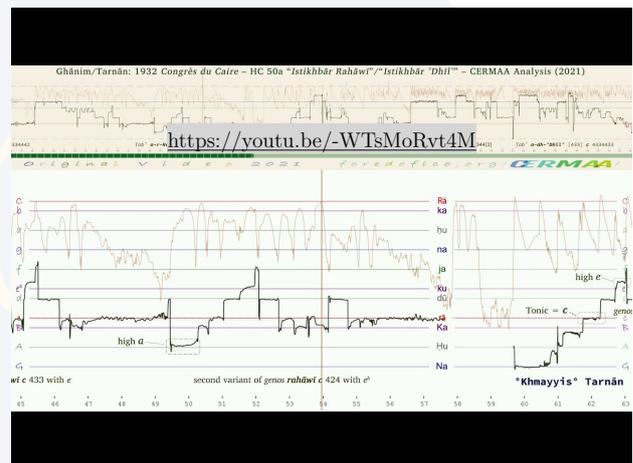
(59.\*-73 s\_a): exposition of the scale of *ṭabʿ a-dh-°Dhīl° c* 4334433 with a characteristic phrase of the *ṭabʿ*. (73.\*-82.\*): this part is typical of *ṭabʿ al-ʿIrāq d* 33442(44)<sup>(32)</sup> [*ṭabʿ al-ʿIrāq* comes after the °*Dhīl°* in the succession of *naubāt* and *ṭubūʿ*]. (83-104 s\_a) back to the scale of *ṭabʿ a-dh-°Dhīl° c* 4334433 then development of the scale (105-128 s\_a) in the upper part mainly. (128-137.\* s\_a): return to the initial characteristic phrase. This is followed by a come-back (137.\*-152.\* s\_a) to *ṭabʿ al-ʿIrāq d* 334433(4) with (152.\*-167.\*) a reiteration of the initial characteristic phrase in *ṭabʿ a-dh-°Dhīl° c* 4334433, and a final short *exposé* (168-177.\* s\_a) of this phrase encompassing (nearly) the whole range from upper *C* to lower *G* and back to the tonic *c*.

#### 4.2.2 Detailed segmentation/Analysis

- **60-73 s\_a:** °*dhīl° c* 433 with low *e* (also *mujannab*)
  - 60-66 s\_a: micro stop on *DŪKĀ d* → *genos ʿirāq d* (334)
  - 67-69 s\_a: characteristic descent to *YĀKĀ* (probably a °*dhīl° G* 433)
  - 69-73 s\_a: °*dhīl°* with *mujannab c* 424
- **73-82 s\_a:** °*irāq DŪKĀ d* (334)
- **83-104 s\_a:** °*dhīl° c* 433 with *mujannab c* 424, with multiple micro stops
  - 83-89.\* s\_a: extended °*irāq DŪKĀ d* (334)
  - 89.\*-95 s\_a: °*dhīl° YĀKĀ G* 433 or 442
  - 101-104 s\_a: °*dhīl°* with *mujannab c* 424
- **104-118 s\_a:** °*dhīl° c* 433 [close to the formulation of a *rāṣd a-dh-°dhīl°* type 1 *c* 433(4)] + exploration of the upper register

- **118-128 s\_a:** °*dhīl°* (development of the preceding phrase)
- **128-137 s\_a:** similar to 60-73 s\_a above (1<sup>st</sup> phase)
- **137-143 s\_a:** °*irāq DŪKĀ d* (334)
- **143-167 s\_a:** similar to 60-73 s\_a above (1<sup>st</sup> phase)
- **168-177 s\_a:** typical concluding formula (cadenza) of the °*Dhīl°*

All in all, both performances are very rich and interesting with, however and as could be expected, sometimes consistent differences between (written, notated) theory and practice.



Video 1: Video analysis of the *istikhbar* in *ṭabʿ a-r-Rahāwī* by Muḥammad Ghānim on *rabāb* and the *istikhbar* in *ṭabʿ a-dh-°Dhīl°* by °Khmāyis° Tarnān on *ʿūd ʿarbi°*

## 5. Analysis 2: The *ṭabʿ al-ʿIrāq* by Muḥammad Ghānim on *rabāb*, then *ṭabʿ a-s-Sīkā* by °Khmāyis° Tarnān on *ʿūd ʿarbi°* (CDC HC 50b)

This was not an easy analysis, mainly because of the differentiation between the tonic of each mode (*d* and *e* – see Figure 11 and Figure 15) and the characteristic note of each (°*IRĀQ*<sup>(33)</sup> – *b* – for the first, more classically *SĪKĀ* – *e* – for the second).

## 5.1 First improvisation by Ghānim on *rabāb*: *Ṭab<sup>c</sup> al-<sup>c</sup>Irāq*

Manoubi Snoussi describes the scale of *ṭab<sup>c</sup> al-<sup>c</sup>Irāq*<sup>(34)</sup> as based on *d* and composed of two conjunct tetrachords (Video T.2), the first a *bayāt* 334 tetrachord on *d* (or *d e f g*)<sup>(35)</sup> and the second being a *rāst* 433 tetrachord on *g* (or *g a b<sup>c</sup> c*), which is a first difference with Erlanger (Figure 11) for whom the second tetrachord is in fact a trichord of the type *būsālīk* (or “minor”) *g* 42 (with a *b<sup>b</sup>* instead of *b*). However, Snoussi also notes that a supplementary lower *rāst* pentachord on (lower) *G* (or *G A B<sup>c</sup> c*) complements the scale in the lower octave, which gives the complete scale *G A B<sup>c</sup> c* (= tonic) *d e f g a b<sup>c</sup> c* for Snoussi, with a minor difference with Erlanger as the *b* is flat in his notation, or *G A B<sup>c</sup> c* (= tonic) *d e f g a b<sup>b</sup>*.



Figure 11. *Ṭab<sup>c</sup> al-<sup>c</sup>Irāq* as in Erlanger (Erlanger 1949, 5: mode no. XV, fig. 162).

Snoussi further explains that:

"[a]fter a fortuitous<sup>(36)</sup> stop on the lowest note of this supplementary pentachord (lower *G*), the movement [of the melodic line] rises to carry out the final stop on the tonic *d*. The cadenza for the resolution of the mode uses a fall of fourth (from dominant<sup>(37)</sup> to tonic), which is the main characteristic of this mode. »<sup>(38)</sup>

Video T.2. Graphic analysis of the scale of *ṭab<sup>c</sup> al-<sup>c</sup>Irāq* as in Snoussi's CD1-28, with nearly exact quarter-tone lowered *e*- and very high *b*-



[Click here to see the video](#)

Effectively, Ghānim uses in his performance a range from (lower) *G* to *c*, encompassing one octave + one fourth, with the main

scale *G* [4334]<sup>(39)</sup> *c* (= tonic) 33442. The lower *B* seems to be rather theoretical as when acting as a leading tone (see for example Figure 13 and the video around 21-23 s\_a) it is clearly sometimes closer to a plain *B* – if not slightly higher. Similarly, the *e*- (same figure) is also (very) high, which differs considerably from the near exact quarter-tone lowered *e* with Snoussi (Figure 12).

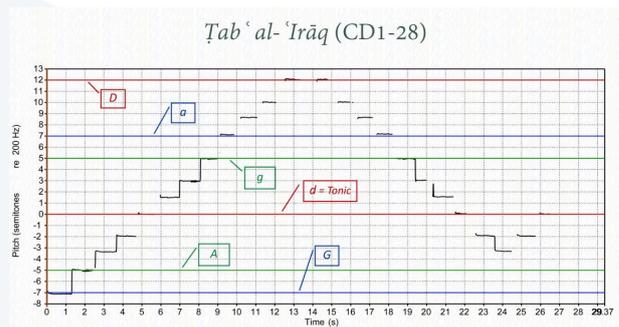


Figure 12. Main slide from Video T.2 showing the very high *b*- and near exact *e*- in Snoussi's reproduction of the scale of *ṭab<sup>c</sup> al-<sup>c</sup>Irāq*.

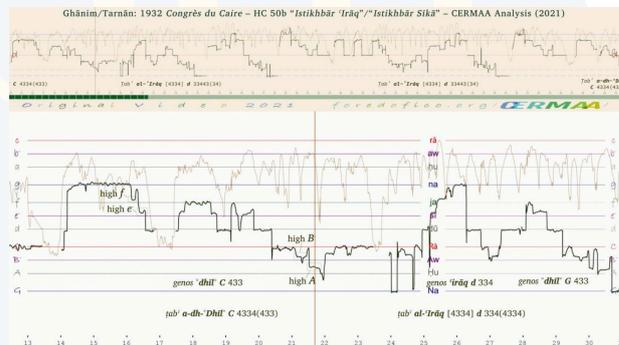


Figure 13. A frame from the video analysis of *ṭab<sup>c</sup> al-<sup>c</sup>Irāq* showing the (very) high *B*- used by Ghānim, as well as the high *e*-. (Note also the high *f* and *A*.)

As for the cadenza exposed in Snoussi's quote – with the temporary stop on lower *G* then a descent from the fourth degree to the tonic, it is masterfully executed by the performer no less than three times, around 37-43 s\_a, 58-65 s\_a, and finally around 76-81 s\_a (Figure 14).

Other peculiarities of the performance are the use of sometimes high *As* (for example 49-59 s\_a) and *fs* (for example 62.\* s\_a). Finally, let us note that this performance by Ghānim lasts



## 5.2 Second improvisation by Tarnān on *ʿūd ʿarabī*: *Ṭab<sup>c</sup> a-s-Sīkā*

The second improvisation in this recording (by Tarnān on *ʿūd ʿarabī*) has a different tonic which is *e* (Figure 15). Snoussi explains (Video T.3):

"The scale of this mode is composed of one trichord and one tetrachord conjuncted by a common note which plays the role of a dominant. The trichord is of the *sīkā* type, namely 3/4 tones, 4/4 tones, which corresponds to the notes: *e* - 1/4 tone, *f*, *g*. The tetrachord is of the type *rāst*, namely 4/4 tones, 3/4, 3/4, which corresponds to the notes: *g*, *a*, *b* - 1/4 tone, *c*. In the course of the evolution of the melodic movement, the *rāst* tetrachord is incidentally replaced by a tetrachord of the type *ḥijāz*, the Tunisian variant, namely 3/4 tones, 5/4, 2/4, which corresponds to the notes: *g*, *a* - 1/4 tone, *b*, *c* (with the *b* less 'tense' than the plain *b*)."<sup>(41)</sup>



Video T.3. Graphic analysis of the scale of *ṭab<sup>c</sup> a-s-Sīkā* as in Snoussi's CD1-30

[Click here to see the video](#)



Figure 15. *Ṭab<sup>c</sup> a-s-Sīkā* as in Erlanger (Erlanger 1949, 5: mode no. XXIII, fig. 170).

The *ḥijāz* tetrachord is not mentioned in Erlanger's notation (Figure 15), in which is added a possibility for a *būsalīk* upper tetrachord on *g*, which is in fact the main upper tetrachord, the *rāst* tetrachord being the variant.

Tarnān uses *de facto* a range of one octave + one sixth, from (lower) *D* (119 s<sub>a</sub>) to *c* (mainly around 141.\* s<sub>a</sub> – see Figure 16). His

itches are much closer to the theoretical ones in the zalzalian (*bayāt* and *rāst*) version (same figure), with a rather low *D* (around 151.\* and 157.\* s<sub>a</sub>) and one use of a very high *f* around 170 s<sub>a</sub> – which could be considered as a *taṭrīz* ("temporary inlay") as with the *B<sup>b</sup>* at 161.\* s<sub>a</sub> – but nonetheless no clear insertion of a "Tunisian *ḥijāz*" *g* 352 except for the use of *a* at 100-101 s<sub>a</sub>, which could be a hint to such a tetrachord.

All in all, a rather straightforward performance of *ṭab<sup>c</sup> a-s-Sīkā* in its zalzalian<sup>(42)</sup> version.

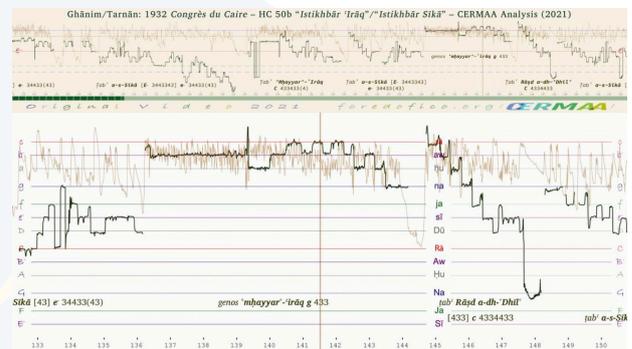


Figure 16. A frame from the video analysis of *ṭab<sup>c</sup> a-s-Sīkā* showing the upper range of Tarnān's performance (around 141.\* s<sub>a</sub>), with the near-perfectly matching practical and theoretical intervals.

### 5.2.1 Modern Tunisian Analysis of the *sayr al-ʿamal* of *ṭab<sup>c</sup> a-s-Sīkā* by °Khmayyis° Tarnān

(84.\* s<sub>a</sub>): tonic = *e*. (86-96): exposition of *ṭab<sup>c</sup> a-s-Sīkā e* [43]34433(43) with a high *f*, notably at 90-91.\* s<sub>a</sub>. (97-119 s<sub>a</sub>): development of *ṭab<sup>c</sup> a-s-Sīkā* [43] *e* 34433(43) but with a very low *a* (nearly = *a<sup>b</sup>* but most probably *a*), and a passing low *d* at 107-108 & 110-111 s<sub>a</sub>. (120-129 s<sub>a</sub>): *Rāšd a-dh-°Dhāl°* type 1 *C* 433442(4) (with *ʿaj* = *b<sup>b</sup>* and *tīk-ḥīs* = *a*). (129.\*-136.\*): *Sīkā* [43] *e* 34433(43) with however starting *b<sup>b</sup>*. {Or *Sīkā* 34424(43).} (136-144 s<sub>a</sub>): *°mḥayyar°-ʿirāq g* 433(43). (144-148.\* s<sub>a</sub>): *Rāšd a-dh-°Dhāl°* type 1 4334433 on *c*. (148.\*-164 s<sub>a</sub>): *ṭab<sup>c</sup> a-s-Sīkā E* [3443343] *e* (= tonic) 344334(3). Conclusion (164.\*-179 s<sub>a</sub>) with *ṭab<sup>c</sup> a-s-Sīkā e* [43]34433(43) using a very high *f* (= *f+*).

**Note:** Tarnān does not use the two main *genē* *iṣbu<sup>c</sup>ayn* G 343 and *rāṣd a-dh<sup>o</sup>Dhūl<sup>o</sup>* type 2 on F 4343. He just uses the melodic path (in a cadential formula) passing through the notes of these *genē* at 97-119 s\_a. The same for the main *genos* *°mḥayyar<sup>o</sup>-sīkā* G 424, which he uses “*en passant*” (passing through the notes) at 159-164 s\_a.



Video 2: Video analysis of the *istikhbār* in *tab<sup>c</sup> al-Iraq* by Muḥammad Ghānim on *rabāb* and the *istikhbār* in *tab<sup>c</sup> a-s-Sīkā* by °Khmayyis° Tarnān on *ūd<sup>o</sup> carbī<sup>o</sup>*

## 6. Analysis 3: The *tab<sup>c</sup> a-r-Rāṣd* by Muḥammad Ghānim on *rabāb*, then *tab<sup>c</sup> °Raml<sup>o</sup> al-Māyā* by °Khmayyis° Tarnān on *ūd<sup>o</sup> °carbī<sup>o</sup>* (CDC HC 51b)

### 6.1 First improvisation by Ghānim on *rabāb*: *Tab<sup>c</sup> a-r-Rāṣd*

The first theoretical (or practical) difference about this *tab<sup>c</sup>* is its name: in the title for Erlanger’s notation (Figure 17) the adjective *°abīdī* is added between brackets, while Snoussi explains<sup>(44)</sup> that this adjective is added by Tunisian musicians in relation with the “black African slaves” (*°abīd*) “the music of which is also pentatonic”. Snoussi further explains (see Video T.4):

“It should be noted that, apart from the particular pronunciation of its name [when compared with the Near-Eastern, Turkish or Persian *Rāṣt*], the Tunisian – or better say Maghrebian, or even better Hispanic-Arabian – mode *Rāṣd* features, on the other hand, something which distinguishes it clearly from its oriental homonym. This particularity consists in the ‘leap’, or the frequent and deliberate omission, in the course of musical pieces composed in this mode, of one degree in the one or the other of its constitutive tetrachords, which gives the melody a characteristic pentatonic nature”<sup>(45)</sup>.

There are, on the other hand, consistent differences with Erlanger in Snoussi’s description of the scale of this *tab<sup>c</sup>* (compare with Figure 25):

“Its scale is a disjunct octave, composed of two tetrachords separated by a disjunctive tone comprised between the sub-dominant (*c*) and the dominant (*d*) which have, as a consequence, the same importance in the melodic movement. Both tetrachords are of the type *rāṣt*, namely 4/4 tones, 3/4, 3/4, which corresponds to the notes: *g, a, b - 1/4* tone, *c* for the first tetrachord; and to the notes: *d, e, f + 1/4* tone, *G* for the second tetrachord. The notes which are deliberately omitted in the course of the composition of the melody are the (*b - 1/4* tone) in the first tetrachord, and the (*f [+ 1/4* tone)<sup>(46)</sup>; these are generally omitted in the descending direction. [Moreover,] [t]he second tetrachord when it is used with no omissions of either of its passing notes, is sometimes replaced by a *būsalīk* type tetrachord, namely 4/4 tones, 2/4, 4/4, which corresponds to the notes: *d, e, f, G<sup>o</sup>*<sup>(47)</sup>.



Video T.4. Graphic analysis of the scale of *tab<sup>c</sup> a-r-Rāṣd* (*°abīdī*) as in Snoussi’s CD1-08

[Click here to see the video](#)



Figure 17. *Tab<sup>c</sup> a-r-Rāṣd* (*°abīdī*) as in Erlanger (Erlanger 1949, 5: mode no. VI, fig. 153).

This description consistently differs from Erlanger's notation, in that the tonic with Erlanger is *d*, with two joined (in place of disjunct) upper tetrachords – the first (lower one) of which can take the form of a *būsālīk* 424 on *d* and the second (upper one) of which can take the form of a *rāst* 433 on *g* – and with a lower (also *°ajam* 4424) pentachord on (lower) *G*.

The performance of Ghānim underlines a scale *G A B C* (tonic =) *d e f g a b c*<sup>(48)</sup> encompassing one octave + one fourth. The upper *as* are generally high, with rare uses of a (slightly) lowered *e* (16.\* s\_a) with a frequently omitted *f* in the upper tetrachord *d e f g* in descent (the “leap” of Snoussi – for example at 43.\* s\_a) and a complete absence of upper *b* (*b* “natural” is used instead – see 27 and 29.\* s\_a, as well as Figure 18). The notes of the [*C*] *d e f* (when not reaching *G*) tetrachord use *f* in ascent (for example around 51 s\_a).

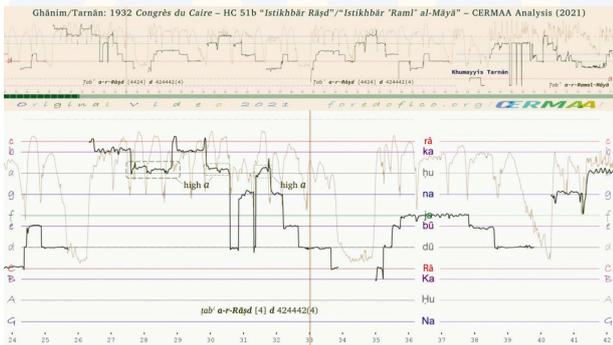


Figure 18. A frame from an early version of the video analysis of *ṭab° a-r-Rāṣd* around 33 s\_a analysis showing the “leap” in the descending direction (32 s\_a) with the use of a mainly “regular”, tense diatonic scale on *d* with plain (un-accented) *bs* and *es*, as well as relatively high *as* by Ghānim

### 6.1.1 Modern Tunisian Analysis of the *ṣayr al-°amal* of *ṭab° a-r-Rāṣd* by Muḥammad Ghānim

(2.\*-6 s\_a): exposition of the descending lower *rāṣd* *G* 4424 pentachord with the omission of the *b* in descent. (6.\*-62.\* s\_a): development of the middle octave *d e f g a b c* with frequent stops (including the final one) on the tonic *d*, and the use (as stated above) of high *as* and the omission of the *f* in descent.

These characteristics partly complement, confirm and contradict both theoretical explanations by Snoussi and Erlanger.

## 6.2 Second improvisation by Tarnān on *°ūd °arbī°: Ṭab° °Raml° al-Māyā*

Snoussi<sup>(49)</sup> mentions *a* as a tonic for this mode, as with Erlanger (Figure 19). He further describes (see Video T.5):

“The scale of this mode is a conjunct octave, I mean by that that it is composed of two conjunct tetrachords, connected through a common note; the [whole] tone which completes the octave is placed in the high register. The first tetrachord is of the *bayāt* type, namely: 3/4 tones, 3/4, 4/4; this corresponds to the notes: *a*, *b* - 1/4 tone, *c*, *d*. The second tetrachord is of the *rāst* type, namely: 4/4 tones, 3/4, 3/4; this corresponds to the notes: *d*, *e*, *f* + 1/4 tone, *g*. While descending, however, ‘*f*’ natural is used in place of the augmented ‘*f*’, which gives the *genos jahārkā* on ‘*c*.’”<sup>(50)</sup>



Video T.5. Graphic analysis of the scale of *ṭab° °Raml° al-Māyā* as in Snoussi’s CD1-12

[Click here to see the video](#)



Figure 19. *Ṭab° °Raml° al-Māyā* as in Erlanger (Erlanger 1949, 5; mode no. XXI, fig. 168)

Once again, there are serious differences between the two descriptions by Snoussi and in Erlanger, with both authors giving, however, this time the same tonic for this *ṭab°*.

The *istikhbār* by Tarnān – as energetic as ever – encompasses one octave and one fifth, from the

sub-tonic  $G$  to the upper  $D$  (Figure 20), on a plain zalzalian scale based on  $a$  3343344[334] and reaching the sub-tonic in the lower range. The  $f$  is rarely slightly raised (for example at 66.\*, 142.\*, 160 and 162 s\_a), it is however replaced from the onset (and only this once) by an  $f\#$  at 67 s\_a (Figure 20). The  $B$  may also be performed in a slightly high position (as at 109.\* s\_a) as with the  $e$  (see around 117 s\_a for an example) with frequent use by the performer of the sympathetic (unstopped) strings of his  $^c\text{ūd}$  (around 75, 82, 88, 91.\* s\_a, etc.) which prevents sometimes a completely accurate graphic notation of the main melody.

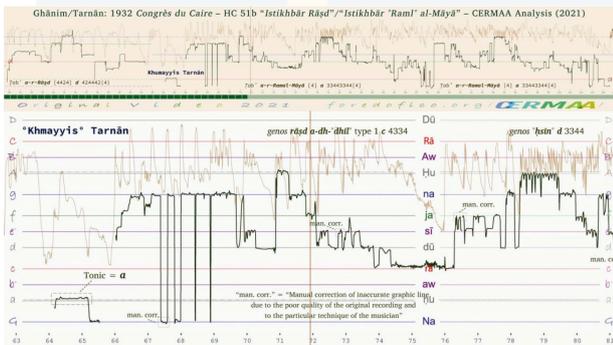


Figure 20. A frame from an early version of the video analysis of  $\text{ṭab}^c$  °Raml° al-Māyā showing part of the range of one octave + one fifth encompassed in Tarnān’s performance, with an  $f\#$  at 67 s\_a.

### 6.2.1 Modern Tunisian Analysis of the *ṣayr al-°amal* of $\text{ṭab}^c$ °Raml° al-Māyā by °Khmayyis° Tarnān. General description

This *istikhbār* in the  $\text{ṭab}^c$  °Raml° al-Māyā is based on  $\text{ḤUSAYNĪ}$  (=  $ḥu = a$ ) as a fundamental tonic note. It seems well that this is the original (traditional) tonic of the  $\text{ṭab}^c$ , according to Erlanger’s notation above, and to Ṣalāḥ al-Mahdī in one [recorded lesson](#)<sup>(51)</sup>. Note that nowadays °Raml° al-Māyā is considered to be similar to  $\text{ṭab}^c$  °Ḥsīn° with some specificities of interpretation, such as the preferred use of the upper register of the  $\text{ṭab}^c$ , and the *genē* that can be used. This is (probably) also why it is today theorized as having a tonic  $d\bar{u} = d = D\bar{U}K\bar{A}$ .

The three phases of the improvisation follow a nearly similar development, in which °Khmayyis° Tarnān alternates between three *genē* in nearly the same way:  $rāṣd\ a-dh-°dhīl°$  on  $do = c = rā$  in its two variants/types (4334 or 4343), then  $^mḥayyar-°irāq$  on  $Sol = G = Na$  4334(33) then (two)  $^ḥsīn°\ ré = d = d\bar{u}$  and  $la = a = ḥu$  or  $A = La = Ḥu$  3344.

The use of the double closing descending  $^ḥsīn°$  in the three clearly delineated phrases/parts/phases of the *istikhbār* confirms it as a closing cadenza of the  $\text{ṭab}^c$ , from which the *jahārkā genos* (in Tunisian *genos* theory a *mazmūm*), promoted by Snoussi, is completely absent. Consequently, the use of the *jahārkā genos* may correspond to a form of alteration/deformation of the original  $\text{ṭab}^c$  °Raml° al-Māyā or, as another possibility, may result from a confusion with  $\text{ṭab}^c$  °Ḥsīn°-Ṣabā (a variant of  $\text{ṭab}^c$  Ḥsīn, the *ṣayr al-°amal* of which focuses on the *jahārkā genos* on  $f$ ).

### 6.2.2 Detailed segmentation/Analysis

#### PHASE 1

- (64-76 s\_a): *genos rāṣd a-dh-°dhīl°* - type 1 ( $do - c - rā$ ) 4334. This introductory segment comprises two levels of treatment of the melody: a first level (66-71 s\_a) showing fundamental specificities of the melodic evolution of the  $\text{ṭab}^c$  which are the focus on the 7<sup>th</sup> degree of the scale and the beginning in the high register. The second level is characterized by the use of a *genos rāṣd a-dh-°dhīl° c 4334* in place of the “usual” *jahārkā c 4424*.
- (77-82 s\_a): *genos °ḥsīn°* ( $ré - d - d\bar{u}$ ) 3344. The  $^ḥsīn°\ d$  3344 *genos* (on the fourth degree of the scale) seems to be a natural consequence of the use of the preceding  $rāṣd\ a-dh-°dhīl°$ . It seems, however, that this *genos* is neglected in the theory of  $\text{ṭab}^c$  °Raml°-al-Māyā today.
- (83-88 s\_a):  $^mḥayyar-°irāq$  ( $Sol - G - Na$ ) 4334. The descent to the  $G$  (lower seventh degree of the scale) is one of the

specificities of the °Raml° al-Māyā. In today's *ṭabūc* theory, this is just mentioned as is. However, it is sometimes mentioned as a *genos rāṣd a-dh-°dhīl°* (here on *G*). Tarnān's treatment is, however, completely different: the *lahja* ("accent") he uses is the accent of a °mḥayyar°-°irāq 4334(334) on *G* (85-88 s\_a, with a very high *b̄* at 87-88 s\_a).

- (89-92 s\_a): *genos rāṣd a-dh-°dhīl°* – type 1 (*do - c - rā*) 4334
- (93-97 s\_a): *genos ḥsīn°* (*ré - d - dū*) 3344
- (97-104 s\_a): *genos ḥsīn°* (*la - a - ḥū*) 3344 (with *bū*)

The succession of two °ḥsīn° *genē* in descent is clearly – according to Tarnān, at that time and in this *istikhbār* – a melodic signature of the *ṭab<sup>c</sup>* °Raml° al-Māyā, which is lost today from traditional music. While exposing the *ṭab<sup>c</sup>* in this first phrase/phase, Tarnān seems also to impose *genos rāṣd a-dh-°dhīl°* as the main, essential *genos* of *ṭab<sup>c</sup>* °Raml° al-Māyā.

## PHASE 2

- (104-110 s\_a): *genos ḥsīn°* (*La - A - Ḥū*) 3344. *Genos ḥsīn°* (on upper *A*) is a fundamental component of *ṭab<sup>c</sup>* °Raml° al-Māyā as well as a confirmation of the importance of the higher register of the *ṭab<sup>c</sup>*. The whole is a different way of starting an *istikhbār* in this *ṭab<sup>c</sup>*. Note the very high *B̄*, practically a *B*.
- (110-116 s\_a): *genos rāṣd a-dh-°dhīl°* – type 2 (*do - c - rā*) 4343 (with *nīm-ḥij*)
- (116-121 s\_a): *genos ḥsīn°* (*ré - d - dū*) 3344
- (121-126 s\_a): °mḥayyar°-°irāq (*Sol - G - Na*) 4334
- (126-129 s\_a): *genos rāṣd a-dh-°dhīl°* – type 2 (*do - c - rā*) 4343 (with *nīm-ḥij*)
- (129-133 s\_a): *genos ḥsīn°* (*ré - d - dū*) 3344

- (133-138 s\_a): °mḥayyar°-°irāq (*Sol - G - Na*) 4334. Usage of the same trio of *genē* in the same succession as with the first above phrase. Tarnān confirms thus the *rāṣd a-dh-°dhīl°* as the main *genos* using here its second variant ("type 2") with a very high *f* at 112.\* s\_a and a relatively high *e* just before 113 s\_a.
- (126-129 s\_a): *genos rāṣd a-dh-°dhīl°* – type 2 (*do - c - rā*) 4343 (with *nīm-ḥij*)
- (129-133 s\_a): *genos ḥsīn°* (*ré - d - dū*) 3344
- (133-138 s\_a): °mḥayyar°-°irāq (*Sol - G - Na*) 4334. Let us here just note the repetition of the same trio *rāṣd a-dh-°dhīl°*, °ḥsīn° and °mḥayyar°-°irāq.
- (138-143 s\_a): *genos ḥsīn°* (*ré - d - dū*) 3344
- (143-150 s\_a): *genos ḥsīn°* (*la - a - ḥū*) 3344 (with *bū*). Once again the same cadential formula (succession of two °ḥsīn° *genē*)

## PHASE 3

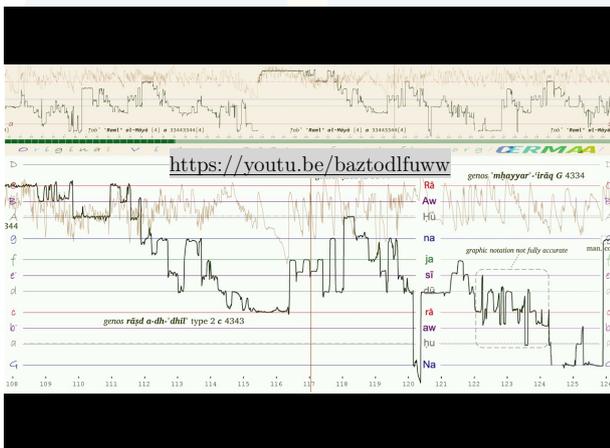
- (151-157 s\_a): *genos ḥsīn°* (*La - A - Ḥū*) 334(4). Same start as with the second phrase, where Tarnān insists on this specificity of the *ṭab<sup>c</sup>*. Note again the very high *B̄*, practically a *B*.
- (157-164 s\_a): *genos rāṣd a-dh-°dhīl°* – type 2 (*do - c - rā*) 4343 (with *nīm-ḥij*). Once again a *rāṣd a-dh-°dhīl°* type 2
- (165-168 s\_a): *genos ḥsīn°* (*ré - d - dū*) 3344
- (168-176 s\_a): *genos ḥsīn°* (*la - a - ḥū*) 3344 (with *bū*). For the third time here the same cadential formula (succession of two °ḥsīn° *genē*)

### 6.2.3 Conclusion of the Analysis

Erlanger was definitely right in his transcription/notation of *ṭab<sup>c</sup>* °Raml° al-Māyā: the *jahārkā genos* on the third degree *c* of the scale seems to be a "novelty"<sup>(52)</sup> and has erased the memory of *genos rāṣd a-dh-°dhīl°* as a main *genos* of the *ṭab<sup>c</sup>*. It seems that

as a main *genos* of the *ṭab<sup>c</sup>*. It seems that *genos* °*hsīn*° on the fourth degree (which was a fundamental component of the signature of the *ṭab<sup>c</sup>*) has equally become “forgotten” in favour of a °*mḥayyar*-°*sīkā* on the fourth degree *d* – the latter being today taught to be the main *genos* of the *ṭab<sup>c</sup>*.

**Important note:** one of the most popular songs in Tunisia, to which all teachers of Tunisian *ṭubū<sup>c</sup>* allude to as a perfect example of *ṭab<sup>c</sup>* °*Raml*° *al-Māyā*, is accessible at [this link](#) or at [this one](#). The reader can realize the impressive changes which have affected the *ṭab<sup>c</sup>* since this *istikhbār* of °*Khmayyis*° Tarnān.



Muḥammad Ghānim on *rabāb* and the *istikhbār* in *ṭab<sup>c</sup>* °*Raml*° *al-Māyā* by °*Khmayyis*° Tarnān on °*ūd* °*carbī*°

Both performances show that, at least around 1932 and with these two performers, the theory of the *ṭubū<sup>c</sup>* still needs adjustments, and that many other analyses must be undertaken before a definitive description – if possible at all – can be established.

## 7. Analysis 4: *The ṭab<sup>c</sup>* *a-n-Nawā* by Muḥammad Ghānim on *rabāb*, then *ṭab<sup>c</sup>* *al-°Iṣbu<sup>c</sup>īn*° by °*Khmayyis*° Tarnān on °*ūd* °*carbī*° (CDC HC 52a)

These two *istikhbārāt* will show even less conformity with theory as the ones before, with Tarnān’s °*ūd* technique creating slight disturbances as before for the graphic notation.

### 7.1 First improvisation by Ghānim on *rabāb*: *Ṭab<sup>c</sup>* *a-n-Nawā*

Manoubi Snoussi gives *d* as a tonic for this *ṭab<sup>c</sup>* and adds (see Video T.6):

“The scale of this mode is a disjunct octave, meaning composed of two disjunct tetrachords, [...]. The first tetrachord is of the type *būsalīk*, namely: 4/4 tones, 2/4 tones, 4/4 tones, which corresponds to the notes: *d*, *e*, *f*, *g*. The second tetrachord is of the *bayāt* type, namely: 3/4 tones, 3/4, 4/4, which corresponds to the notes: *a*, *b* - 1/4 tone, *c*, *d*. The second degree of the second tetrachord (*b* - 1/4 tone) is frequently omitted in the descending course of the movement, which gives the melody a striking pentatonic effect.”<sup>(53)</sup>

As usual, some differences with the notation of the same *ṭab<sup>c</sup>* in Erlanger exist as in the latter: the second tetrachord of Snoussi is the first, but in the lower range (Figure 21), and the upper tetrachord is no more of the *bayāt* type, but also a *būsalīk* 424 on *a*, with the possibility of omitting, this time, the *b*. The “middle” pentachord on *d* is of the *būsalīk* type 4244 but with the possibility of using a quarter-tone raised *f* (*f<sup>+</sup>*) which adds still another difference in the description between the two authors. Moreover, the tonic is given in Erlanger as the (lower) *a*.



Video T.6. Graphic analysis of the scale of *ṭab<sup>c</sup>* *a-n-Nawā* as in Snoussi’s CD1-26

[Click here to see the video](#)

Further: a pattern seems to become patent in the differences between the two descriptions, which is the marked preference in Erlanger for conjunct pentachord-tetrachord descriptions, whenever with Snoussi there is a marked preference for a plain tetrachordal (plus one whole-tone) description<sup>(54)</sup>.



Figure 21. *Tab' a-n-Nawā* as in Erlanger (Erlanger 1949, 5: mode no. XIX, fig. 166)

In Ghānim's performance, we can barely distinguish from the onset a *b* (5 s\_a) which quickly returns (7 s\_a) to a plain *b* and is rather maintained as such. The scale seems to be more close to a near perfect *G* [4424] (with a plain *B*) *d* (tonic) 4244424 – or a perfect *d* mode on *d* – with a sometimes rather high *f* (25.\* , 26.\* , 52.\* and 53 s\_a), encompassing thus one octave + one fifth. Note also the use (24-25 s\_a) of a leading chromatic *f*# which is particular of the *genos mazmūm* detailed in the segmentation below.

The “striking pentatonic effect” explained by Snoussi does happen, two times and twice each time, with the omission in descent of the *b* at 12 and 14, then 40 and 42 s\_a (Figure 22)<sup>(55)</sup>, and the performance is concluded (64 s\_a) on the common tonic *d* with the next *istikhbār* by Tarnān.



Figure 22. A frame from the video analysis of *tab' a-n-Nawā* performed by Muḥammad Ghānim showing the pentatonic descents at 40.\* and 42.\* s\_a.

As a temporary conclusive remark, we can notice some differences in general between theoretical description(s) and practice with Ghānim, with a tendency to use the sub-scales of the tense diatonic division of the octave all along these first 4 *istikhbārāt*, with slightly moving (otherwise) fixed notes such as the *a*, the *f*, etc.

### 7.1.1 Modern Tunisian Analysis of the *sayr al-ʿamal* of *tab' a-n-Nawā* by Muḥammad Ghānim: Detailed segmentation/Analysis

#### PHRASE 1

- 2-9 s\_a: *genos ḥsīn° hu = a 334* but with a very high *b* (practically equal to *b*).
- 10-15 s\_a: *genos rāšd hu = a 433* – not really considered as a full *genos* here, and more characteristic of the *nawā* (see below) named *nafas khumāsī* (of pentatonic inspiration) – with high *c*.
- 16-22 s\_a: *genos nawā dū = d 4244*
- 23-27 s\_a: *genos mazmūm Rā = C 442* – note the *f*# at 24.\* and 25 s\_a
- 28-31.\* s\_a: repetition of *genos mazmūm Rā = C 442*
- 31.\*-39 s\_a: *genos nawā dū = d 4244*

#### PHRASE 2

- 40-43 s\_a: *genos rāšd hu = a 433* – not really considered as a full *genos* here, and more characteristic of the *nawā* (see below) named *nafas khumāsī* (of pentatonic inspiration) – with high *c*.
- 43-49 s\_a: *genos nawā dū = d 4244*
- 50-54 s\_a: *genos mazmūm Rā = C 442*
- 54-56 s\_a: repetition of *genos mazmūm Rā = C 442*
- 56-64 s\_a: *genos nawā dū = d 4244*

## 7.2 Second improvisation by Tarnān by on °ūd °carbī°: Ṭab<sup>c</sup> al-Iṣbu<sup>c</sup>ayn

More theoretical differences seem to characterize our two authors for this ṭab<sup>c</sup>. Snoussi<sup>(54)</sup> compares it to the “Oriental” *Hijāz* but with the “Tunisian variant” of the *hijāz* tetrachord, namely *d* 352, while with Erlanger (Figure 23) the description seems closer to the scale of *maqām Shāhnāz* in the Near-Eastern tradition. Erlanger’s preference for the pentachordal description is evident in the figure, with two conjunct *hijāz* pentachords, while Snoussi describes the second (disjunct) tetrachord as being composed of “the notes *a*, *b* - 1/4 tone, *c*#, *d*”, which represents a similar “Tunisian *hijāz*” on *a* (see Video T.7), a fact which reconciles the two descriptions<sup>(57)</sup> were it not for the pentachordal vs tetrachordal depictions, and for the slight differences in the internal composition of the *hijāz* type.

Finally, Snoussi<sup>(58)</sup> explains that in the *hijāz* tetrachord the central interval (the “5” quarter-tones interval) may furthermore be performed as small as a whole-tone interval, which results (without being named as such by Snoussi) in the °irāq tetrachord 343.



Video T.7. Graphic analysis of the scale of ṭab<sup>c</sup> al-Iṣbu<sup>c</sup>ayn as in Snoussi’s CD1-22 with respectively slightly high *e*<sup>b</sup> and *b*<sup>b</sup> (practically *b* for the latter)

[Click here to see the video](#)



Figure 23. Ṭab<sup>c</sup> al-Iṣbu<sup>c</sup>ayn as in Erlanger (Erlanger 1949, 5: mode no. XVIII, fig. 165).

As for Tarnān’s performance: the general scale is that of *maqām Hijāz-Awāj* encompassing a (lower) tetrachord (as with Ghānim for *Nawā*) + one octave from *d* to *D*. The *hijāz* tetrachord *d* 262 does not have a shrunken central interval

(i.e. *d* 352 or even 343) except for rare uses of a slightly raised *e*<sup>b</sup> (for example at 75 and 76 s<sub>a</sub>). Both theoretical descriptions fail in describing (or prescribing) the upper tetrachord – which is a plain *bayāt a* 334 – while Tarnān sometimes uses (usual) embellishments (as around 70 and 90.\* s<sub>a</sub>) incorporating a *C*# as sub-tonic. Further embellishments – here micro-modulations – are the use of a *būsalīk* tetrachord in ascent at 105-108 s<sub>a</sub> with a plain *b*, which becomes immediately after (108.\* s<sub>a</sub>) *b*<sup>–</sup> then, in a masterful demonstration by Tarnān of his precision on the °ūd, the clear use in descent (109.\* s<sub>a</sub>) of a *b*<sup>b</sup> (Figure 24). (Note that *b* and *B* are frequently slightly high with Tarnān in this mode.)

Finally note that the simultaneous use of multiple – sympathetic, non-stopped – strings by the performer creates local disruptions in the graphic line, notably at 84.\* and 87.\* s<sub>a</sub>.



Figure 24. A frame from the video analysis of ṭab<sup>c</sup> al-Iṣbu<sup>c</sup>ayn showing the use of multiple successive *bs* (*b*, *b* then *b*<sup>b</sup>) by Tarnān from 105 through 110 s<sub>a</sub>.

### 7.2.1 Modern Tunisian Analysis of the sayr al-°amal of ṭab<sup>c</sup> al-Iṣbu<sup>c</sup>ayn (al-°Iṣbu<sup>c</sup>ayn) by °Khmāyis° Tarnān. Detailed segmentation/Analysis

- 68-78 s<sub>a</sub>: *genos °isbu<sup>c</sup>ayn° d* (between 262 and 352) – even if the *rukūz*/stop is on *Rā* = *C*, this is due to the resonance/sounding of the instrument, and because of the placement of the first finger (of the left hand) on the *KIRDĀN* string in the °ūd °carbī° to play the *d* (*MUḤAYYAR* – see Figure 7)

*Ṭab<sup>c</sup> al-ʿIṣbu<sup>c</sup>īn<sup>o</sup> d 2624334*: The stop (*rukūz*) on *C* can hint to a *genos rāṣd a-dh-°dhīl<sup>o</sup>* of type 2 4262 on *C* the use of which is different from its use in other *istikhbārāt*. But, as long as this is the first *genos* (and the first phrase) in the *istikhbār ʿIṣbu<sup>c</sup>īn<sup>o</sup>*, it is more likely that this is a *genos ʿiṣbu<sup>c</sup>īn<sup>o</sup> d 262* (or 352) with an accidental stop on the *C*, probably due to the non-completion of the musical idea (which ends at 105 s\_a).

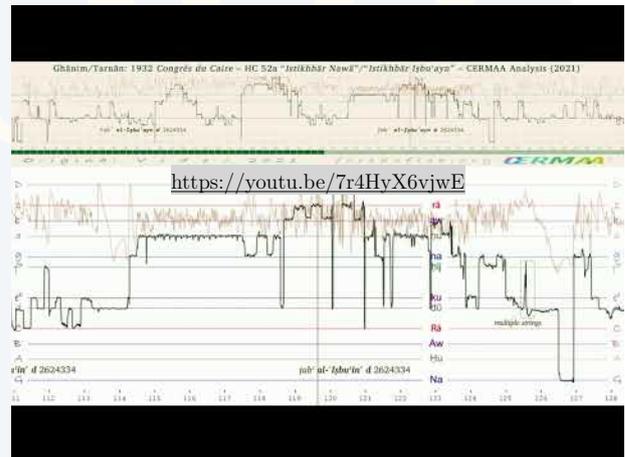
Note the use of a *C#* from 69 to 71 s\_a, which may be used in one of the variants of the *ʿiṣbu<sup>c</sup>īn<sup>o</sup>* called *inqilāb al ʿiṣbu<sup>c</sup>īn<sup>o</sup>* using a *genos ʿiṣbu<sup>c</sup>īn<sup>o</sup> A* (not used in this *istikhbār*).

- **78-86 s\_a**: *genos ʿiṣbu<sup>c</sup>īn<sup>o</sup> d 262* (or 352)
- **86-105 s\_a**: *ʿIṣbu<sup>c</sup>īn<sup>o</sup> d 2624334*. This part explores the *ṭab<sup>c</sup>* in the lower register, with micro-stops on *d*. Note the use anew of *C#* from 89 to 91 s\_a. Also note a micro-stop on *C* at 96 s\_a, delineating a *rāṣd a-dh-°dhīl<sup>o</sup>* type 2 *C* 4262. [Note that the *ʿIṣbu<sup>c</sup>īn<sup>o</sup>* of Tarnān is clearly based on a 262 *ḥijāz* type tetrachord, and rarely on a 352 and not on a 343. This is the reason for this 4262 type 2 *rāṣd a-dh-°dhīl<sup>o</sup>*.]
- **105-114 s\_a**: *ʿIṣbu<sup>c</sup>īn<sup>o</sup> d 2624334*. Exploration of the *ṭab<sup>c</sup>* in the higher register, without completely evocating a particular *genos*, while however rapidly delineating a *°mḥayyar<sup>o</sup>-°irāq g* (4334) in descent.
- **114-126 s\_a**: *ʿIṣbu<sup>c</sup>īn<sup>o</sup> d 2624334*. Development of the *ṭab<sup>c</sup>* in the higher register (same remarks as above).
- **127-140 s\_a**: *ʿIṣbu<sup>c</sup>īn<sup>o</sup> d 2624334*. This is a near repetition of 86-105 s\_a, with the same melodic path, the same micro-stop on *C* (at 138-139 s\_a).
- **140-151 s\_a**: 2<sup>nd</sup> exploration of the higher register of the *ṭab<sup>c</sup>* without evocation of a particular *genos*, delineating this time a possible *°mḥayyar<sup>o</sup>-sīkā* on *g* (424) in descent, with a low = *b<sup>b</sup>* at 143-144 s\_a.

- **151-159 s\_a**: *ʿIṣbu<sup>c</sup>īn<sup>o</sup> d 2624334*
- **159-163 s\_a**: *°mḥayyar<sup>o</sup>-°irāq g* (4334) – This is the first “clear” usage of a main *genos* in this *istikhbār*
- **163-173 s\_a**: *ʿIṣbu<sup>c</sup>īn<sup>o</sup> d 2624334*

## 7.2.2 Analytical conclusion

Unlike with the precedent *istikhbārāt*, Tarnān develops the *ʿIṣbu<sup>c</sup>īn<sup>o</sup>* “in one piece” with nearly no delineations of *genē* which could be characteristic of this *ṭab<sup>c</sup>*. He just passes on the notes of the *ṭab<sup>c</sup>* while giving hints of a *°mḥayyar<sup>o</sup>-°irāq g* 433, a *°mḥayyar<sup>o</sup>-sīkā g* 424 and the *rāṣd a-dh-°dhīl<sup>o</sup> C* 4262 – which is different from the usual 4343 –, the latter probably due to the use of a closer to “262” *ʿiṣbu<sup>c</sup>īn<sup>o</sup>* (with a relatively high *e<sup>b</sup>*) in place of the “usual” “352” *ʿiṣbu<sup>c</sup>īn<sup>o</sup>*.



Video 4: Video analysis of the *istikhbār* in *ṭab<sup>c</sup> a-n-Nawā* by Muḥammad Ghānim on *rabāb* and the *istikhbār* in *ṭab<sup>c</sup> al-Iṣbu<sup>c</sup>ayn* by °Khmayyis° Tarnān on °ud °arbi°

As a temporary conclusion, and as says the poet: “Not all that Man wishes comes true, The wind blows in directions not desired by the ships”<sup>(59)</sup>, or what the theorist prescribes will not be scrupulously reproduced by the performer, who remains the final master of his music, especially when theorists do not even agree among themselves – a frequent case with Arabian-Persian-Turkish music theories.

## 8. Analysis 5: The *ṭab<sup>c</sup> Rāšd a-dh-°Dhīl°* by Muḥammad Ghānim on *rabāb*, then *ṭab<sup>c</sup> a-r-Ramal* by °Khmayyis° Tarnān on *°ūd °carbī°* (CDC HC 52b)

### 8.1 First improvisation by Ghānim on *rabāb*: *Ṭab<sup>c</sup> Rāšd a-dh-°Dhīl°*

For Snoussi<sup>(60)</sup>, the scale of *ṭab<sup>c</sup> Rāšd a-dh-°Dhīl°* is a simple assembly of two conjunct tetrachords preceded in the lower range, on the tonic *c*, by a whole tone (Video T.8). The first tetrachord is the “Tunisian *ḥijāz*”<sup>(61)</sup> in his (Oriental) *°irāq*<sup>(62)</sup> 343 version on *d*, and the second one is a *rāst* 433 tetrachord on *g*, with a resulting octaval scale *c* 4343433 or *c d e f+ g a b C*. This is the same description as with Erlanger in the upper line (Figure 25) with the difference that the notation in Erlanger’s favours the fifth + fourth assembly, as usually seen for other *ṭabū<sup>c</sup>* with this author.



Video T.8. Graphic analysis of the scale of *ṭab<sup>c</sup> Rāšd a-dh-°Dhīl°* as in Snoussi’s CD1-16 with very low *e*- and slightly high *b*

[Click here to see the video](#)

Erlanger adds (2<sup>nd</sup> line in the figure) the possibility of including a 352 *ḥijāz* as an upper component of the lower pentachord (or of using the *nakrīz* 4352 pentachord on *c*), a minor modulation which should be permitted – but is not explicitly mentioned – with Snoussi, as he mentions another, “352 Tunisian *ḥijāz*” (see above). Lastly, Erlanger mentions the possibility (third line in the figure) of a lower *rāst* pentachord on *c*.

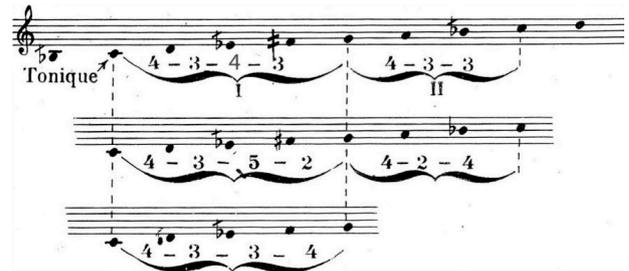


Figure 25. *Ṭab<sup>c</sup> Rāšd a-dh-°Dhīl°* as in Erlanger (Erlanger 1949, 5: mode no. II, fig. 149). The intervallic notation in quarter-tone multiples in the upper line was corrected by the authors from 4 – 3 – 5 – 3 to 4 – 3 – 4 – 3.

As for Ghānim’s performance, it would be justified to state that he gives from the onset a pentatonic feeling to this *istikhbār* with a leap (7.\* s\_a) from *e* to *g*. While this is followed by a more regular display of the main scale *c* 4343433, this same leap intervenes at 31 s\_a, then back – but descending – at 35 s\_a, then again at 57.\* s\_a and finally once again in descent at 67.\* s\_a.

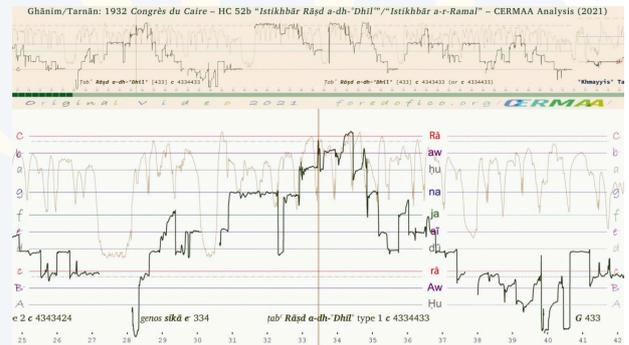


Figure 26. A frame from the video analysis of *ṭab<sup>c</sup> Rāšd a-dh-°Dhīl°* as performed by Ghānim showing one ascending then one descending leaps (31, 35 s\_a) from *e* to *g* then from *g* to *e*, giving a distinctive pentatonic aspect to the performance.

While remaining in the range of one octave + one fourth, another peculiarity of his performance is the effective use of both – clearly differentiated – *f+* and *f* in the performance, with one example (around 23 s\_a) of such two successive uses, which results in a clear change of the lower pentachord, till 56.\* s\_a, to a *rāst c* 4334 pentachord which is the third possibility stated in Erlanger. (See figure above.) However, no clear signs of a *c* 4352 pentachord or of an upper *būsālīk g* 424 (see 2<sup>nd</sup> line in the figure above) are to find in the graphic notation, al-

though the tonic moves nearly continually<sup>(63)</sup> within the limited range of one third-tone<sup>(64)</sup>.

Finally, note that Erlanger may here well be right with his pentachordal assembly as the general feeling of this *istikhbār* is sometimes close to the feeling of a *nakrīz* pentachord *c* 4352 (listen to the two octavial scales descents in the first half of the performance, from 16 to 20 *s\_a* and 20 to 27 *s\_a*), would the central “*hijāz*” interval be slightly larger with Ghānim.

To conclude, there are once again some limited affinities between theory and practice, and much to learn from Ghānim’s performances, as limited in time as they may be.

### 8.1.1 Modern Tunisian Analysis of the *sayr al-ʿamal* of *ṭab<sup>c</sup> Rāšd a-dh-°Dhīl°* by Muḥammad Ghānim. Detailed segmentation/Analysis

#### PHASE 1 (7-27 *s\_a*)

- 7-16 *s\_a*: *°mḥayyar°-sīkā* on *na = sol = g* 424 (scale)
- 16-20 *s\_a*: descending scale of *ṭab<sup>c</sup> Rāšd a-dh-°Dhīl°* type 2 (with *b<sup>b</sup>*) on *c* 4343424
- 20-27 *s\_a*: development of the preceding phrase, descending scale of *ṭab<sup>c</sup> Rāšd a-dh-°Dhīl°* type 2 (with *b<sup>b</sup>*) on *c* 4343424

#### PHASE 2 (28-72 *s\_a*)

- 28-30 *s\_a*: *genos sīkā* 334 on *e<sup>-</sup>* with micro-stop
- 30-38 *s\_a*: development of the scale of *ṭab<sup>c</sup> Rāšd a-dh-°Dhīl°* type 1 (with *b<sup>-</sup>*) on *c* 4334433
- 38-43 *s\_a*: exploration of the lower register of the *ṭab<sup>c</sup>* beneath the octave *G* 433
- 44-50 *s\_a*: continuation in the upper register of the *ṭab<sup>c</sup>* with a short stop on *f*. This type of stops doesn’t determine a *genos*, but may suggest a *genos °mḥayyar°-°irāq na = g* 4334 with a very high *aw = b<sup>-</sup>* (nearly a plain *b*) or possibly

a pseudo-*mazmūm ja = f* 4424 (*genos mazmūm* uses plain *b* in the course of the melody). In all cases, this stop on *f* does not make this *genos* independent from the rest of the melody.

- 50-56 *s\_a*: *ṭab<sup>c</sup> Rāšd a-dh-°Dhīl°* type 1 (with *b<sup>-</sup>*) on *c* 4334433. The near-stop on *sol = na = g* (53 *s\_a*) confirms the intention of a *genos °mḥayyar°-°irāq na = g* 4334 of the preceding phrase.
- 57-72 *s\_a*: development of the scale of *ṭab<sup>c</sup> Rāšd a-dh-°Dhīl°* type 1 (with *b<sup>-</sup>*) on *c* 4334434 with a very high *b<sup>-</sup>* (59 *s\_a*).

## 8.2 Second improvisation by Tarnān on *°ūd °carbī°: Ṭab<sup>c</sup> a-r-Ramal*

The scale of *ṭab<sup>c</sup> a-r-Ramal* is described by Snoussi<sup>(65)</sup> as a *maqām Hijāz-Awjī* disjunct bi-tetrachordal scale *d* 3524334 with the lower tetrachord corresponding to the “Tunisian variant” of *hijāz*. Let us note from the onset that the demonstration of the scale of this *ṭab<sup>c</sup>* (analyzed in Video T.9) shows (Figure 27) a plain semitonal *hijāz d* 262 which slightly contradicts these explanations. The main characteristic of this mode according to him is the frequent use of the (lower) *B<sup>-</sup>* towards the end of the performance, and the obligation to include this note in the final cadenza.



Video T.9. Graphic analysis of the scale of *ṭab<sup>c</sup> a-r-Ramal* as in Snoussi’s CD1-24

[Click here to see the video](#)

Erlanger (Figure 28) favours a fourth + fifth assembly depicting both scales of *maqām Hijāz* on *d*, the *Hijāz-Awjī* (through *b<sup>-</sup> = 2624334*) and the *Hijāz-°Ajāmī* (through *b<sup>b</sup> = 2624244*) scales, with the possibility (second line) of a *būsabīk* tetrachord on *g*. Note that the *hijāz* tetrachord proposed with Erlanger is the semitonal *d* 262.

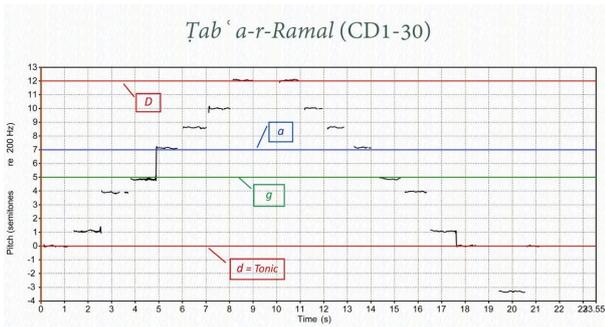


Figure 27. Main slide from Video T.9 showing the very regular and semi-tonal tetrachord *hijāz d 262* ( $d\ 2\ e^b\ 6\ f^\#\ 2\ g$ ) in Snoussi's reproduction in CD1 of his book of the scale of *tab' a-r-Ramal*.



Figure 28. *Tab' a-r-Ramal* as in Erlanger (Erlanger 1949, 5: mode no. XVII, fig. 164).

As for the practice: we can notice from the onset in this performance that Tarnān remains generally closer to a “Near-Eastern” *hijāz d 262* than to a “Tunisian *hijāz*”  $d\ 352$ , with sometimes (around 102.\* and 107.\* for example) an inversion of the bordering intervals with a  $d\ 253$  tetrachord. His frequent use of a rather high  $b$  (for example around 120  $s_a$ ) then of a low position for this degree (around 131.\*  $s_a$ ) places the main scale of this *tab' c* somewhere between *Hijāz-Awjī d 2624334* and *Hijāz-cAjāmī d 2624244*, with furthermore the 262 *hijāz* tetrachord taking various and all possible variants between 262, 352 and 253, and  $b$  or  $b^b$  having the possibility of approaching a plain  $b$ .

About “the frequent use of the (lower)  $B$  towards the end of the composition”, this is a correct prescription from Snoussi in this case as, after a first occurrence of a call of *AWJ* ( $B$  at 145.\*  $s_a$ ) followed by a return to the tonic, this call is renewed at 165  $s_a$ , then conclusively at 177.\*  $s_a$ : note that these “calls of  $B$ ” occur the three times in conjunction with (and just after) a descending *hijāz d 262* (mostly 253) tetrachord.

The use of the latter in this direction partly corresponds to a leitmotiv (Figure 29) clearly discernible between 154 and 156  $s_a$ , with an initial call of fifth  $d\ a$  slightly insisting on the  $a$ , followed by a rapid descent omitting the  $g$  and slightly insisting on the  $f^\#$ . (The whole process is frequently repeated, for example from 157 to 160  $s_a$ , with a variant for the initial call  $d\ a$  which is a gradual ascension of the degrees of the scale; it is nearly immediately repeated another time between 162 and 165  $s_a$  – Figure 29.)

Note also the use of a *‘irāq d 343* ascending tetrachord around 150  $s_a$ , which adds another “Tunisian *hijāz*” variant for this *tab' c*, and we have then all the possible forms of *hijāz*, from the “relaxed”, “zalzalian” *‘irāq 343*, to the “tense”, “chromatic” 262, and passing through either of the intermediate variants 352 and 253.

Altogether, this and the previous – by Ghānim – performance confirm and complete the theoretical explanations by Snoussi and Erlanger, confirming however and further with Tarnān the use of a multiplicity of *hijāz* variants – already perceived in former analyses of *Hijāz*-like scales<sup>(66)</sup> – whenever the theory prescribes only one (as with Erlanger’s strictly “Near-Eastern” *hijāz 262*) or another (as with Snoussi’s “Tunisian” 352) variant. Furthermore, the descending leitmotiv in Tarnān’s *°Ramal°* seems to have been missed by Snoussi, but it is maybe a characteristic of the performer’s understanding of this *tab' c* more than of the *tab' c* as such<sup>(67)</sup>.

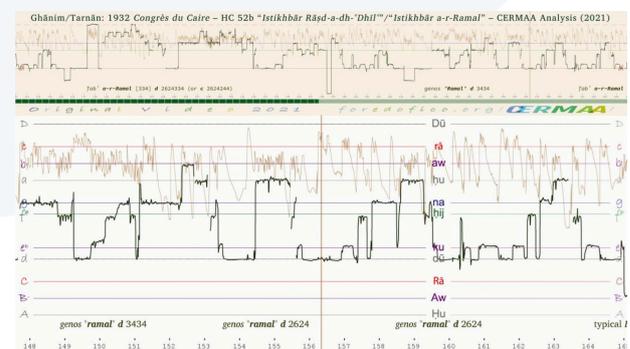


Figure 29. A frame from the video analysis of *tab' a-r-Ramal* showing the two uses of the leitmotiv of Tarnān at 154-156  $s_a$ , 157-160  $s_a$  and 162-165  $s_a$ .

### 8.2.1 Modern Tunisian Analysis of the *sayr al-ʿamal* of *ṭab<sup>c</sup> a-r-Ramal* by °Khmayyis° Tarnān. Detailed segmentation/Analysis

- 73-96 s\_a: exposition of *ṭab<sup>c</sup> a-r-Ramal* in its most obvious form using a *genos* °ramal°  $dū = d$  2624, while underlining the typical interval  $B\_d$  of the *ṭab<sup>c</sup>* (94-96 s\_a)
- 96-103 s\_a: exploration of the upper register of the *ṭab<sup>c</sup>* with either 262433[4] or 262424[4] with a possible *genos* °mḥayyar°-°irāq na = sol = g 433[4]
- 104-116 s\_a: exposition anew of *ṭab<sup>c</sup> a-r-Ramal* with the same typical  $B\_d$  interval
- 17-124 s\_a: exploration anew of the upper register of the *ṭab<sup>c</sup>* with either 2624334 or 2624244
- 125-135 s\_a: exploration anew of the upper register of the *ṭab<sup>c</sup>* concentrating on the degree  $ḥu = a$  which suggest a probable *genos* °ḥsīn°  $ḥu = a$  334
- 135-138 s\_a: possible *genos* °mḥayyar°-°sīkā na = sol = g 424
- 138-147 s\_a: *genos* °ramal°  $d$  2624 with the same typical  $B\_d$  interval
- 147-153.\* s\_a: *genos* °ramal°  $d$  3434 (Let us here note that Tarnān has deliberately reduced the extent of the  $e^b\_f^\#$  interval)
- 153.\*-166 s\_a: *genos* °ramal°  $d$  2624 with the same typical  $B\_d$  interval
- 166-180 s\_a: exploration anew of the upper register of the *ṭab<sup>c</sup>* with either 2624334 or 2624244

### 8.2.2 Analytical conclusions

Tarnān's performance testifies for a jerky/abrupt interpretation with micro-stops on nearly all the degrees of the *ṭab<sup>c</sup> a-r-Ramal*, with a repetition of a descending melodic

formula – which could well be the “signature” of the *ṭab<sup>c</sup>* – all along the *sayr al-ʿamal*, using the notes  $a f^\# e^b d B\_d$ .



Video 5: Video analysis of the *istikhbār* in *ṭab<sup>c</sup> Rāṣd a-dh-°Dhūl°* by Muḥammad Ghānim on *rabāb* and the *istikhbār* in *ṭab<sup>c</sup> a-r-Ramal* by °Khmayyis° Tarnān on *ʿūd* °*arbi*°

## 9. Analysis 6: *The ṭab<sup>c</sup> al-Iṣbahān* by Muḥammad Ghānim on *rabāb*, then *ṭab<sup>c</sup> al-Mazmūm* by °Khmayyis° Tarnān on *ʿūd* °*arbi*° (CDC HC 53a)

In these two *istikhbārāt* we will note the very rich performance by Ghānim, with many modulations, and the consistent differences between prescriptive theory and effective practice.

### 9.1 First improvisation by Ghānim on *rabāb*: *Ṭab<sup>c</sup> al-Iṣbahān*

For the *ṭab<sup>c</sup> al-Iṣbahān* the differences between Snoussi<sup>(68)</sup> and Erlanger (Figure 30) are even more accented as for the preceding *ṭabū<sup>c</sup>*. For Snoussi (Video T.10) the tonic of the mode *Iṣbahān* corresponds to the lower  $g$ , as with Erlanger, and the first tetrachord (*rāst* 433 on  $g$ ) is the same for both. However, Snoussi (as usual) favours a purely tetrachordal assembly of

the octave, with here a disjunctive tone between *c* and *d*, with an upper similar *rāst* tetrachord 433 on *d*, which corresponds to the final scale *g* 4334433 equivalent to the scale of *maqām Rāst* (traditionally on *c* but here) on *g*.



Video T.10. Graphic analysis of the scale of *ṭab<sup>c</sup> al-Iṣbahān* as in Snoussi's CD1-10

[Click here to see the video](#)

This second tetrachord is absent from Erlanger's notation, who proposes a *rāst* pentachord on *c* resulting in the scale *g* 4334334, different from Snoussi's proposed scale. Erlanger proposes (2<sup>nd</sup> line) also a 4343 "extended *ʿirāq*" pentachord<sup>(69)</sup> on *g* as an alternative to the *rāst* 4334 pentachord on *c*, resulting in the scale *g* 4334343, with both scales bearing an upper extension on (upper) *G* consisting in a semi-tonal *nakrīz* type pentachord 4262, an extension which is missing in Snoussi's explanations. The latter favours, furthermore, a descending *būsalīk* 424 tetrachord on *c* in place of the *rāst* tetrachord, which completes the series of dissimilarities between the two descriptions.

Let us note, finally, that this author mentions "frequent falls<sup>(70)</sup> [‘omissions’?]' of one degree in the descending movement [of the melody]", that we find in the performance of Ghānim solely as (initial, then repeated, frequent) calls of fourth from *d* to the upper octave *G* (see 2.\* , 3.\* , 8, 8.\* etc. s\_a), with further omissions of the *f* in descent (for example at 58.\* s\_a).

Lastly, let us point out that Erlanger's comprehension (Figure 30) supposes a possible *sīkā* (or oriental *ʿirāq*) 34 trichord on the upper *B*.



Figure 30. *ṭab<sup>c</sup> al-Iṣbahān* as in Erlanger (Erlanger 1949, 5: mode no. XXII, fig. 169).

The main scales used by Ghānim, in the range of one octave + one fourth, are the fully zalzalian *g* 4334334 (the main scale with Erlanger) and the semi-zalzalian *g* 4424334 – with a *būsalīk* 424 on *a* – with frequent changes between *b* (*B*) and *b* (*B*). Two main modulations can be noted in his performance: a modulation from 31 to 35 s\_a to a *genos hijāz d* 352 ("Tunisian *hijāz*" according to Snoussi in preceding explanations about other *ṭabū<sup>c</sup>*<sup>(71)</sup>) then going through an instant *rāst* like type tetrachord *d* 433 returning to the semi-zalzalian version *g* 4424334 beginning with 39 s\_a. Then, at 48 s\_a, Ghānim starts after a very short pause from the upper *D* descending in what seems well to be a *nakrīz* like (but with a – *sharqī*, "oriental" – *ʿirāq* 343<sup>(72)</sup>) on *A* instead of a semi-tonal *hijāz* 262 on *A* – see Figure 31) pentachord on *G* then, after a double call of fourth *d-G-d* (around 55 s\_a) returns (55.\* s\_a) to the semi-zalzalian scale *g* 4424334 *G* [4424] but with a clear alternation of lower *b* and *b* (63 to 66 s\_a) with a final end on the tonic *g*.

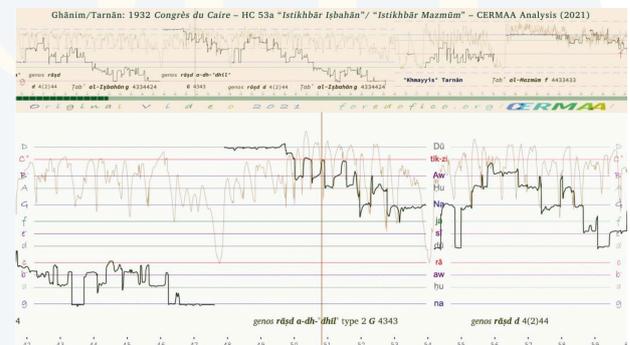


Figure 31. A frame from the video analysis of *ṭab<sup>c</sup> al-Iṣbahān* as performed by Ghānim showing the *nakrīz* like (but with a *ʿirāq* 343 on *A* instead of a semi-tonal *hijāz* 262 on *A*) pentachord on *G* around 51 s\_a.

As a conclusion: except for the tonic *g* for both authors (Snoussi and Erlanger), and despite the consistent differences between the two, their two descriptions brought together fail at describing the richness of Ghānim's performance, which he completes within less than 70 seconds for the complete *istikhbār*.

### 9.1.1 Modern Tunisian Analysis of the *sayr al-ʿamal* of *ṭab<sup>c</sup> al-Iṣbahān* by Muḥammad Ghānim. Detailed segmentation/Analysis

- 2-11 s\_a: *genos rāṣd* on *d = ré* 4(2)44
- 12-21 s\_a: *genos iṣbahān* on *g = sol = YĀKĀ* 4334; note a very high *b̄* practically equal to *b*, and a slightly high *a*
- 22-30 s\_a: *genos iṣbahān* on *g = sol = YĀKĀ* 4334
- 30-35 s\_a: *genos ʾiṣbuʿīn* on *d = ré = DŪKĀ* 3524
- 35-47 s\_a: *genos iṣbahān* on *g = sol = YĀKĀ* 4334
- 48-54 s\_a: *genos rāṣd a-dh-ʾdhīl* type 2 on *G = Na* 4343
- 54-59 s\_a: *genos rāṣd* on *d = ré* 4(2)44
- 59-68 s\_a: *genos iṣbahān* on *g = sol = YĀKĀ* 4334

## 9.2 Second improvisation by Tarnān on ʿūd ʿarbi: Ṭab<sup>c</sup> al-Mazmūm

For Snoussi<sup>(73)</sup>, the main scale of *ṭab<sup>c</sup> al-Mazmūm* on tonic *f* results from a two-tetrachord disjunctive scheme (tetrachord + whole-tone + tetrachord) with two *jahārkā* 424 (also called *ʿajam* in the Near-Eastern tradition) tetrachords on *JAHĀRKĀ* (*f*) and on *c* with the intervallic ascending composition 4424442 (Video T.11). It is completed, as with Erlanger (Figure 33), by a lower *rāst* 433 tetrachord on (lower) *C* – but the analysis of the audio scale provided in Snoussi’s CD1 shows otherwise (see Figure 32). The cadenza finishes necessarily, for Snoussi, on the tonic *f* while Erlanger proposes further a variant with a *bayāt* tetrachord on *a*, which gives the alternate – and non-octavial – scales [433] *f* 44244 (*ʿAjamī*) and [433] *f* 44334 (*Awjī*).



Video T.11. Graphic analysis of the scale of *ṭab<sup>c</sup> al-Mazmūm* as in Snoussi’s CD1-32

[Click here to see the video](#)

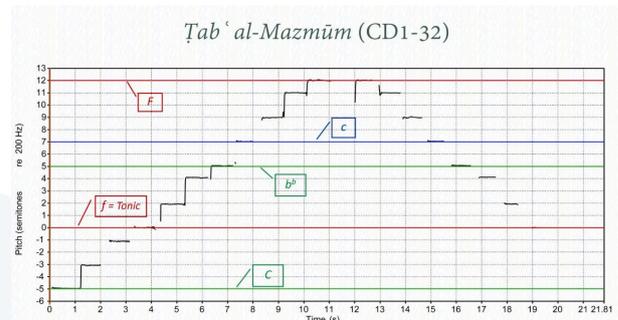


Figure 32. Main slide of Video T.11 showing the graphic analysis of the demonstration of *ṭab<sup>c</sup> al-Mazmūm* in Snoussi’s CD1-32, showing a lower *jahārkā* (or *ʿajam*) *C* 442 tetrachord instead of the claimed *rāst C* 433 tetrachord.

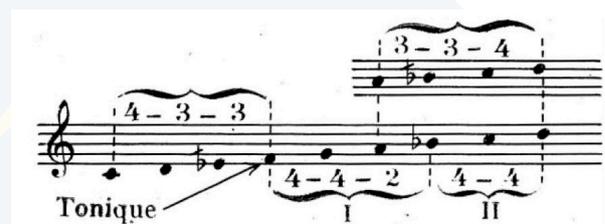


Figure 33. *Ṭab<sup>c</sup> al-Mazmūm* as in Erlanger (Erlanger 1949, 5: mode no. XXVII, fig. 174).

Tarnān’s performance, on the other hand, is rather straightforward, encompassing a wide two-octaves range (Figure 34), with sometimes low (middle) *fs* and *gs* and high *e*-s, with a dynamic strike and rather intermittent pitches showing micro-modulations (such as at 146 s\_a with alternating plain *cs* with a low *c*, or around 168 s\_a with alternating near-exact and rather low *bs* – Figure 34). The final cadenza (178-181 s\_a – Figure 34) plays mostly on the open strings *C* and *G*, with a pentatonic feel (with *B* omitted in descent then in ascent around 179.\* s\_a).

Tarnān’s straightforward performance (scale wise) of this *ṭab<sup>c</sup>* as a *zalzalian* mode of *f* on *f*, and his cadenza on the lower octave of the mode show once again, if any such demonstration is still needed, the consistent differences between performance practice and theoretical speculations by both Snoussi and Erlanger.



Figure 34. A frame from the video analysis of *ṭab<sup>c</sup> al-Mazmūm* showing the two-octaves range of the rather straightforward performance by Tarnān, with alternating near-exact and rather low  $b̄$ s around 168 s\_a and with the final cadenza at 178-181 s\_a.

### 9.2.1 Modern Tunisian Analysis of the *ṣayr al-ʿamal* of *ṭab<sup>c</sup> al-Mazmūm* by °Khmayyis° Tarnān. Detailed segmentation/Analysis

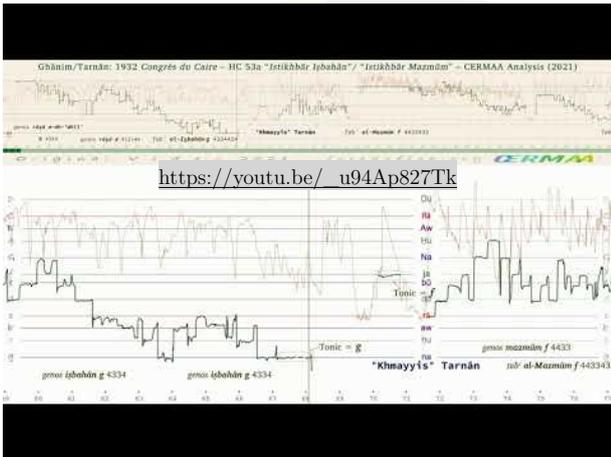
- 71-78 s\_a: *genos mazmūm* on  $f = fa = ja$  4433. Note the use of a low  $E$  practically equal to  $E^-$
- 79-94 s\_a: development of *genos mazmūm* on  $f = fa = ja$  4433. Note the use of a high  $b^b = s̄i^b$  practically equal to  $b$  except at 89 s\_a where a clear  $b^b$  can be found; note also the use of a slightly low  $E$  close to  $E^-$
- 95-102 s\_a: *genos rāṣd a-dh-°dhīl°* type 1 on  $C = Do = Rā$  4334. *Genos rāṣd a-dh-°dhīl°* type 1 on  $C$  is not frequent with *ṭab<sup>c</sup> al-mazmūm f*. Maybe the intent was of a *mazmūm* on  $C$  4424, the  $E = Mi$  remains however low, equivalent to  $E^-$ .
- 102-114 s\_a: development of *mazmūm* on  $f = fa = ja$  4433. Tarnān does *not* use a  $b^b$ ! But the  $E$  tends to become closer to its theoretical pitch value ( $= E$ )
- 114-120 s\_a: typical stop of *ṭab<sup>c</sup> al-Mazmūm* on the degree  $a$ , with “usually” a *kurd genos a* 244; However, Tarnān uses here a high  $b = b^-$  which transforms the *kurd genos* into a *genos ḥs̄n° a* 334, which is not of current use in today’s *Mazmūm*

- 121-132.\* s\_a: development of *mazmūm* on  $f = fa = ja$  4424. This development seems to come closer to the current common understanding of *ṭab<sup>c</sup> al-Mazmūm*, including among others the concentration on the degree  $a$ , and the alternation between the degrees  $b$  (at 121-122 s\_a, but beware that it is mostly – at 123.\*, 125.\* and 126.\* etc. – a  $b$  with Tarnān) and  $b^b$
- 132.\*-138 s\_a: could have been a sub-tonic *genos mazmūm* on  $C$  443. While the  $E$  is higher, but still relatively low (close to  $E^-$ ), this is in favour of *genos rāṣd a-dh-°dhīl°* type 1 on  $C = Do = Rā$  433.
- 138-154 s\_a: *genos mazmūm* on  $f = fa = ja$  4433
- 154-172 s\_a: development of *genos mazmūm* on  $f = fa = ja$  4433. The  $E$  (for example at 156 s\_a) is clearly close to its nominal pitch, and even higher during the exploration of the utmost high register of the *ṭab<sup>c</sup> al-Mazmūm* (for example at 164 s\_a), while the supposed  $b^b$  remains closer to  $b$ .
- 172-178 s\_a: *genos mazmūm* on  $f = fa = ja$  4433
- 178-181 s\_a: *genos mazmūm* on  $F = Fa = Ja$  4433 completing the extensive range of the *ṭab<sup>c</sup>* (2 octaves).

### 9.2.2 Analytical Conclusion

*ṭab<sup>c</sup> al-Mazmūm* is today taught as having a structural scale  $f$  4424442 with a *genos mazmūm* on  $JAHĀRKĀ = f$  4424, a *genos* of the *kurd* type 244 on  $HUSAYNĪ = a$ , a *genos mazmūm* on  $KIRDĀN = c$  4424 and a *genos mazmūm* on  $RĀST = C$  442 under the tonic  $f$ . The *mazmūm genos* on  $f$  has frequently a plain  $b$  as inlay (embroidery). However, with °Khmayyis° Tarnān, the structuring scale of *ṭab<sup>c</sup> al-Mazmūm* seems to be an  $f$  4433433, rarely using a  $b^b$  and with low  $e$  and  $E$  nearly for the whole development of the *ṭab<sup>c</sup>*. *Genos* 4433 is not “officially” recognized in Tunisian music today, even though it

is used and valued in different *ṭabū<sup>c</sup>* improvisations. If its use by Tarnān as an independent *genos* is confirmed – with an infrequent *b<sup>b</sup>* used for “embroidery” – this could bring changes to the theory of this *ṭab<sup>c</sup>* and, consequently, in its interpretation.



Video 6: Video analysis of the *istikhbār* in *ṭab<sup>c</sup> al-Iṣḥān* by Muḥammad Ghānim on *rabāb* and the *istikhbār* in *ṭab<sup>c</sup> al-Mazmūm* by °Khmayyis° Tarnān on °ūd °carbī°

## 10. Analysis 7: The *ṭab<sup>c</sup> al-Māyā* by Muḥammad Ghānim on *rabāb*, then *ṭab<sup>c</sup> al-°Mḥayyar°-Sīkā* by °Khmayyis° Tarnān on °ūd °carbī° (CDC HC 53b)

Two *istikhbārāt* in which we find the conclusive indications about the consistent differences between theory and practice.

### 10.1 First improvisation by Ghānim on *rabāb*: *Ṭab<sup>c</sup> al-Māyā*

For Snoussi<sup>(74)</sup>, the tonic of *ṭab<sup>c</sup> al-Māyā* is *c*, whenever with Erlanger it is the *e<sup>-</sup>* above it (Figure 35). While the scale with both theoreticians is more or less similar, it is as ever with Snoussi delineated by two tetrachords<sup>(75)</sup>, conjunct in this case with an upper tone complementing the octave. The lower tetrachord is of the *rāst* type 433 on *c*, while the second (up-

per) tetrachord is of the type *jahārkā* 442 on *f*, which gives, with the tone *b<sup>b</sup> C*, the semi-zalzalian scale *c* 4334424. (Video T.12)



Video T.12. Graphic analysis of the scale of *ṭab<sup>c</sup> al-Māyā* as in Snoussi’s CD1-18 with slightly low *f* and *g*, and a high octave *C*

[Click here to see the video](https://youtu.be/u94Ap827Tk)

Were it not for the difference with the tonic, this would correspond to the main scale with Erlanger, who complements it still with the two lower *B* and *A* notes, and proposes a variant using a *nahawand* (or *būsalīk*) 424 upper tetrachord on *g*.

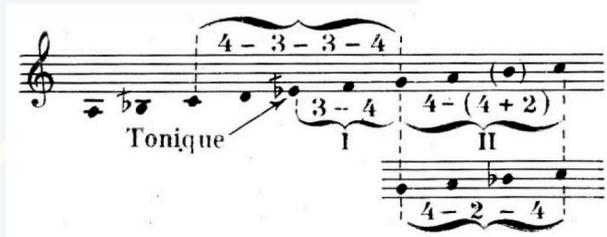


Figure 35. *Ṭab<sup>c</sup> al-Māyā* as in Erlanger (Erlanger 1949, 5: mode no. XXIV, fig. 171).

In Ghānim’s performance of the *istikhbār* in this *ṭab<sup>c</sup>*, the tonic is clearly enunciated at the beginning (2 s\_a), the end (66-68 s\_a and Figure 36) and in the meantime (14, 16.\* , 39, 45, 46, 56.\* , 59, 63 and 64 s\_a), as well as the (upper) octave (9.\* , 17.\*-19.\* , 24-25, 29.\* , 31.\* , 34.\* , etc. s\_a). It is the *c* for a regular Zalzalian *c* (*Rāst*) scale 4334433, developed from the lower fourth degree (*G*) to the (upper) octave (*C*). It is only towards the end that we can sense a definite modulation to a *genos nakrīz c* 4352 (60-68 s\_a and Figure 36), and a repeated portamento-like descending upper pitch from *g* to *f<sup>#</sup>* (59.\* 61.\*) with an interspersed (61 s\_a) call of *e*. In the regular main Zalzalian scale, the *b<sup>-</sup>* never reaches in a stable manner *b<sup>b</sup>* or *b* plain, a clear difference with the °*ajam* 442 or the *būsalīk* 424 advocated in Erlanger. Furthermore, none of the theoreticians anticipates the *nakrīz* 4352 on *c* which is a major modulation with this performer.

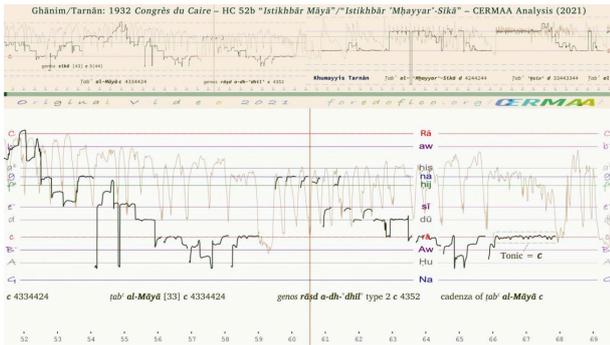


Figure 36. A frame from the video analysis of *ṭabᶜ al-Māyā* as performed by Ghānim showing the end tonic (66-68 s\_a) and the closing melodic phrase (59.\*-68 s\_a) with the modulation to *genos ḥijāz d 352* extended to a *nakrīz c* (59.\*-64 s\_a) with the repeated typical portamento-style descending *g* (in the direction of *f#* – 59.\*-61 and 61.\* s\_a).

### 10.1.1 Modern Tunisian Analysis of the *ṣayr al-ʿamal* of *ṭabᶜ al-Māyā* by Muḥammad Ghānim. Detailed segmentation/Analysis

- 2-5 s\_a: *genos sīkā* [43] *e* 3(44). (The micro stop on *d* is not structural).
- 6-17 s\_a: exposition / exploration of the scale of *ṭabᶜ al-Māyā* [33] *c* 4334424. Note that the *B* and the *A* (below the tonic *c*) are very high.
- 17-27 s\_a: *genos mazmūm f* 4424 or 4433, with a varying degree *b* (low at 20 s\_a, and high at 20-23 s\_a, and mostly for the cadential phrase of the *genos* around 25 s\_a)
- 28-39 s\_a: *genos māyā c* 4334 while delineating the whole scale of the *ṭabᶜ*
- 40- 45 s\_a: development of *genos māyā c* 4334
- 45-48 s\_a: *genos sīkā* [43] *e* 3(44). (the same suggestion proposed at the very beginning of the *istikhbār* – see 2-5 s\_a)
- 48-59 s\_a: exposition / exploration of the scale *ṭabᶜ al-Māyā* [33] *c* 4334424. Note that the *b* and the *A* (below the tonic *c*) are very high.

- 59-68 s\_a: *genos rāšd a-dh-°dhīl* type 2 on *c* 4352 with the cadential formula of *ṭabᶜ al-Māyā* at 64-68 s\_a

The gap between theory and practice is further widened in the *istikhbār* in *ṭabᶜ al-°Mḥayyar-°Sīkā* by Tarnān.

## 10.2 Second improvisation by Tarnān on *ʿūd °carbī*: *Ṭabᶜ al-°Mḥayyar-°Sīkā*

Once again we have a difference from the onset between Snoussi (Video T.13) and Erlanger (Figure 37) for the scale of this *ṭabᶜ*, as it is given as *d* by the first while it is *g* with the second. Moreover, the first tetrachord on *d* with Snoussi is of the *būsālīk* type 424 while it corresponds to a lower addition for Erlanger, of the *ḥijāz* 262 type. Comes then a disjunctive tone *g\_a* for Snoussi whenever Erlanger favours – as usual – a pentachordal/tetrachordal construct, here with a *būsālīk* pentachord 4244 on *g*, while Snoussi writes that it is a *kurd* tetrachord 244 on *a*.



Video T.13. Graphic analysis of the scale of *ṭabᶜ al-°Mḥayyar-°Sīkā* as in Snoussi's CD1-40 with a slightly raised upper *kurd* tetrachord 244 on *a*

[Click here to see the video](#)

Erlanger insists on using a further upper *ḥijāz* 262 tetrachord on (upper) *d* (or *D*, depending on the tonic) while Snoussi explains that this tetrachord can be performed alternatively on *a* (in place of the *kurd* tetrachord) and warns that while the range of the *ṭabᶜ* is, “in principle”, one octave (from *d* to *D*), it does not, however, in practice, reach this limit and stops generally at *b<sup>b</sup>*. Finally, let us note that Erlanger introduces another *ḥijāz* pentachord 2624 on *c* in the upper range (where Snoussi says that the *ṭabᶜ* does not extend), and with this we have a last consequent difference between the two theoretical descriptions of the scale of this mode.



Figure 37. *Tab' al-Mhayyar°-Sikā* as in Erlanger (Erlanger 1949, 5: mode no. XXIX, fig. 176).

We can conclude from Tarnān's *istikhbār* in this *tab'* that the tonic is undoubtedly *d*, with a development the range of which is a double-octave from (upper or lower) *D* to (lower or upper) *D* (Figure 38). These are already two major differences with Erlanger (the tonic) and with Snoussi (the range of the *tab'*), as if Tarnān wanted expressly to differentiate himself from both theories. Furthermore, the main scale of this *tab'* is a Zalzalian *d* mode of the *Bayāt* or *Hu-saynī* type. A major modulation does occur, and to a *hijāz* type *genos* (149-155.\* s\_a) but it is positioned neither on *d* or even on *c* or (upper) *D* as favoured in Erlanger, but on *a* (Figure 38). Note also the use anew in this *istikhbār* of a clear leitmotiv, prepared at first from 86.\* to 94.\*, then enunciated twice from 95 to 96.\* then at 97-98 s\_a, and repeated or hinted a few more times at 116-118, 125.\*-127, 127-128.\*, etc. s\_a.

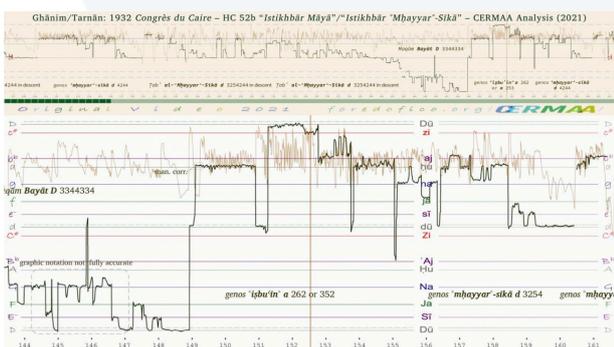


Figure 38. A frame from the video analysis of *tab' al-Mhayyar°-Sikā* showing the modulation to *genos hijāz* or *°ishbu°in° a 262* around 152 s\_a, and the full two-octaves range of Tarnān's performance.

### 10.2.1 Modern Tunisian Analysis of the *sayr al-°amal* of *tab' al-Mhayyar°-Sikā* by °Khmayyis° Tarnān. Detailed segmentation/Analysis

- 73-86 s\_a: *genos °mhayyar°-sikā* on *d = ré = dū 4244*. Note that the second and the third degrees (*e* and *f*) are slightly low.
- 86-95 s\_a: *genos °mhayyar°-sikā* on *d = ré = dū 4244* with the exploration of the scale 4244244 of the *tab'*. Let us note that the second and the sixth degrees (*e* and *b*) are consistently lower than their today's use in the interpretation of the *°Mhayyar°-Sikā*. This is equivalent to a scale *d 3344334* corresponding to *tab' °Hsīn°*.
- 95-109 s\_a: *genos °mhayyar°-sikā* on *d = ré = dū 4244*. Tarnān uses two important specificities of the *tab'*: the suite *a f e d* (*la fa mi ré*) while omitting the note *g* (*sol*) at 95-98 s\_a, and the use of *a<sup>b</sup>* which may be considered as a form of *taṭrīz* ("embroidery") for this *tab'*, but also maybe as a suggestion of a *genos °ishbu°in° g 262*, another possibility for modulation in this *tab'*. Moreover, it must be noted that the second and third degree of the *tab'*, namely the *e* and the *f*, are clearly lower than in today's practice, delineating the scale as *d 3254244*.
- 109-119 s\_a: *genos °mhayyar°-sikā* on *d = ré = dū 4244*. Here the sixth degree becomes *b<sup>b</sup>*, and the third degree *f* is no more low. In contradistinction, the second degree remains relatively stable as *e*.
- 119-125 s\_a: *genos °mhayyar°-sikā* on *d = ré = dū* with a scalar descent *d 32542*.
- 125-140 s\_a: same analysis as for 95-109 s\_a (*i.e. genos °mhayyar°-sikā* on *d = ré = dū 4244* with a scalar descent *d 32542*)
- 141-149 s\_a: exploration of the *tab'* in the lower octave. Note the clear use of *B<sup>b</sup>* but also of a low *E* which reminds of the *cazenza* of *maqām Bayāt D 3344244*

also of a low  $E$  which reminds of the cadenza of *maqām Bayāt D* 3344244

- 149-155 s\_a: *genos °išbu°m° a = la = hu* 262 or 253
- 155-160 s\_a: *genos °mḥayyar°-sīkā on d = ré = dū* 3254.
- 160-167 s\_a: *genos °mḥayyar°-sīkā on d = ré = dū* 4244 with a scalar descent  $d$  32542.
- 167-182 s\_a: same analysis as for 95-109 s\_a (i.e. *genos °mḥayyar°-sīkā on d = ré = dū* 4244 with a scalar descent  $d$  32542). Note that the *taṭrīz* here reminds of a pseudo *°išbu°m° g = sol = na* 253, which is one possible additional *genos* for the use in *ṭab° °Mḥayyar°-Sīkā*

### 10.2.2 Analytical conclusion

In the tradition of Tunisian *°Mālūf°* (for *Ma°lūf*), the *°Mḥayyar°-Sīkā* (pretty much as the *°Mḥayyar°-°Irāq*) is a popular *ṭab°*. It is not associated with a particular *°nūbā°* and it is mainly used as a *genos* in different other *ṭabū°*.

Today, the *ṭab° °Mḥayyar°-Sīkā* has one only scalar composition,  $d$  4244244. As noted above, the actual composition of this *ṭab°* with Tarnān is 3254244, resulting from the consistent lowering of the second and third degrees of the scale.

In the course of this performer's interpretation, notably for 91-94 s\_a and 141-149 s\_a, Tarnān disconnects somehow from the usual context of the *°Mḥayyar°-Sīkā* creating first a confusion with the *°Ḥsīn°* (with a 3444344 scalar composition), then through a transformation of his modal language towards a *Bayāt*. This evolution is incomprehensible as is, and gives way to many exegeses which will be necessarily relied to parameters which will be external to music – this would, however, be in itself the subject of another article.



Video 7: Video analysis of the *istikhbār* in *ṭab° al-Māyā* by Muḥammad Ghānim on *rabāb* and the *istikhbār* in *ṭab° al-Mḥayyar°-Sīkā* by °Khmayyis° Tarnān on °ūd° °arbī°

## 11. Conclusions about the analyses of the Tunisian *ṭabū°*

It is evident that a great number of analyses must be undertaken before any consensus may be adopted on the description of each *ṭab°*, even for the simplest of descriptors which is the scale(s). Moreover, significant differences were found between the practice of both Muḥammad Ghānim and °Khmayyis° Tarnān (but more for the latter) and the practice today of the *ṭabū°*: this is true in particular for Ghānim's performance of *ṭab° a-r-Rahāwī*, the whole *ṭab°* having went "out of fashion" today as it is seldom used in Tunisian *Ma°lūf*. This is also true for example with *ṭab° °Raml° al-Māyā* as performed by Tarnān (Analysis and Video 3, second part), for which considerable discrepancies with today's description of the *ṭab°* are perceptible.

When noting, in parallel and as explained by Moussali in the above quotes, that the two musicians were asked to "recreate" an already nearly lost tradition at that time<sup>(76)</sup>, it has thus become clear that only part of the Tunisian tradition was transmitted from the past, and that a thorough analysis of the Early recorded repertoire should be undertaken to try and recover other bits of the lost tradition of the Tunisian *ṭabū°*, and to determine which other parts are effectively "Tunisian", and which

others may have been “re-created” through the aforementioned process, either at the beginning of the preceding century, or since then...

We can only hope that our very modest attempt at reviewing and analysing a small part of the Tunisian repertoire will be the catalyser for other, wider research on these and other musics, in the hope these would regain their status of living musics, and not of mummified remains of the past.

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## Notes

- (1) (Beyhom 2018; 2019; 2021).
- (2) The CERMAA team for the VIAMAP is composed mainly of Rosy and Amine Beyhom, assisted in their respective domains of expertise by Saad Saab and Nidal Abou Samra. Guest members such as Hamdi Makhoulouf from Tunisia – or other more occasional participants (such as Scott Marcus, Kudsi Erguner, and others) – help the main team with the most complex (or specialized) analyses, and are cited in the credits of each video analysis.
- (3) Most of the biased Western tools are analysed in the first chapter of (Beyhom 2016), while the historic biases are explained in Chapter II of the same dossier; more detailed explanations about the probable process of the formation of the – heptatonic – scale are provided in (French) (Beyhom 2003) and (English) (Beyhom 2017).
- (4) A Tunisian mode or *maqām*.
- (5) Thirteen additional very short video analyses from Power Point shows are included, concerning solely analyses of scales of *ṭubū<sup>c</sup>* (Tunisian modes) given in (Snoussi 2003).
- (6) Plural of *taqsīm*.
- (7) Reminder: The two “degree” signs surrounding a word indicate that this term is transliterated from Tunisian dialect. The °*ūd* °*arbi<sup>o</sup>* would be thus, in standard Arabic, the “°*ūd* °*arabiyy*”.

- (8) Plural of *ṭab<sup>c</sup>*.
- (9) The conventions for differentiating the names of *ṭubū<sup>c</sup>* (or *maqāmāt*) from names of the Greek *genē* (“*ajnās*” in Arabic, Greek sing. “*genos*” – or the corresponding tri, tetra and pentachords) and degrees of the scale are the use of an initial uppercase letter for the *ṭab<sup>c</sup>*, of integral lowercase letters for the *genē*, and integral uppercase letters for the degrees of the scale. Thus, we write a *maqām* (*ṭab<sup>c</sup>*) *Sīkā*, a *genos* *sīkā* and the degree of the scale *SĪKĀ*.
- (10) “CDC” is for “*Congrès du Caire*”; “HC 50” is the number of the master recording of the 78 rpm black disk, and “a” is the corresponding face (“a” or “b”) of the disk.
- (11) The “r” of *a-r-Ramal* (“the sand”) is always doubled, and the “m” of “*Raml*” is always vocalized in classical Arabic.
- (12) *Muḥayyar* (or *muḥayyir*) in classical Arabic.
- (13) The dimensions of the “quarter-tones” and other multiples are strictly proportional in the graphic scales: the corresponding intervals are always approximate, and correspond more or less to the theoretical intervals. Note also that, likewise, a minus sign – such as for *e* and *b* mainly – after a note indicator means that the note/degree/pitch is lowered by a quarter-tone.
- (14) Previously published in (Beyhom 2019, 56).
- (15) Additional grey lines may show the position of the octave of the tonic.
- (16) (Various 2015).
- (17) The *‘ūd* plays sometimes a fixed note (a tonic) during the *istikhbār* of the *rabāb*.
- (18) Tarnān’s technique is very energetic, but also very rapid and sometimes abrupt, with occasional use of multiple (with some unstopped) strings, a technique which creates difficulties for the algorithm that we are using (the auto-correlation algorithm of [Praat](#)), especially in the lower register of his instrument. The noticed discrepancies and possible errors were “corrected” approximately (by ear) and circled in the videos. For these, fourth-tempo versions of the video analyses were specially produced to verify and correct the correspondences between the graphic lines and the perceived pitches. After the corrections, other fourth-tempo videos were systematically produced (with the added manual corrections) and verified. Note that this does not happen with Ghānim’s performances, as his playing of the *rabāb* is mostly steady, and always homophonic. (The complete explanation of “man. corr.” in the videos is “Manual correction of inaccurate graphic line, due to the poor quality of the original recording and to the particular technique of the musician”).
- (19) (Various 1988, 146): “[The] Baron Rodolphe d’Erlanger, [was an] Arabic scholar, [a] patron of the arts, and [a] player of the *qānūn* who had settled near Tunis”.
- (20) (Various 1988, 146): “The Baron [d’Erlanger,] entrusted the musician ‘Alī a-d-Darwīsh (1872-1952) of Aleppo with the task of collecting the ancient repertory, noting it down musically, and preparing the Tunisian contribution to the [1932] Congress [of Arabian Music]. Darwīsh, who was a disciple of ‘Amil Ya‘qūb Tshélēbī, grand master of the Mawlawiyya brotherhood and of ‘Uthmān bey Hammāmī Zadeh, was lead flutist of the takiyya- of Kastamonū and Aleppo”.
- (21) French version from (Various 1988, 73,75): “L’ensemble tunisien fut donc sélectionné par d’Erlanger et Darwīsh dans le cadre d’une stratégie de reconstitution des mélodies d’autrefois, telles qu’ils la concevaient. Muhammad Ghānim (vers 1880-1940) fut incité à abandonner le jeu courant du *rabāb*, qui exécutait la ligne mélodique de base, pour une technique proche du violon: muni d’un long archet inhabituel, il fournit ornements et improvisations. Élève d’Aḥmad a-ṭ-Tuwaylī (vers 1870-1933), ‘Khmayyis° Tarnān (1894-1964) avait commencé sa carrière comme luthiste et interprète de musique proche-orientale. Il fut conduit à apprendre les suites vocales traditionnelles (*ma‘lūf*) et à utiliser le *‘ūd* °*arbi*°, luth de la famille de la *quwaytra*, ou °*qwītra*° en dialecte (diminutif de ‘*qītāra*’, de l’indo-européen guitare). Il devint par la suite l’un des maîtres de la musique tunisienne.” (Bernard Mousali in (Various 1988, 146)).
- (22) He was the secretary of Erlanger, who could not make it to the *Congrès* because of an illness.
- (23) Most of the information in this paragraph is taken from (Various 2015, 80–81, 173–75).
- (24) (Erlanger, 1949).
- (25) (Snoussi, 2003).
- (26) We use the original Greek description of the Arabian *jins* (or the plural *genē* for its correspondent *ajnās*), also known as the Latin *genus* (in French *genre*).
- (27) Note: the fact that Snoussi does not mention it means that *Rahāwī* became nearly extinct in the meantime. In *ma‘lūf* music today, *Rahāwī* is not anymore a common *ṭab<sup>c</sup>* and, according to (Ṣalāḥ Maḥdī (al-) n.d., 4), it is used mainly in religious music.

- (28) We use the term “plain”, instead of “natural”, because of the ideological connotation of the term “natural” as used in Western music (and musicology), namely with Western music being the only reference for this art and science. In Arabian music, the “normal” (“natural”) degrees of the scale (as shown in Figure 2) do not all correspond to the “natural” degrees of the Western, tense diatonic scale. (These are the degrees *SĪKĀ* and *°IRĀQ*, respectively equivalent to *e* and *b*).
- (29) *Ṭab<sup>c</sup> a-r-Rahāwī* as it is taught in modern Tunisian teaching uses very high *e* and *B* (as with the demo of this scale in Snoussi’s – see Video T.1): nevertheless, in Ghānim’s performance, at least the three *e*s are clearly distinguishable, to the ear and on the graphic notation, notably in succession an *e* around 8 s\_a, an *e<sup>b</sup>* around 17.\* s\_a, and a plain *e* (Figure 6) around 41.\* s\_a (for “41 seconds and a fraction of second of the analysis time”), evolving to a high *e* around 43 s\_a then back to *e<sup>b</sup>* around 52 s\_a.
- (30) The “\*” is used to indicate an undefined fraction of a second; thus “41.\* s\_a” means “41 and a fraction seconds of the analysis”.
- (31) Meaning by that that the performer of this *ṭab<sup>c</sup>* is expected to play them – or similar passages – each time he performs it. In Arabic these are called *al-jumal al-laḥniyya al-mumayyiza li-t-ṭab<sup>c</sup>*.
- (32) The digits between brackets represent intervals which are structural in the scale of the *ṭab<sup>c</sup>* (and by extension of the tri, tetra or pentachord), but not used in the current development of the melody. In this case, the two upper intervals “44” are not used by the performer and are thus included between brackets.
- (33) Reminder: we use capitalized full letters for the names of notes of the Arabian-Persian-Turkish scales, and names with initial capital letter for the names of the modes from the same tradition, while the polychords (i.e. tri, tetra and pentachords) or *genē* have names in integral lowercase letters.
- (34) (Snoussi, 2003, p. 55).
- (35) The same as with Erlanger in Figure 11.
- (36) Understand as “temporary” or “short”: We tried to remain as close as possible to the original use of the French language by Snoussi and his editors.
- (37) The authors do not think that the concept of “dominant” plays an effective role in Arabian music, but are translating Snoussi as is.
- (38) In French: “Après un repos fortuit sur la note grave de ce pentacorde supplémentaire (Sol grave), le mouvement remonte pour effectuer le repos final sur la tonique (Ré). La cadence de résolution comporte une chute d’une quarte (de la dominante à la tonique), ce qui constitue la caractéristique principale de ce mode.” (Snoussi, 2003, p. 55).
- (39) The intervals between square brackets, here namely “[4334]”, are not part of the octaval scale (from tonic to its upper octave).
- (40) This is – today at least – a non-typical start for this *ṭab<sup>c</sup>* as it could be awaited that Ghānim starts by exposing the lower tetrachord of *ṭab<sup>c</sup> al-°Irāq d 334(4334)*.
- (41) In French: “La gamme de ce mode se compose d’un tricorde et d’un tétracorde liés par une note commune qui joue le rôle de dominante. Le tricorde est du genre *sikā*, soit 3/4 de ton, 4/4 de ton, ce qui correspond aux notes: - Mi - 1/4 de ton, Fa, Sol. Le tétracorde est du genre *rāst*, soit 4/4 de ton, 3/4, 3/4, ce qui correspond aux notes: - Sol, La, Si - 1/4 de ton, Do. Au cours de l’évolution du mouvement mélodique, le tétracorde *rāst* est remplacé accidentellement par un tétracorde du genre *ḥijāz*, variété tunisienne, soit 3/4 de ton, 5/4, 2/4, ce qui correspond aux notes: Sol, La - 1/4 de ton, Si, Do (le Si étant moins dur que le Si naturel)” (Snoussi, 2003, p. 56-57).
- (42) Explained in short: which uses odd multiples of the quarter-tone.
- (43) The *°Mḥayyar-°Irāq* (as well as the *°Mḥayyar-°Sikā*) is a popular *ṭab<sup>c</sup>* which does not have a *°nūba*° (which is not part of the classical Tunisian repertoire). Its use in other *ṭab<sup>c</sup>* is generally restricted to its first (lower) tetrachord 433(4) (also as a pentachord), which may create a confusion with some *genē* such as *rāšd a-dh-°dhūl*° or *māyā* etc. which have the same countenance. This *ṭab<sup>c</sup>* has a specific melodic-rhythmic progression (or *sayr al-°amal*), mostly in the upper register. Its scale is *g a b c d e f G*, corresponding to [33] *g 4334334* with two main *genē*: a pentachordal *°mḥayyar-°°irāq g 4334* and a tetrachordal *°ḥsīn° d °mḥayyar°*. The scalar composition of segment 144-148 s\_a is *c 4334433* which is in favour of one type of *ṭab<sup>c</sup> Rāšd a-dh-°Dhūl*° as showed in the first part of Analysis 5 below.
- (44) (Snoussi, 2003, p. 45).
- (45) In French: “Il faut signaler qu’en plus de la prononciation particulière de son nom, le mode *Rāšd tunisien* – ou plutôt *maghrébin*, ou mieux encore *hispano-arabe* – comporte, d’autre part, quelque chose qui le distingue nettement de son homonyme oriental. Cette particularité consiste dans le ‘saut’, ou l’omission fréquente et délibérée, au cours des morceaux composés dans ce mode, d’un degré dans l’un

ou l'autre de ses tétracordes constitutifs, ce qui donne à la mélodie un caractère pentatonique assez prononcé" (Snoussi, 2003, p. 44).

- (46) The correction is by the authors.
- (47) In French: "Sa gamme est une octave disjointe, composée de deux tétracordes séparés par un ton disjonctif compris entre la sous-dominante (Do) et la dominante (Ré) qui ont de ce fait la même importance dans le mouvement mélodique. Les deux tétracordes sont du genre *rāst*, soit 4/4 de ton, 3/4, 3/4, ce qui correspond aux notes : - Sol, La, Si - 1/4 de ton, Do, pour le premier tétracorde ; et aux notes: - Ré, Mi, Fa + 1/4 de ton, Sol, pour le deuxième tétracorde. Les notes que l'on omet de propos délibéré, au cours de la composition de la mélodie, sont le (Si - 1/4 de ton) dans le premier tétracorde, et le (Fa) dans le deuxième ; elles le sont généralement au cours du mouvement descendant. Le deuxième tétracorde, lorsqu'il est employé sans l'omission d'aucune de ses deux notes de passage, est parfois remplacé par un tétracorde du genre *būsālīk*, soit : 4/4 de ton, 2/4, 4/4, ce qui correspond aux notes : Ré, Mi, Fa, Sol." (Snoussi, 2003, p. 45).
- (48) Or [4424] d 424442(4), with the initial "[4424]" between square brackets indicating that the intervals within the brackets are outside the main scale, while the caudal (4) indicates that the last "4" interval (between regular brackets) is normally part of the scale, but is not performed by the musician.
- (49) (Snoussi, 2003, p. 47).
- (50) In French: "Cette gamme est une octave conjointe, c'est-à-dire composée de deux tétracordes conjoints, liés par une note commune ; le ton complétant l'octave étant placé à l'aigu. Le premier tétracorde est du genre *bayāt*, soit : 3/4 de ton, 3/4, 4/4 ; ce qui correspond aux notes : La, Si - 1/4 de ton, Do, Ré. Le deuxième tétracorde est du genre *rāst*, soit : 4/4 de ton, 3/4, 3/4 ; ce qui correspond aux notes : Ré, Mi, Fa + 1/4 de ton, Sol. Au cours du mouvement descendant, on emploie, cependant, le 'Fa' naturel à la place du 'Fa' augmenté, pour obtenir le genre *Jahārkā* en 'Do'" (Snoussi, 2003, p. 47).
- (51) See [URL: [https://www.youtube.com/watch?v=Ur\\_agq-QEQc&t=20s](https://www.youtube.com/watch?v=Ur_agq-QEQc&t=20s)], last accessed 2021/03/25.
- (52) And results probably from a confusion with *ṭab<sup>c</sup>* °*Hsīn*-°*Ṣabā*.
- (53) In French: "Cette gamme est une octave disjointe, c'est-à-dire composée de deux tétracordes disjoints [...]. Le premier tétracorde est du genre *būsālīk*,

soit : 4/4 de ton, 2/4 de ton, 4/4 de ton ; ce qui correspond aux notes : Ré, Mi, Fa, Sol. Le deuxième tétracorde est du genre *bayāt*, soit : 3/4 de ton, 3/4, 4/4, ce qui correspond aux notes : La, Si - 1/4 de ton, Do, Ré. Le deuxième degré du deuxième tétracorde (Si - 1/4 de ton) est fréquemment omis au cours du mouvement descendant, ce qui donne à la mélodie un caractère pentatonique d'un effet frappant." (Snoussi, 2003, p. 54).

- (54) The first author has already noted this preference with Erlanger – and the difference of perception with authors such as Ṣalāḥ al-Mahdī (Tunisia) or Salīm al-Ḥilū (Lebanon) – in (Beyhom 2005).
- (55) But it happens – without repetition – also at 8.\* s\_a.
- (56) (Snoussi, 2003, p. 51–52).
- (57) Snoussi's description of this *ṭab<sup>c</sup>* as resembling the mode *Ḥijāz* is clearly different from the perception of a scale with two disjunct *ḥijāz* tetrachords in the Near-East, which could be a *Ḥijāz-Kār* on *c*, a *Shāhnāz* on *d*, and, as a last example, an *Auj-Ārā* on *b*. The scale of mode *Ḥijāz* has two declinations, the "*Aujī*" (passing through the degree *AWJ* or *b*) d 2624334 (or 3524334) and the "*°Ajāmī*" (passing through the degree *°AJAM* or *b<sup>b</sup>*) d 2624244 (or 3524244), none of which contains an upper *ḥijāz* tetrachord (or pentachord)
- (58) (Snoussi, 2003, p. 52).
- (59) In original Arabic, a verse from a *qaṣīda* by Abū-ṭ-Ṭayyib al-Mutanabbī (أبو الطيّب المتنبي): "مَا كُلُّ مَا يَتَمَنَّى الْمَرْءُ يُدْرِكُهُ \*\*\* تَجْرِي الرِّيحُ بِمَا لَا تَشْتَهِي السُّفُنُ".
- (60) (Snoussi 2003, p. 48–49).
- (61) See the scale of *ṭab<sup>c</sup>* *al-Iṣbu'ayn* in the preceding analysis (Video 4).
- (62) Snoussi, as noticed before, does not use this denomination for such a composition of the tetrachord.
- (63) The general movement of the tonic follows the melody, *i.e.* rising following an ascending movement, and sinking when the melody falls.
- (64) The continuous movement of the tonic makes it sometimes difficult to discern interval changes limited to one quarter-tone. Whenever the change from *f<sup>t</sup>* to *f* noted above determines a clear change in the resulting scale, no such clear enlargement of the central interval of the "Tunisian *ḥijāz*" d 343 can be discerned along the graphic line.
- (65) (Snoussi, 2003, p. 52-53).
- (66) See the analysis of *Yā Nasīm a-ṣ-Ṣabā* in (Beyhom 2019).

- (67) It is evident that a number of analyses of *istikhbārāt* in this *ṭabʿ*, by Tarnān and other musicians, is necessary before we can conclude in the one or the other way.
- (68) (Snoussi, 2003, p. 45-46).
- (69) The “oriental” *irāq* is the tetrachord on the degree *b* in the general zalzalian Arabian scale; it passes through the (ascending) degrees *b c d e*, delineating what can be called a “soft chromatic” tetrachord 343.
- (70) “*Chutes*” in French.
- (71) Note that this modulation implies one simple change from the *f* to *f#*.
- (72) With a *C#* instead of *C*.
- (73) (Snoussi, 2003, p. 57-58).
- (74) (Snoussi, 2003, p. 49).
- (75) (Snoussi, 2003, p. 49-50).
- (76) And that, moreover, Ghānim, (reminder) “was encouraged to drop his current technique on the *rabāb*, which carried the basic melody line, in favour of a technique close to that of the violin”, and was also asked to use a long(er) bow on his *rabāb*, which could have created difficulties for him to play his instrument.