Further Analyses from the VIAMAP

*Amine Beyhom**

"Es un canto sin paisaje […]
terrible en medio de la sombra"[1]

[Frederico García Lorca, 19th of February 1922 lecture on *Cante Jondo* in Grenada][2]

Introduction

This article is a sequel to two already published articles, "MAT for the VIAMAP"[3] and "The Lost Art of *Maqām*".[4] Four new video analyses, undertaken mainly in 2019-2020, are the main object of the article.

The four video analyses follow the same template[5] which includes new features (such as a horizontal VU meter), an introduction and a conclusive part with explanations and information about the analysis, the recording, the contributors, etc.

The aim of this template is to give the maximum information to the viewer within the video,[6] leaving only complementary (and specialised) musicological information – such as the literal analyses or the overall conclusions – for the written part.

Prefatory remarks

This article is composed of two main parts:

1. Part I features one video analysis of *maqām* music, namely a *taqsīm* (improvisation)[7] by Kudsi Erguner on (Turkish) *nāy*[8] in *maqām Ḥijāz*.[9]
2. In Part II, three analyses of *Cante Jondo martinetes*[10] are proposed:
   - Inés Bacán's "*Y a la Puerta Llaman*"[11]
   - "*Las Doce Acaban de Dar*" sung by El Camarón de la Isla[12]
   - Pepe de la Matrona's "*Cante del Yunque*"[13]

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[1] "It is a chant without landscape […] terrible in the midst of darkness".

[2] In [Lefranc, 1998, p. i–ii].

[3] "'*Maqām* Analysis Tools' for the 'Video Animated Music Analysis Project'".

[4] [Beyhom, 2018g ; 2019c].

[5] This template was first established with Inés Bacán's analysis started in 2019, which in turn was developed on the basis of the video analysis of Evelyne Daoud's performance [Beyhom, 2019b].

[6] Mainly within an introductory part which lists the relevant information about the performed song and the different objects used in the analysis (mainly the scales), the composition of the analysis (mainly the upper and lower stripes, with detailed explanations), the lyrics if any, etc.

[7] Kudsi Erguner's *taqsīm* is semi-improvised as explained further.

[8] I chose to use in the article the Arabic transliterations of mode and instrument names; for example, the Turkish for the instrument would be "*Ney*".

[9] I recorded this *taqsīm* (Turkish "*taksim*") on the 17th of March 2005 in Paris, at the home of the performer. The video analysis (no. 50 in the VIAMAP series) is published under https://youtu.be/g5hJ-uLeV30, also available under https://analyses.foredofico.org/maqam.

[10] *Cante Jondo* (in Andalusian Spanish – or *Cante Hondo* in Castilian Spanish = "Profound [or Deep] Chant") is the most traditional part of the Flamenco repertoire, performed generally *a cappella* by the singer, or with a limited "hand" percussion. The *martinete* – part of the *Cante Jondo* – is a special type of song reminiscent of the Gipsy *forge* songs, sung *a cappella* or with a percussive accompaniment by the – supposedly – sound of the "hammer" on the "anvil".

[11] This video analysis is the 51st in the VIAMAP series and is published under https://youtu.be/XcRmGGF0t2Y, with the audio originally from WN (NAÏVE) 145004-8, first published 1998, with Inés Bacán (*cante*) and Moraito on percussion (*nudillos*). (See also, for the three videos of *Cante Jondo* analysed for this dossier, the dedicated *Cante Jondo* page at https://analyses.foredofico.org/cante-jondo.)

[12] This video analysis is the 52nd in the VIAMAP series and is published under https://youtu.be/M6wy2wehftA, with the audio originally from the 1973 album/LP Philips 6328100 (B6) *El Camarón De La Isla Con La Colaboración Especial De Paco De Lucía.*

[13] This video analysis is the 53rd in the VIAMAP series and is published under https://youtu.be/pqpduB_vZl8, with the audio originally published in the album *Cante Jondo N° 3*, 1957, LDY 4134-A1.

The second part is a further attempt at broadening the field of video analyses to non-tempered musics[14] – although in the present based on approximate Western semi-tonal scales. The complexity in these analyses is progressive, from the refined scale modulations of Inés Bacán to the most sophisticated technically – although at first glance less concerned with scale changes – performance of Pepe de la Matrona, with El Camarón's *martinete* using musical (as with Bacán's modulations) and vocal (as with Pepe) techniques, while featuring a distinguished two or one-note modulation (musical) technique in parallel to the use of dissonance to underline particular words.

In addition, two special additional videos highlight:

1. The minute-inflexions to the melodic line[15] – which are sometimes perceived as the effective pitch by the auditor.
2. The multiplicity of vocal techniques used by proficient *Cante Jondo* performers such as Pepe de la Matrona.[16]

In the first video (which is self-explicative – as with the second one), I analyse a very short extract of the 2019 published video analysis of *Yā Nasīm a-ṣ-Ṣabā* by sheikh ʿAlī Maḥmūd (voice) and Sāmī a-sh-Shawwā (violin), namely from Shawwā's performance, to explain that although the graphic results are WYSIWYG ("what you see is what you get"), the analyst must sometimes use supplementary tools – in this video namely the stretching of the graphic representation of the pitch and the simultaneous reduction of the speed of the audio recording – to be able to understand what he sees.

The second video became necessary after the rich performance of Pepe de la Matrona, as this *cantaor* uses a large panel of expressive, vocal and musical techniques that had to be identified and characterized apart.

Finally: Note that all VIAMAP analyses are made with relative pitch/intervals, hence never based on absolute pitch.

Part I. Kudsi Erguner's *Taqsīm* (improvisation) in *maqām Ḥijāz* on *nāy*

In my search of new expressions for *maqām* music that we could explore at the CERMAA, I remembered a memorable – and recorded – session with outstanding *Nāy* performer, musician and musicologist Kudsi Erguner (Fig. 1) in 2005, during which which he demonstrated to me, among others, the *sayr-al-ʿamal* (melodic and modal course) of *maqām Ḥijāz*. The scarcity of the explanations of Erguner during this session, and the lack of adequate analysis tools at the time, prevented me from analysing this performance. Today, with the newly developed set of tools in the last few years, such analyses became possible, although remaining an uneasy task for the musicologist.

Fig. 1 Kudsi Erguner.[17]

The recording took place in parts, as Erguner was explaining to me the techniques and scales he used. I reassembled the different sub-parts in 2020 to re-create a continuity in the performance, without additions.[18]

Three major parts were identified by both the performer and the (future) analyst, (1) an opening part mainly based on the development of *maqām Ḥijāz* in its *ʿAjamī* (or *Ḥijāz-ʿAjamī*) version, (2) a second, middle part which explores multiple modulations from and to the latter, and (3) a third, closing part with an exposition of the main scale of *Ḥijāz-ʿAjamī*.

[14] Such as with the "Breton" analyses available in the new, dedicated to the VIAMAP analyses, website of the CERMAA under http://analyses.foredofico.org/breton-music.

[15] Entitled "What you see is what you get – If you know where to look", published as https://youtu.be/glwAi2nT9W4 and also available – as the following explicative video – at https://analyses.foredofico.org/other/explanatory-videos.

[16] Entitled "Few indicators for Vocal and Musical techniques of '*Cante Jondo*' used in the video analyses of the CERMAA for the VIAMAP series", published as https://youtu.be/bER2W9bWuqI.

[17] Photo courtesy of the musician.

[18] This is the reason for the sudden ruptures of intensity which can be observed on the graph, on the junctions of the assembled parts.

The range ("ambitus") covered by the *nāy* player (*Neyzen* in Turkish) in this performance, from (lower) *RĀST*[19] = (lower) *c* to (upper) *NAWĀ* = (upper) *G*[20], corresponds to two octaves and one fifth which spread around the (middle) tonic *dū* = *d*.[21] The bi-octaval scale (used with an upper extension to the upper *G* in the video analysis) is proposed with solmization in Fig. 2. The complete solmization – with intermediate pitches – is shown in the video from 17 s_v (seconds of the video) to 29 s_v, and is available in "The Lost Art of *Maqām*"[22] in pdf version.

Many explanations about *maqām Ḥijāz* and its *sayr-al-ʿamal* (traditional or extended modal course) can be found in the second part of aforementioned "The Lost Art of *Maqām*"[23] concerning the performance of "Yā Nasīm a-ṣ-Ṣabā" by ʿAlī Maḥmūd (voice) and Sāmī a-sh-Shawwā (violin),[24] a privileged comparison ground with Erguner's performance.

The composition of the video analysis in two unequal upper and lower stripes is similar to the standard set with the analysis of Inés Bacán's "*Y a la Puerta Llaman*"[25]. The tonic is stable over all the performance of Erguner with small rises in the upper range: no clear correlation with the rise of the intensity of the emitted sound could be established.[26]

Twelve different graphic scales were used for the analysis, delineating the melody for no less than four major and two minor developments of different *maqām* scales, and for no less than ten different *genē*.

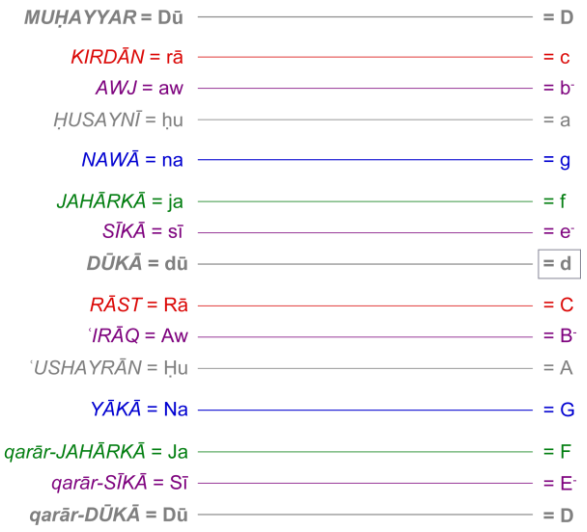


Fig. 2 Bi-octaval main graphic scale used for the analysis (extended in the upper range in the actual video analysis) with solmization and note names.

(Explanations about the *genē* used in Arabian-Turkish traditional music are provided in THT 1:33[27], with correspondences between the notes of these musics and Western notation in FHT 1:34.[28])

Most of these *genē* are found in a macro-transition from (*maqām Ḥijāz-Kār b* 2624262[24][29] then) *maqām Bayātī-Shūrī a* 33426(24) (Fig. 3:8) to *maqām Mustaʿār*[30] e^- [2]4334352[34] (Fig. 4:8).

[19] Taking place at 253-258 s_a (or 253-258 "seconds of the analysis"). This convention is used to differentiate the time of the analysis from the overall time of the video, labelled "s_v". Conventions for the names of modes, *genē* (Greek pl. of *genos*, or *jins* in Arabic, *genus* in Latin) or polychords (a common denomination for tri-, tetra- and pentachords), and notes in our analyses are the use of initial capitals for the names of *maqām*(s) (thus mode *Ḥijāz* and mode *Ḥijāz-ʿAjamī*), lower case letters integrally for polychord and *genē* names (thus the *ḥijāz* tetrachord or *genos*), and upper case letters integrally for note names (thus the note *ḤIJĀZ* which correspond roughly to an $f^{\#}$). The solmization of the notes follows particular conventions explained in the video and in the figure referenced in footnote no. 22.

[20] For example at 204.* s_a. (The "*" is for "undetermined fraction of the second", thus "204.*" means "204 seconds and a fraction of second".)

[21] If we look at the graphic scale of Fig. 3:8 ("page 8"), *dū* is the middle tonic and the notes of the octave above it are labelled "middle". The upper octave *Dū* and all notes above it are labelled "upper" notes, while all the notes below *dū* – which also have an initial capitalized letter – are labelled "lower". Furthermore, and as explained in the Prefatory Remarks, the tonic *dū* is relative (*maqām Ḥijāz* is traditionally performed on *DŪKĀ* = *dū* = *d*), although its absolute pitch is closer to *c*.

[22] [Beyhom, 2019c, p. 56].

[23] [Beyhom, 2019c].

[24] Video analysis available as [Beyhom, 2019a].

[25] Analysed further.

[26] Other factors could influence the rise of the tonic, but the displacements are relatively tenuous, and a special enquiry into this matter seemed superfluous.

[27] For "Tableau Hors Texte no. 1, page 33".

[28] For "Figure Hors Texte (or 'Plate') no. 1, page 34".

[29] Note the extension [24] in the upper octave, which could correspond to the beginning of a *genos kurd* 244(4). (*Genos kurd* is usually used as a pentachord 2444 – at least in the Arabian tradition.) *Ḥijāz-Kār* is described in [Aydemir, 2010, p. 77] (a close description to [Ḥilū (al-), 1972, p. 112], but also to [Erlanger, 1949, v. 5, p. 218]) as having a tonic *RĀST* (*c*) and allowing for a *būsalīk* 424 tetrachord on the upper octave *C* or also on *f*.

[30] This is the "Turkish" *Mustaʿār*, described in [Aydemir, 2010, p. 61] as having the (ascending) degrees $e^-\ f^+\ g\ a^-\ b^-\ c\ d^+\ E^-$; the "Arabian" *Mustaʿār*, as described in [Erlanger, 1949, v. 5, p. 310], has a regular ascending scale *sī* (or e^-) 5242443(52424).

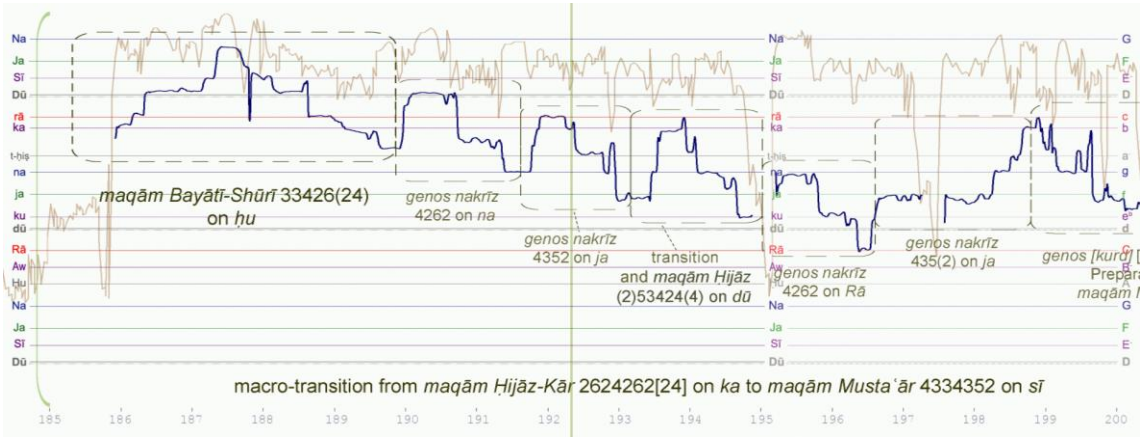


Fig. 3 Beginning of the macro-transition from (*maqām Ḥijāz-Kār ka* 2624262[24] then) *maqām Bayātī-Shūrī ḥu* 33426(24) to *maqām Mustaʿār sī* [2]4334352[34].

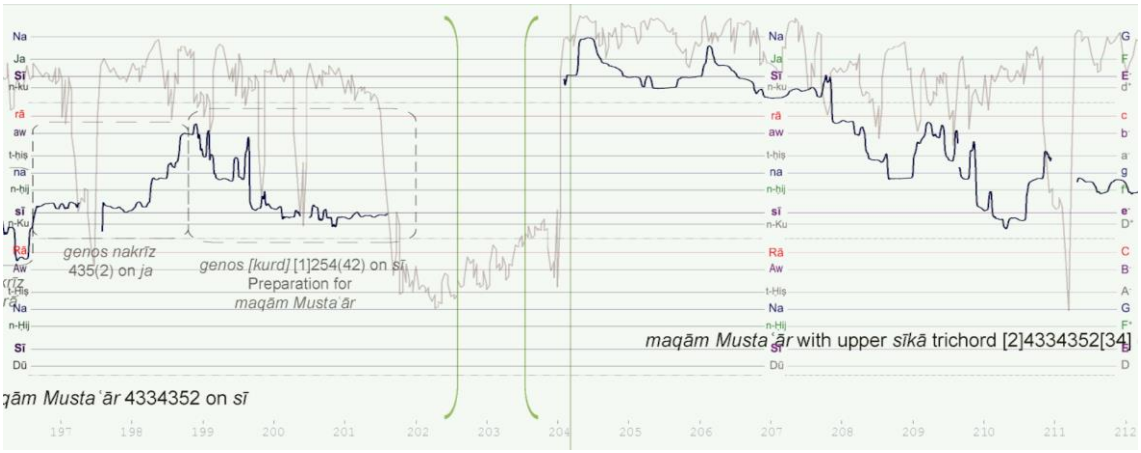


Fig. 4 End of the macro-transition from *maqām Bayātī-Shūrī ḥu* 33426(24) to *maqām Mustaʿār sī* [2]4334352[34], with the beginning of the latter: the bordering intervals ([2] below and [34] above) for the latter show the difficulty in considering this mode as a single-octave scale. The main octave scale is *sī* (*e*) 4334352.

Literal analysis and description of the *taqsīm* in *maqām Ḥijāz* as performed by Kudsi Erguner[31]

Part I (Opening part): Mainly based on the development of *maqām Ḥijāz* in its *Ḥijāz-ʿAjamī* version

The performance starts (around 1 s_a[32]) with a "call of tonic" from (lower) *Rā* = *C* to *dū* = *d*, followed (4-11 s_a) by a (hint to a) compressed *genos ḥijāz dū* = *d* 252 (Fig. 5) and ending on the sub-tonic *Rā* = *C*, which gives the sensation of a suspended unfolding of the *genos*, which is why it is immediately followed by the further exploration (and widening) of the more "regular" *genos ḥijāz* 262 (12-28 s_a) with an occasional use of the *ḥijāz* 352 variant (22-26 s_a – 9) on the tonic *dū*. (Fig. 6.)

Comes then (31-44.* s_a) the exploration of the complete scale of *maqām Ḥijāz-ʿAjamī dū* = *d* [4]2624244 with a lower extension (the "[4]" interval in the preceding RS notation) and a micro-modulation (45-46.* s_a – Fig. 7) in the upper part with an ascending b^{-}[33] which nearly immediately (just before 47 s_a) goes back to b^{b} in descent.

[31] Reminder: The video analysis is available at https://youtu.be/g5hJ-uLeV30.

[32] As already explained in footnote no. 19, "s_a" corresponds to "time in seconds of the analysis", to differentiate the time of the analysis from the overall time of the video, labelled "s_v".

[33] This results in the tetrachord *bayāt ḥu_aw_rā_Dū* 334 reminiscent of the other main representative of the *maqām Ḥijāz* family, *maqām Ḥijāz-Awjī dū* 2624334.

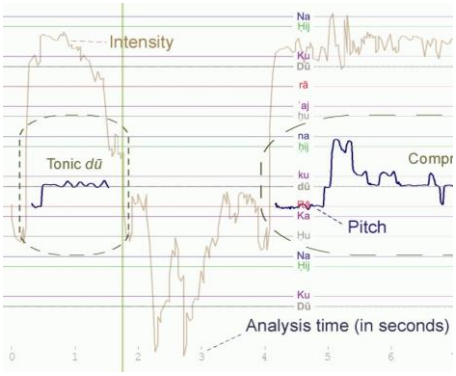


Fig. 5 The tonic and the compressed *ḥijāz genos d* 252.

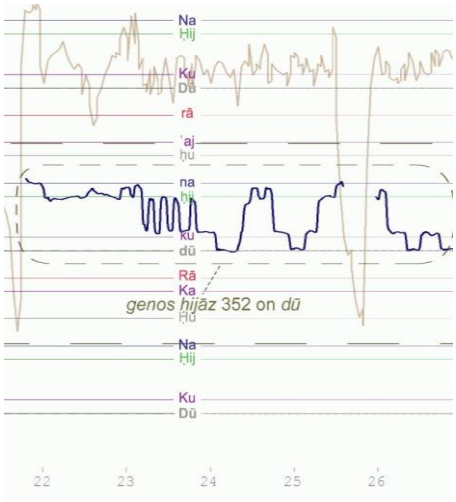


Fig. 6 352 *genos ḥijāz* on *d* around 24 s_a.

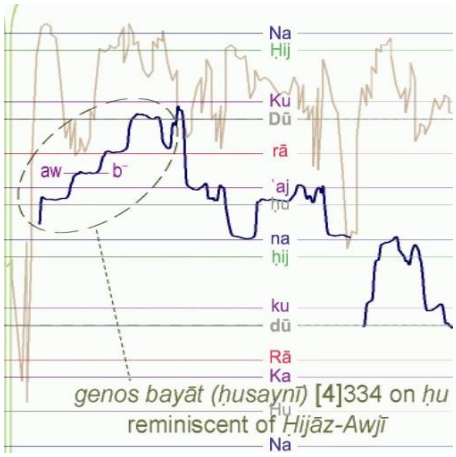


Fig. 7 Micro-modulation using *genos bayāt a* 334 at 45-46.* s_a.

While immediately returning to *Ḥijāz-ʿAjamī* on *dū* 2624244 in its middle range Erguner explores, after a stop on the fourth *na* = *g* (54-55 s_a), the upper complete range of *Ḥijāz-ʿAjamī* (60-74 s_a) initiated (58-59 s_a) by a short semi-tonal then chromatic exploration of the *ḥū_rā* (*a_c* – Fig. 8) interval and embellished (65-66 s_a) by a 3 times three-quarter-tones descent[34] from (slightly lowered) upper *Ku* = E^b to *ḥū* = *a* (Fig. 9). Then comes the complete development of the scale (75-95 s_a) of *maqām Ḥijāz-ʿAjamī* resting on the tonic/final *dū* = *d* – which marks the end of the first part of the performance.

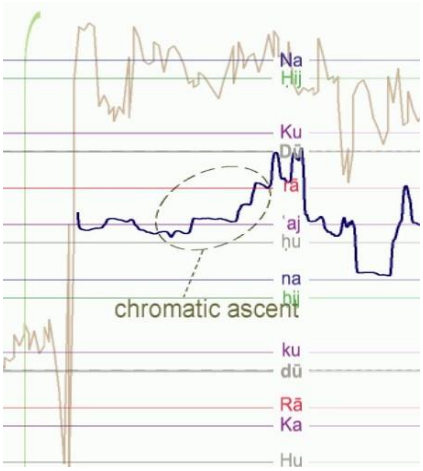


Fig. 8 Chromatic (semi-tonal) ascent around 59 s_a.

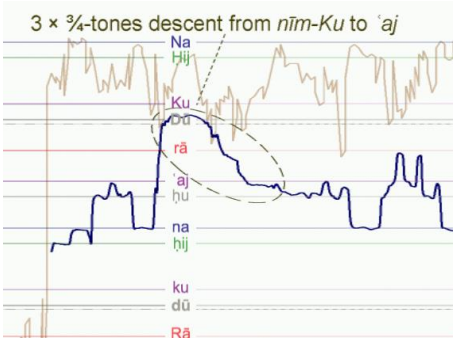


Fig. 9 3 x three-quartertones descent from *nīm-Ku* to *ʿaj* around 65 s_a.

Part II (Developments and Modulations): Middle part with exploration of multiple modulations from, and to, *Ḥijāz-ʿAjamī*

Erguner develops, at the beginning of this second part (96-104 s_a), an upper *būsalīk genos na* = *g* [2]424[4] as a preparation for the major (and usual) modulation to *maqām Ḥusaynī* on *dū* [4]3344334[33] (Fig. 10) which is explored (105-130 s_a) extensively while preparing (130-134 s_a) a double modulation in the upper range

[34] In what seems to be a compressed *Ku-ʿaj* interval in three more or less equal intervals in a descent with three lowered degrees *Ku Dū rā* and stabilizing on *ḥu*.

to *Ḥijāz-ʿAjamī* (136-139 s_a) then back to *Ḥusaynī* (140.*-142 s_a – Fig. 11) followed by the upper range of *Ḥijāz-ʿAjamī* (144-150.* s_a) until (151-167 s_a) the complete development anew of *maqām Ḥijāz-ʿAjamī dū* [4]2624244 with a concluding rest on the tonic *dū = d*. **(In short: Major modulation to *maqām Ḥusaynī* and back to *maqām Ḥijāz-ʿAjamī*.)**

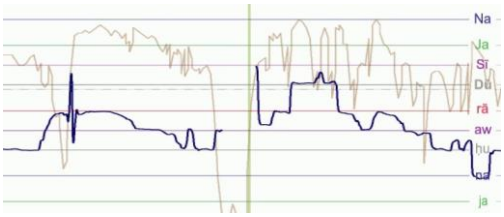


Fig. 10 Clear delineation by the melody of the upper part of *maqām Ḥusaynī dū = d* 3344334 around 109 s_a.

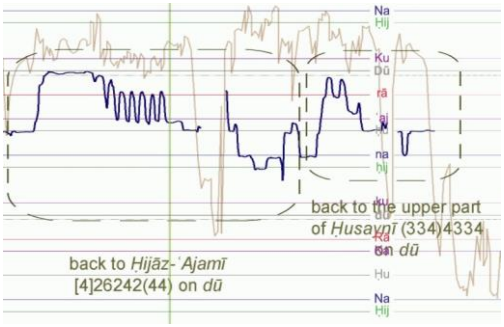


Fig. 11 Back and forth between *Ḥijāz-ʿAjamī d* and *Ḥusaynī d* in the upper part of the middle octave around 139 s_a.

Then the musician modulates (169-172 s_a) to the upper range of *maqām Ḥijāz-Kār ka = b* 2624262[24] (the latter – and upper – [24] intervals mark the beginning of an upper *kurd* – or "Flamenco" – tetrachord 244 on upper *Ka = B*) developed till 183.* s_a. Then comes (see Fig. 3:8 and Fig. 4:8 above) a breath-taking (literally for the musician) descending combination (from 186 to 197.* s_a) of an initial *maqām Bayātī-Shūrī* (also Fig. 12) *ḥū = a* 33426(24)[35] followed by a *genos nakrīz* 4262 on *na = g*,[36] another *nakrīz* 4352 – a variant of *nakrīz* – on *ja = f*, then a small transition (193.* s_a) to an incomplete *maqām Ḥijāz* (2)53424(4) on *dū = d* masterfully followed by a *nakrīz genos Rā* 4262.

Fig. 12 Clear delineation of the lower-middle part of the scale of *maqām Bayātī-Shūrī ḥū = a* 33426(24) around 188 s_a.

Follows (197.*-202 s_a) in ascent a *genos nakrīz ja = f* 435(2) then a descending extended (and skewed) *genos kurd sī = e*⁻ [1]254(42) which serves as a preparation[37] to the next, major modulation to *maqām Mustaʿār* [2]4334352[34] on the same tonic, developed from 204 to 214 s_a.[38] Follows (215-217 s_a) a short chromatic micro-transition (Fig. 13) on *ku = e*^{b} allowing for the modulation back to *maqām Ḥijāz-ʿAjamī dū = d* [4]262(4244).

The latter is shortly developed (217-226 s_a) in the lower range of the scale and followed by a short modulation (227-229 s_a) to the upper range with *genos awj aw = b*⁻ 343[4] and returns immediately (around 229 s_a) back to *maqām Ḥijāz-ʿAjamī*[39] *dū = d* [4]2624266 developed till 241 s_a and subtly modulating (241-245 s_a) – with a change in the register of the instrument – to *maqām Shāh-Nāz Dū = D* 2624262[42] (in the lower octave) descending to the (even) lower *rā = c* to finally rest on the (lower) tonic *Dū*.

This is followed (264-275 s_a) by a double-octave jump to (upper) *Dū* and a modulation to *maqām Ḥijāz-ʿAjamī ḥu = a* 262424(4) then (275-277 s_a – Fig. 14) by two descending *nakriz genē* 4262 respectively based on (middle) *dū = d* and (lower) *Na = G* and concluding

[35] The intervals between regular brackets show that the intervals are structural of the (here supposedly octaval) scale of the mode, but not performed effectively by the musician. Note also that square brackets are used for intervals which are not structural in the scale.

[36] According to Scott Marcus – in his review of this first part of the article – the juxtaposition of *Bayātī-Shūrī* on *ḥu* and *nakrīz* on *na* could be understood as a quick change in the upper part of the octave from *Ḥijāz-Awjī* to *Ḥijāz-ʿAjamī*.

[37] This macro-transition from *maqām Ḥijāz d* to *maqām Mustaʿār e*⁻ (186-202 s_a) seems to be a "musical compound" that the musician has learned to perform expressly for this type of modulations.

[38] *Maqām Mustaʿār* is a very peculiar mode in its composition and evolution respectively beyond and before the upper octave and the base tonic, and is primarily used by Turkish musicians – see [Aydemir, 2010, p. 61–62] for more details on this mode.

[39] According to Scott Marcus this could also be understood as a quick change from *Ḥijāz-Awjī* to *Ḥijāz-ʿAjamī*. (See fn. 36.)

(277-282) with a superb *genos ḥijāz* on (lower) *Dū = D* [4]262[4] extended by a whole tone in both directions and resting on the fourth *Na = G*.

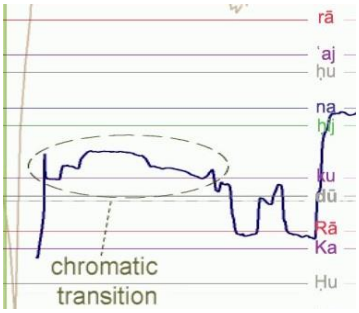


Fig. 13 Chromatic transition around 216 s_a.

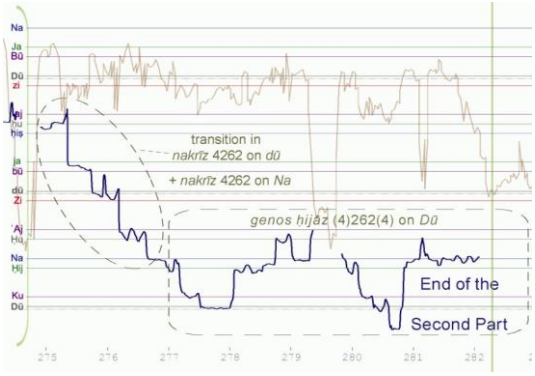


Fig. 14 Ultra-chromatic descent and *ḥijāz genos Dū* 262 around 277 s_a.

(In short: Major modulation to *Ḥijāz-Kār ka = b* 2624262[24] followed by a macro-transition leading to *maqām Mustaʿār* [2]4334352[34] on *sī = e*$^{-}$, back to *Ḥijāz-ʿAjamī dū = d* with short modulations, change of register to the – lower – *Shāh-Nāz Dū = D* 2624262[42], change of register to the (upper) *maqām Ḥijāz-ʿAjamī ḥū = a* 262424(4) with a descending double *nakrīz* 4262 to *Na = G* concluding on a *ḥijāz genos* on *Dū = D* – in the lower register.)

Part III (Closing): Exposition of the plain scale of *Ḥijāz-ʿAjamī*

This part initiates (284 s_a) with the development (till 303 s_a) of *maqām Ḥijāz-ʿAjamī ḥu = a* [34]2624244 in the upper range, then a short development of *Ḥijāz-ʿAjamī dū = d* [4]26242(44) with a final rest (321-322 s_a) on the tonic.[40]

Conclusions of Part I and on Kudsi Erguner's taqsīm

Each proficient interpreter of *maqām* music infuses his performance with his personal understanding of the particular *maqām*, sometimes together with the flavour of the *maqām* subdivision of the country or region whence he comes.

If we compare the instrumental *maqām Ḥijāz* played by Erguner to the *qaṣīda Yā Nasīm a-ṣ-Ṣabā* performed by sheikh ʿAlī Maḥmūd and violinist Sāmī a-sh-Shawwā analysed in "The Lost Art of *Maqām*"[41], we can notice similarities, such as the usage of both *Ḥijāz-ʿAjamī* and *Ḥijāz-Awjī*, together with the full chromatic scales of *maqāmāt Ḥijāz-Kār* and *Shāh-Nāz* and the use of intricate versions of *ḥijāz* 262, 352 and 253 *genē*[42], with main differences such as the use of various modulations to *maqāmāt ʿAjam*, *ʿAjam-ʿUshayrān*, *Rāst* or *Sīkā* by Maḥmūd and Shawwā, whenever Erguner modulates mainly (and superbly) to *maqām Mustaʿār* in its Turkish version.[43]

Whether these differences[44] come from the disparities of *maqām* regions[45], of time periods, of personal tastes in performing this particular *maqām*, or simply of the different purposes of the two performances,[46] is difficult to specify. What remains with such proficient musicians is the uniqueness of each style, and the incredibly rich variations they can produce for each *maqām*.

This alone shows the immensity of the task still to be pursued for the complete study and analysis of the *maqām* repertoire.

[40] According to Scott Marcus, this entire section (till 308 s_a) could be labelled as *maqām Shāh-Nāz* 2624262[42] on *dū*.

[41] 2nd part of [Beyhom, 2019c].

[42] Mostly 262 with Erguner, however, and inserted in a *nakrīz* tetrachord 4262.

[43] Note also that the competition between Maḥmūd and Shawwā was more favourable to modal changes as with the solo performance of Erguner.

[44] Another difference could be the modulation to *Ḥijāz-Kār* on *b*, which would be an oddity in Arabian *maqām* tradition.

[45] *Maqām Mustaʿār* is for example more in use for Turkish/Ottoman repertoire.

[46] Artistic and intended for a large audience for Maḥmūd and Shawwā, pedagogical and intended as one – rather scholarly – example of developing the *maqām* for Erguner.

PART II. ANALYSES OF THREE *MARTINETES*

"If you have ever listened to a twangy, tinny sounding old guitar, accompanying a gravel, almost out of tune, ancient style of voice, rusty and dry as if straining for its last breath and rhythmed only by the rapping of knuckles on a table top, then you will have probably witnessed Cante Jondo*, which is flamenco in its purest form".*

[From https://www.andalucia.com/flamenco/history.htm][47]

"The original martinete *or the song of the gipsy bellows, which is the oldest practised form [of* Cante Jondo*]."*

[Pierre Lefranc, *Cante Jondo*][48]

A REMINDER ABOUT *CANTE JONDO*, AND *MARTINETES*

Cante hondo (Sp.: 'deep song') is

> "A generic term encompassing the purest and oldest strata of songs of the flamenco tradition, which originated in the provinces of Andalusia in southern Spain. While *cante hondo* (or, in its aspirated, Andalusian form, *jondo)* refers, more appropriately, to a particular vocal timbre, the term has been used erroneously to designate a form. *Hondo* connotes a deep or profound feeling with which the singer expresses his or her innermost thoughts, emphasizing the tragic side of life."[49]

Apart from being probably the most ancient – and extant – type of *Cante Jondo* songs, the *martinete* is frequently sung solo and *a cappella* – or with limited percussion – which (1) widens the possibilities of non-temperament, (2) liberates the pitch of the tonic and (3) encourages – seemingly – modulations, three characteristics which are of the utmost importance and interest in video analyses.

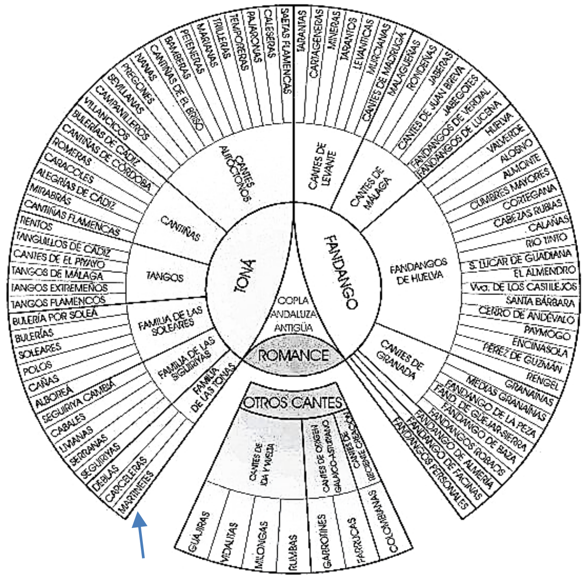


Fig. 15 The types of Flamenco songs: *martinetes* (and *carceleras* – Prison songs) are the first among the styles of the *tonás* family.[50]

According to the entry Flamenco in the *New Grove*,[51] of the 44 different types of flamenco songs/dances, the *martinete* derives from (or is similar to) the *toná* (which in turn is similar to the *romances*). *Martinetes* come from the folkloric tradition, are from Andalusian gypsy origin and part of the *Cante Jondo* (or *Cante Grande*), while corresponding to a minor (*chico*) type of dance.[52]

As for Pierre Lefranc,[53] the original *martinetes* (but also the *carceleras* – or prisoners' songs) have the scheme "A1 // B2, // C3 D4", with "//" indicating a connection between two parts (parts A and B being thus connected), and with the comma indicating a middle pause. This means that parts B and C are connected despite the pause between them, while the empty space between parts C and D denotes an absence of connection.

[47] Last accessed 2021/03/29.

[48] Translated from [Lefranc, 1998, p. 50]: "[L]e *martinete* d'origine, le chant des forges gitanes, qui est la forme vivante la plus ancienne de l'ensemble des répertoires préservés". Note that the hypothesis of Lefranc is that *Cante Jondo*, and especially the *martinetes* and *carceleras* – prisoner's songs –, are influenced by the Islamic *ādhān* (call to prayer).

[49] [Trend, 2001]: This is a more academic – but much less poetic – definition of this type of singing from the *New Grove*.

[50] Retrieved from [Angvm11 (User name on Wikipedia), 2015].

[51] [Katz, 2001, p. 922].

[52] There are also different types of *martinetes* ([Lefranc, 1998, p. 78–82] distinguishes two main types and two derivative – or sub – types): a good web page for listening to these various types is [Anon. "Martinetes | Flamencopolis"].

[53] [Lefranc, 1998, p. 78].

Another form is "A1 // B2, C3-4", with the last two verses connected.

The verses of a *copla* (stanza) are performed following the order in the original text, with the first verse being sometimes repeated.

More generally, characteristics of Flamenco singing as reported in the literature can be:

> "- Instability of pitch. In general, notes are not clearly attacked. Pitch glides or *portamenti* are very common.
>
> - Sudden changes in volume (loudness).
>
> - Short pitch range or tessitura. It is normally limited to a major sixth interval and characterized by the insistence on a note and those contiguous.
>
> - Intelligibility of voices. Since lyrics are important in flamenco, there is a strong preference for intelligibility over range or timbre. Contralto and baritone voices are very common.
>
> - Timbre. Timbre characteristics of flamenco singers depend on the period in which it was performed. As relevant timbre aspects, we can mention breathiness in the voice and the absence of high frequency (singer) formant, which is characteristic of classical singing styles.

From a musical point of view, a cappella *cantes* retain the following properties:

> - Conjunct degrees. Melodic movement mostly occurs by conjunct degrees.
>
> - Scales. Certain scales such as the dominant Phrygian mode (with a major tonic) and Ionian mode (E-F-G#-A-B-C-D) are predominant.
>
> - Ornamentation. There is also a high degree of complex ornamentation, melismas being one of the most significant devices of expressivity.
>
> - Microtonality. The use of intervals smaller than the equal-tempered semitones of Western classical music is frequent.
>
> - Enharmonic scales. Microtonal interval differences between enharmonic notes."[54]

The major mode is characterized as "Ionian", the "Flamenco" (or *e*) mode as "Phrygian", and the *Ḥijāz-ʿAjamī* mode as "Phrygian [with frequent] chromatic rising of the third and seventh degrees"[55] or as "Ionian mode (E-F-G#-A-B-C-D)" as in the quote above.

As for the micro-intonations:

> "According to the individual *cante* of the flamenco repertory, the use of ornamentation varies from light to heavy, and ascending or descending appoggiatura-like inflections are commonly used to accentuate certain notes. Such inflections are microtonal and are a particular feature of *cante hondo*."[56]

Furthermore, and more precisely concerning the special type of song analysed in this article,

> "The *martinete* […] always finishes in the major mode."[57]

* * *

(Interlude) About the tyranny of the diapason[58] in today's music

The *naïveté* and ethnocentrism of most Western musicologists (including most ethnomusicologists) when dealing with peculiarities of non-tempered/non-Westernized musics is sometimes phenomenal, and show through their particular relation with the tuning fork.

A moving tonic, far from being an "error" or a mark of non-professionalism for non-tempered – especially vocal – music, is a musical procedure which supports, mainly, musical tension and helps in developing it. In previous analyses I underlined the rising pitch in Breton songs of the Kan Ha Diskan type[59], in which musicians often raise the tonic gradually while accelerating the

[54] [Mora et al., 2010, p. 352].

[55] All these characterizations of modes are found in, for example, [Gómez et al., 2016, p. 5]. Note that if the 7th is also raised, we obtain the scale of *maqām Ḥijāz-Kār* as explained further.

[56] [Katz, 2001, p. 923].

[57] [Mora et al., 2010, p. 354].

[58] By "diapason" I mean in this section the absolute pitch – changing with different musical epochs and regions/countries of Western music – given by the tuning fork.

[59] For general explanations about Kan Ha Diskan see [Wikipedia Contributors, 2019]; for an Early example of rising tonic analysed with Praat, see [Beyhom, 2007a, p. 207] but also [Beyhom, 2018g] and, more particularly, the videos [Beyhom, 2018a; 2018b; 2018c; 2018d]. (See also the video analysis of a song by Breton singer Manu Kerjean [Beyhom, 2018e; 2018f] with the tonic moving constantly all through the analysis.)

tempo of dance songs, a very efficient procedure to create musical (and dance) tension with the public.

Other musics – such as the chant of the Rapa Iti Tahitian choir[60] (Fig. 16) – deliberately use changes of the tonic in form of frequent *portamenti* which, together with affirmed non-temperalism, defy the best efforts to analyse the music with usual Western tools.

Fig. 16 "Ahurei Bay and Tapui Islet, Rapa [Iti], Austral Islands, French Polynesia".[61]

From my point of view, analysing *martinetes* – probably the most ancient Flamenco form – is a joy to the musicologist, with the beautiful vocal and musical techniques of the *cantaors* and the moving tonic, far from the modern tyranny of the diapason. The more over when these changes of tonic happen to be real – and complete – modulations with a (nearly imperceptible, because concealed) semi-tonal raise or sinking of the tonic,[62] as with Camarón de la Isla or (even more) with Pepe de la Matrona – whose *martinetes* are analysed further.

Happily enough, my first analysis of *Cante Jondo martinete* was relatively simple, and started in fact in the second half of the 2000s after I first encountered Inés Bacán.

Inés Bacán's "Y a la Puerta Llaman" (Martinete)[63]

"I would say that Flamenco is a personal confession… the confession of the weakness of Man. If not weakness, then at least frailty. In my opinion, it is not a movement from one's own frailty towards the Other. It is not a movement from the interior to the exterior, but from the exterior to the interior. Flamenco makes no efforts to be understood. It simply faces itself with its own words. So it is the Other which approaches him and says: 'don't worry, you are fragile but I am, too, as we all are'. It is a movement from the exterior towards the one who is here. […] It is the negation of the audience, of the concept of audience. And from here comes the confusion. Due to its intimate nature, Flamenco negates the audience. But the audience needs to understand and, on the other hand, the professional artist needs to be understood. […] I think that the specificity of the Flamenco world resides here"[64]

[Pedro Bacán, interviewed in 1996 by Daniel Caux on France Musique]

Fig. 17 Inés and Pedro Bacán in concert in Geneva. (Photo credit: Isabelle Meister, 1992.)[65]

[60] [The Tahitian Choir, 1992].

[61] Retrieved from [Sardon, 2000].

[62] See the video expounding vocal techniques mentioned in the prefatory remarks.

[63] From the CD WN (NAÏVE) 145004-8, first published 1998, with Inés Bacán (*cante*) and percussion (*nudillos*) by Moraito.

[64] In [Savy, 2008, p. 67], translated from the original French. Note that Savy opposes this (introverted, family oriented) point of view of Pedro Bacán – Flamenco guitarist and incidentally the (one year) older brother and early accompanist of Inés (see Fig. 17) – to the (reactive, performance oriented) scenic attitude of Paco de Lucía who "controls the space [around him]" and listens to the audience. (Pedro Bacán died in a car accident in Utrera in 1997 – See https://www.andalucia.com/flamenco/famous-figures/pedrobacan.htm.)

[65] From [Savy, 2008, p. 78].

Fig. 18 Inés Bacán on stage.[66]

I first met Inés Bacán (Fig. 17 and Fig. 18 above) in October 2006 in the Abbey of Royaumont in France, where she delivered a performance for the Festival that was taking place in parallel with a conference in which I took part.

While we were discussing "Flamenco" with Francisco de la Rosa[67] (who introduced me backstage to Bacán), I proposed the *genē* analysis method used by theoreticians of *maqām* music as a possible way of analysing "Flamenco" songs and music – at least the less hybridized forms. After translating to her part of our conversation, de la Rosa told me that, surprisingly (for him), Bacán seemed interested in this procedure…

I did not have the chance of – nor the competence for – exploring this question further at the time, and it was not before (nearly) fifteen years after this encounter that I seriously undertook the analyses of *Cante Jondo* songs, starting with Bacán's *martinete* explored in these pages.[68]

Bacán uses mainly the lower part of the (incomplete) octave, with frequent (11 within less than 2 ½ minutes) modulations which is comparable with, for example, the recently proposed VIAMAP analysis of the performance of ʿAlī Maḥmūd (voice) with Sāmī a-sh-Shawwā (violin) in "Yā Nasīm a-ṣ-Ṣabā",[69] with more than 30 modulations within less than 7 minutes.

The video analysis began in Early 2019 and was premiered – as an Early version – in March 2020 in Sfax (Tunisia). (See a global graphic notation in FHT 2:35.)

The Lyrics

The lyrics – from Bacán[70] – are translated after the French text[71] in the CD and corrected after comparison with the effective performance[72]:

[Y trin, trin,][73]
y a la puerta llaman,
[y trin, trin,]
y no *sé* qui*en* ser*á*,
si será l*a mare de* mi *ar*m*a*
y que llorando, llorando, llorando
por mi estará.

Que (yo)[74] no pod*ía* entr*á* en *mi casa*,
que a mi los jerés no *me la con*|sent*ían*[75]
y yo le daba v*ose* a *mi ma*re,
mi mare, mi mare, mi mare
no me respondía.

Y si no es verd*á*
lo que yo d*igo*,
si no (es) verd*á*
que Dios me mande la muerte
si me la *quiere* mand*á*.

[66] Retrieved from https://www.deflamenco.com/revista/resenas-actuaciones/xxi-palma-de-plata-ciudad-de-algeciras-1.html.

[67] De la Rosa presented there a paper on "The Unconscious Oriental Memory of Flamenco" [De La Rosa, 2006].

[68] I have made a preliminary – and only partly accurate – analysis of this *martinete* in 2007, which was published as a footnote in [Beyhom, 2007b, p. 67–68, fn. no. 18]: I did not have the tools, at that time, to undertake a thorough analysis such as the one proposed here.

[69] See the second part of [Beyhom, 2019c], and the video analysis at https://youtu.be/et4iT3HLxno.

[70] The lyrics were originally transcribed in the CD booklet by Francisco de la Rosa.

[71] Here is the French translation (by Frédéric Deval) from the original CD: "Trin, trin / [1st *Copla*] On frappe à la porte / y trin, trin, / Et je ne sais qui ce peut être / Peut-être est-ce ma mère bien-aimée / Qui me cherche en pleurant, en pleurant en pleurant. [2nd *Copla*] Je ne pouvais rentrer chez moi / La justice ne le voulait pas / J'appelais ma mère / Et ma mère, ma mère, ma mère / Ne me répondait pas. [Outro] Si ce que je dis / N'est pas la vérité / Si ce n'est pas la vérité / Que Dieu m'envoie la mort / S'il veut bien me l'envoyer."

[72] The syllables (or vowels) in italics are performed in melisms.

[73] The words or single letters between square brackets ("Y", "trin") are nonsensical syllables.

[74] "Yo" ("I") added for coherence (and as performed by the singer).

[75] The vertical bar indicates a slight out of tempo (delayed) performance of the next syllable.

Here is one possible translation:

(Y trin, trin,)
(Someone is knocking at the door)
(y trin, trin,)
(And I do not know who it may be)
(Maybe it is my beloved mother)
(Who is crying, crying, crying,)
(Looking for me.)

(I couldn't go home)
(Justice would not let me)
(And I called my mother,)
(My mother, my mother, my mother)
(Who would not answer.)

(And if is not true)
(What I say)
(If it is not the truth)
(Let God give me Death)
(If it is His will to give it.)

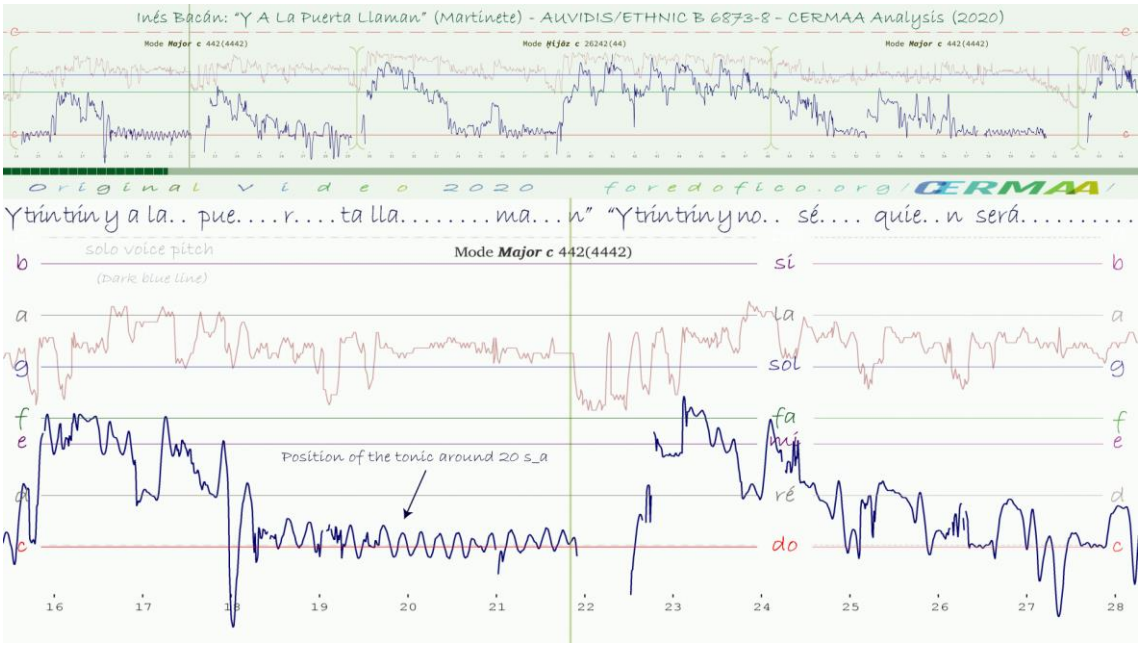


Fig. 19 One frame of the video analysis of Inés Bacán's "*Y a la Puerta Llaman*" just before 22 s_a (seconds of the analysis) and 168 v_s (Video time in seconds); major additions to previous analyses are the VU Meter and annotations in the upper and lower stripes (following two figures).

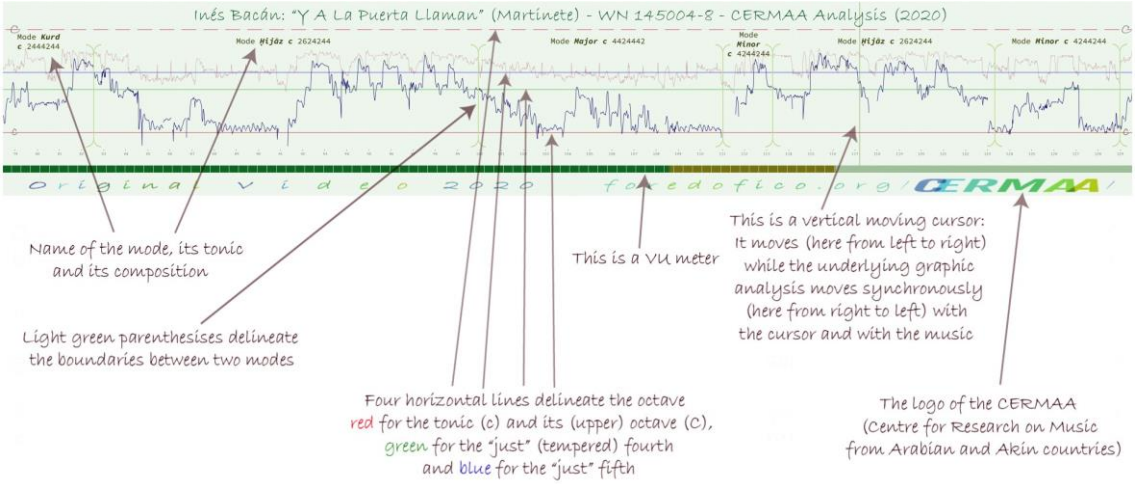


Fig. 20 Upper stripe of the video analysis explained.

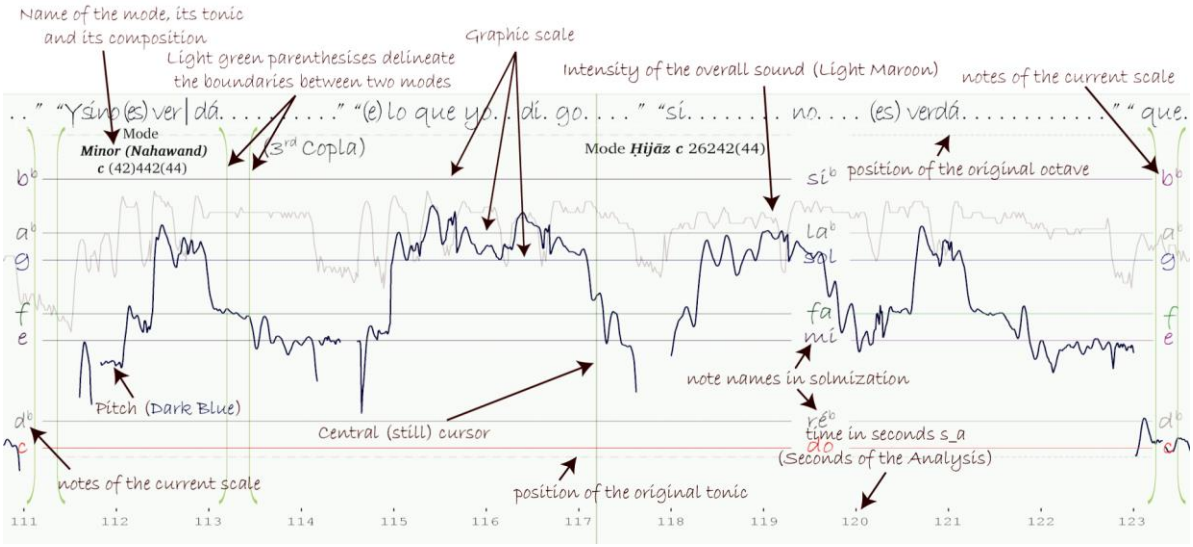


Fig. 21 Lower stripe of the video analysis explained.

* * *

THE SCALES

Bacán's performance relies on a limited set of modes – or better say extended *genē* – corresponding to the more general semi-tonal (as for "based on a division of the octave in semi-tones") octave in its 4 subsets on *c*: the "major" scale *c d e f g a b C*, the "minor" (Western diatonic on *a*) scale *c d* e^b *f g* a^b b^b *C*, the "Flamenco" (Western diatonic on *e*) scale *c* d^b e^b *f g* a^b b^b *C*, and the (semi-) "chromatic" scale *c* d^b *e f g* a^b b^b *C*.

These 4 scales (see Fig. 22:18) have the following corresponding intervallic composition in multiples of the quarter-tone[76]:

- "major" scale *c d e f g a b C* → 4 4 2 4 4 4 2 (or 2 2 1 2 2 2 1 in semi-tones, the scale of mode *ʿAjam-ʿUshayrān* in *maqām* music), also known as the "Scale on *c*"
- "minor" scale *c d* e^b *f g* a^b b^b *C* → 4 2 4 4 2 4 4 (or 2 1 2 2 1 2 2 in semi-tones, the scale of modes *Nahawand* and *Būsalīk* in *maqām* music), also known as the "Scale on *a*" *a b c d e f g A*
- "Flamenco" scale *c* d^b e^b *f g* a^b b^b *C* → 2 4 4 4 2 4 4 (or 1 2 2 2 1 2 2 in semi-tones, the scale of mode *Kurd* in *maqām* music), also known as the "Scale on *e*" *e f g a b c d E*
- "chromatic" scale *c* d^b *e f g* a^b b^b *C* → 2 6 2 4 2 4 4 (or 1 3 1 2 1 2 2 in semi-tones, the scale of mode *Ḥijāz-ʿAjamī* – or simply *Ḥijāz* – in *maqām* music)

Note the identical composition (*f g* a^b b^b *C*) of the three "Minor", "Flamenco" and "Chromatic" scales in the upper part of the octave, and that the lower tetrachords of the 4 scales are all different in composition, which makes this tetrachord – when developed as a *genos* – the principal reservoir of modulations within this performance, especially in the *kurd* ("Flamenco") *c* d^b e^b *f* 244 and the *ḥijāz* ("chromatic") *c* d^b *e f* 262 variants, for which only the degree *e* changes with a base semi-tone *c* d^b serving as a modal axis.

[76] The "Representations as a Suite" (or "RS") of quarter-tone multiples of the intervals of a scale has been used since the beginnings of the last century to approximate the intervals of *maqām* music: it is a good compromise allowing for the characterization of scalar elements, with no pretences, however and whatsoever, such as proposing exact measurements of intervals which, as permanently demonstrated in our analyses, are never immutable.

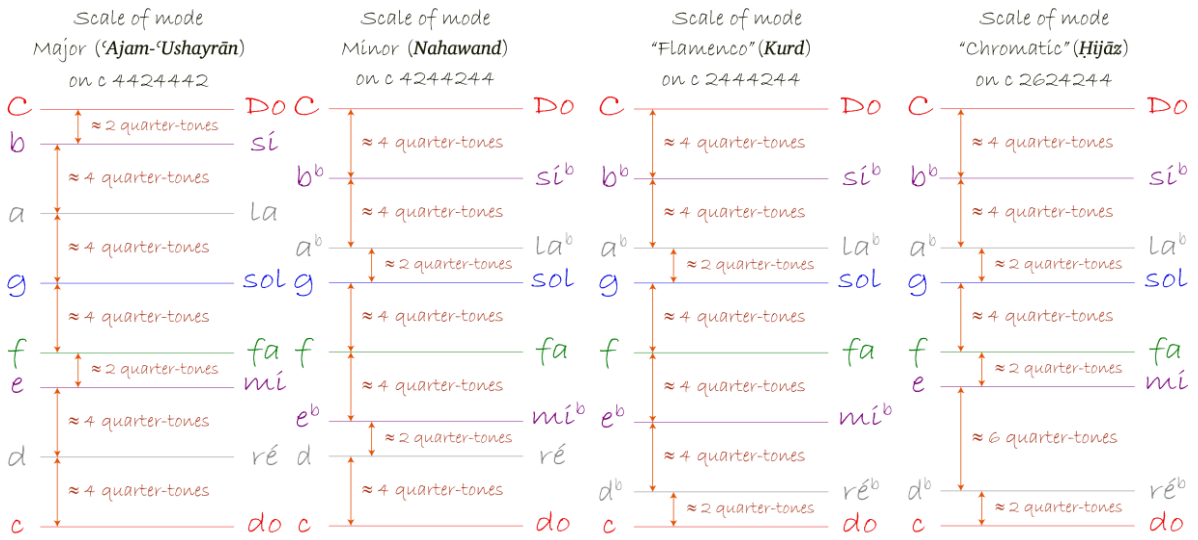


Fig. 22 The four octaval scales partly used by the performers: a colour code is used for the degrees of the scales throughout the analyses; the tonic degree is taken by convention as "*c*" in all *Cante Jondo* performances, regardless of the absolute pitch; the notes in the octave below or above have their (initial) case changed from lower to upper (and *vice versa*) case.

It is interesting to compare these scales with the ones pinpointed in the *New Grove*:

> "As in the popular music of Andalusia, the scales used for flamenco mostly exhibit an affinity for three principal types: firstly, the medieval Phrygian (or Greek Dorian); secondly, a modified scale resembling the Arab *maqām Ḥijāzī*; and thirdly, a bimodal configuration alternating between major and minor 2nds and 3rds",

with these three "types" illustrated in Fig. 23.

The "Medieval Phrygian" (or "Greek Dorian")[77] is simply the mode of *e* noted above (or *e f g a b c d E* 2444244). The second configuration, while "resembling" *maqām Ḥijāz*, is more accurately a perfect match for *maqām*(s) *Ḥijāz-Kār* or *Shāh-Nāz* in Arabian music, the first being traditionally on *c* and the second on *d*, and composed of two *ḥijāz* tetrachords 262 joined by a whole tone, with the resulting *c* (or *d*) 2624262.

As for the "bimodal configuration", I wonder if it is not very simply a combination of a major and minor modes, with an added $d^{\#}$ to create the illusion of a "harmonic minor" mode.[78]

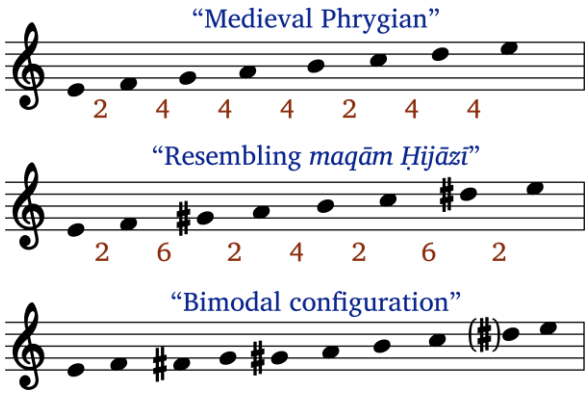


Fig. 23 The three "types" of scales in Flamenco music according to the *New Grove*.[79] (Intervals in multiples – in Brown – of the quarter-tone added by the author.)

Anyhow, the scales of the *New Grove* are not exactly similar to the ones I found while analysing the three *martinetes* in this article, including Bacán's.[80]

[77] I often wonder why musicians use such ambiguous denominations, whenever a simple denomination such as the (Western diatonic) mode on *e* is clear and unambiguous.

[78] Sometimes I wonder: why make it simple when you can make it complicated? Isn't the concept of "bimodality" much more appealing than the plain concept of separate "major" and "minor" modes?

[79] Recreated from "Ex. 1" in [Katz, 2001, p. 923].

[80] Note that the western habit of analysing only complete octaval scales does not help with the analysis; the reader will note that I use more the concept of *genē* in this analysis, to avoid generalizations or undue extensions to the octaval scale.

Literal evolution of the chant and analysis (Bacán)[81]

The performance begins (0-14 s_a[82]) with the percussion on a regular rhythm of 12/8 divided in 5 groups, sequentially 3 3 2 2 2[83]. Bacán starts (14.*[84] to 22 s_a) with the "nonsensical" syllables "(a)y" (14-16 s_a) – which reminds that this is a dramatic song –, and "trin" (16.*-17.*) – for the sound of the hammer on the anvil marking the *martinete* –[85], on the tonic *c* with a major *genos* which remains within the limits of a tetrachord with (a) low *e*(s) as shown in Fig. 24, with a semi-tonal – sometimes (as at 27-29 s_a) amplified in descent – vibrato around the tonic {"[Y trin, trin,] y a l*a* pu*erta llaman*, [y trin, trin,] y no *sé* qu*ien* ser*á*"}.

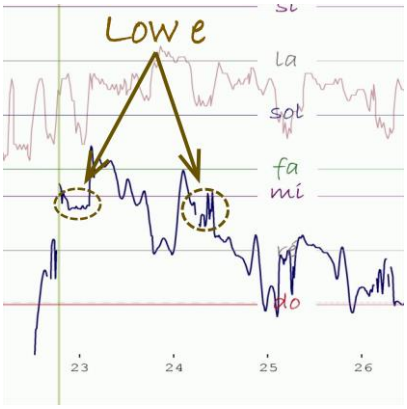


Fig. 24 Low *e* pitches in *genos ʿajam* ("major") around 23 and 24.* s_a.

The accentuations (beginning of verse, articulations) of the singer are generally – but not exclusively – off beat. Follows (30-48 s_a) an abrupt modulation to the semi-chromatic mode *Ḥijāz-ʿAjamī c* 2624244 beginning in the upper tetrachord and descending to the tonic then ascending (with a low *e* around 36 s_a – See Fig. 25) the regular (incomplete) scale 26242(44)[86] with a clear rise of the intensity of the sound in the upper part *e* 2 *f* 4 *g* 2 a^b which is explored for about 9 continuous seconds (39-48 s_a) {"si será l*a mare de* mi *a*rma y que *llora*ndo, *llora*ndo, *llora*ndo"}. The *e_f*[87] semi-tone serves then (48 s_a) as a pivotal interval for a modulation back to the major *genos c* 442 – and a decrease of the intensity (and still low *e* pitches – See Fig. 26) of the voice – with a rest on the tonic (58-61.* s_a) {"*por mi e*stará"}.

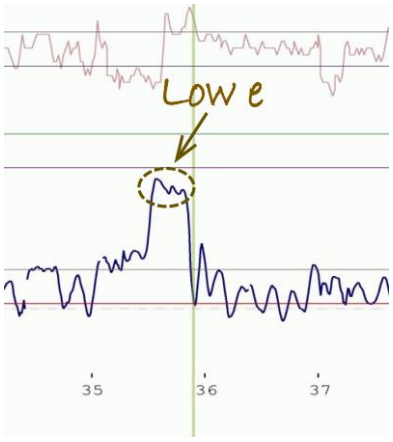


Fig. 25 Low *e* in *maqām Ḥijāz-ʿAjamī* ("chromatic") at 35.* s_a.

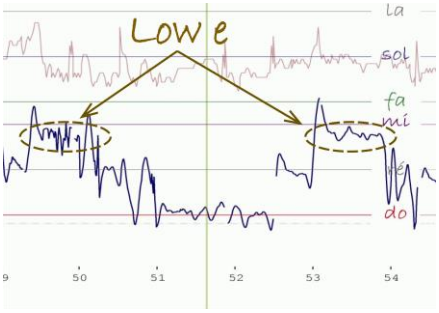


Fig. 26 Low *e* pitches in *genos ʿajam* ("major") around 49.* and 53.* s_a.

A further modulation to the semi-chromatic *Ḥijāz-ʿAjamī c* 26242(44) (excluding the upper intervals *a_b* and *b_C*) begins seemingly in the major mode from its second degree *d* (62.5 s_a) and ascending, then rapidly modulates to d^b (67 s_a) in descent.

[81] See also the complete graphic score in FHT 2:35; as a reminder, the video is available at https://youtu.be/XcRmGGF0t2Y.

[82] "s_a" is for "second of the analysis" (or of the actual song) to differentiate this time from the video time.

[83] But why not 2 2 2 3 3… just to remind that I am no specialist of Flamenco or *Cante Jondo*, nor of the rhythms of this repertoire.

[84] The "*" in the indications of time denotes an unmeasured fraction of second.

[85] According to [Gomez, 2000, v. 1, p. 62], these are the meanings for these onomatopoeic syllables, as "trin" imitates the sound of the hammer on the anvil, and "ay" is the imitation of an expression of pain.

[86] Note that this incomplete *Ḥijāz-ʿAjamī* scale (the "44" between brackets mean that the last two intervals are not performed) could be replaced by the scale of *maqām Ḥijāz-Kār c* 26242(62), as long as the last two intervals are not performed. The use of *Ḥijāz-ʿAjamī* by Pepe de la Matrona (as I show farther – see also the video analysis of Pepe's *martinete* around 56 s_a) is however – for the time being and as long as I do not have contradicting facts – in favour of the first scale.

[87] Conventions for intervals and notes: *e_f* = "the interval between *e* and *f*"; *e-f-** = "the suite of pitches *e*, *f*, and *"; *e f** = "the notes *e f* and *".

This corresponds in fact to an abrupt semi-tonal rise (at 63 s_a) then sinking (at 65 s_a) of the tonic with the upper *e_f_g_a*^{b} intervals explored while in descent the tonic returns to its previous position (70-72 s_a) {"Que (yo) no pod*ía* entr*á* en *mi casa*"}. A further exploration of 26242(44) (73-77.* s_a) {"que a mi los jerés no me la con|"} with a stable tonic and always the contrast between increased intensity in the upper range and lower intensity in the lower tetrachord of the scale, is followed (78-81 s_a {"|sentían"}) by a beautiful modulation to the "Flamenco" mode *c* 24442(44) modulating back (83 s_a) – through the use of the upper common *e_f_g_a*^{b} intervals – to the semi-chromatic scale/mode 26242(44), developed till 91 s_a {"y yo le daba v*ose* a *mi ma*re"} and anew till 100 s_a {"mi *mare*, m*i mare*, m*i mare*"} where a similar modulation (as around 48 s_a) around the *e_f* interval leads back to the major lower tetrachord *c* 442 and its development (100-111 s_a) {"*no me res*pond*ía*"}. A very short modulation (111-113 s_a) {"Y si no es verd*á*"} to the central part of the minor scale (42)442(44) – in effect a major tetrachord 442 on *e*^{b} – transforms back (with a beautiful modulation of *e*^{b} to *e* "natural") to the semi-chromatic *c* 26242(44) (113-123 s_a) {"lo que yo d*igo*, *si no* (es) verd*á*"} and modulates back (at 123 s_a) clearly to the minor *genos c* 424 (123-127 s_a) then another modulation down to the "Flamenco" *genos c* 244 (127-132 s_a) with an ending (132-142.* s_a) in the major tetrachord *c* 442. {"*que Dios* m*e man*de *la* muer*te* si m*e* la *quiere* mand*á*"}

Conclusions for Inés Bacán's *martinete*

The very beautiful rendition of this *martinete* by Inés Bacán should not hide the fact that the singer's style is very distinctive, and lends itself in a particularly appropriate fashion to *genos* analysis. However, the ambitus of the melody is mostly limited to a sixth, which creates an uncertainty about the possible continuations of the scale(s).

This happens notably with the (semi-) chromatic mode *Ḥijāz c* 26242(44): the two last (not performed) intervals could be imagined – as with the second scale "resembling *maqām Ḥijāzī* by the *New Grove* –[88] as being part of the (more still?) chromatic mode *Ḥijāz-Kār* (or *Shāh-Nāz*) *c* 2624262, but the fact that Bacán's singing remains in the lower range of the scale deprives us from the possibility of concluding about this scale.

As for other characteristics of this *cante* compared to the list of characteristics proposed at the beginning of this second part, we could say that "yes", there is a certain "instability of pitch" while the singer does not use particularly *portamenti*, sings mostly in conjunct degrees which are highly ornamented, with a frequently low *e*[89] and micro-tonal inflexions, and frequent variations of the intensity of the voice, but with no special predominance of the so-called "Phrygian" mode – actually the mode of *e* – *c* 2444244 and finally "yes", with an ending in the major *genos c* 442.[90]

Another particularity of the singer's rendition is the conjunction of syllables at the beginning of each melodic phrase – and more particularly at the beginning of each *copla* – such as the conjunction of the onomatopoeia "[a]y" and "trin" at 16 and 23 s_a with the first syllables of the following verses, and the conjunction of the first syllables of the next verses at 30, 39 and 62 s_a (and so on[91]), but mostly at 73-74 s_a {"que a mi los jerés"}. While the beginning of the verses (and melodic phrases) is composed of these tightly packed syllables, the ending of these melodic lines is generally in full contrast with extended melisms which, sometimes, are interspersed with other brief conjunctions such as at 58 s_a {"estará"}.

Finally, the tonic with Bacán remains mostly stable, with less than a third-tone discrepancy at the farthest point.

It is too early to suggest to which extent some of the above underlined characteristics of the chant of Bacán are particular to her style (or to the region or to the time period), but her highly florid – modulation wise – style is, although it is limited to semi-tonal scales, readily comparable with the modulatory skills of the best *maqām* performers, with a highly micro-intonated rendition.

[88] (Reminder:) Fig. 23:18.

[89] Some musicologists would insist that it is a "Harmonic third", which I doubt.

[90] I could not, in contrast, distinguish a clear scheme as the "A // B , // C D" advocated by Lefranc.

[91] But not with the beginning of the "3rd *Copla*" – the "Outro" – {"*que Dios* m*e man*de *la* muer*te* si m*e* la *quiere* mand*á*"}, which is rather melismatic all along.

"Las Doce Acaban de Dar" *performed by El Camarón de la Isla (*cante*)*[92]

This second (the third chronologically) video analysis in the *Cante Jondo* series of the VIAMAP was especially chosen by the author[93] for various reasons, the least of which being not the fact that this performance[94] is situated – chronologically but not only – between the other two by Pepe de la Matrona and Inés Bacán. Moreover, El Camarón (Fig. 27 and Fig. 28) is one of the most renowned singers in the "Modern" Flamenco style established mainly through the performances and recordings with his "Special Collaborator", Paco de Lucía – probably the most famous Flamenco guitarist and composer of this generation.

Fig. 27 (Left half of) a painting of El Camarón with Paco de Lucía (here showing the former only).[95]

El Camarón's performance in this *martinete* can be considered as "minimalist" when compared to the other two performances. However, and while in some aspects it resembles Pepe's performance and in others Bacán's, his – at moments – slow pace and melismatic style allow him to modulate with a single note, or even to perform a series of modulations with a series of different, unique or paired, notes. The performance is limited in its vertical range to the sixth above the tonic[96] with occasional semi-tonal incursions above the a^b – mainly for the "chromatic" mode in the upper range.

The Lyrics

The lyrics are a fixed version, by Antonio Sánchez, of a well-known poem:[97]

En el reloj de la audiencia
las doce acaban de dar
pendiente de mi sentencia.
Dios mío ¿ qué pasará ?

Y porque "ha"[98] naci(d)o gitano
no crean que soy malo
que "habemos" malos y buenos
y también somos cristianos.

Here is one possible translation:

(On the audience clock)
(twelve o'clock just struck)
(pending my sentence.)
(Oh My God what will happen?)

(And because I [he] was born a gypsy)
(don't think I'm bad)
(that we have bad and good)
(and we are also Christians.)

The effective *cante* uses a slightly different variant[99]:

[Trin *trin* ay … *ay ay* …]
Las doce acaban de *dar*
y en el rel*oj* de la au*dien*cia
las doce acaban de *dar*.…
pendiente *de mi* sent*en*cia

[92] Taken from the 1973 album/LP Philips 6328100 (B6) *El Camarón de la Isla con la Colaboración Especial de Paco de Lucía.*

[93] And by Wim van der Meer, who accompanied these analyses and marked a preference for the analysis of this *martinete*.

[94] El Camarón was born [Gomez, 2000, v. 1, p. 177] on the 5th of December 1950 in a gypsy family in San Fernando (Spain).

[95] Retrieved 20/10/05 from https://en.wikipedia.org/wiki/Camar%C3%B3n_de_la_Isla#/media/File:Camar%C3%B3n_de_la_Isla_y_Paco_de_Luc%C3%ADa.jpg. (Assumed author "Aguijarroo").

[96] And to the fifth below it.

[97] Most information about this *martinete* is taken from [Gomez, 2000, v. 1, p. 56 sq.]. Note that the evocation of a prisoner awaiting his sentence in the *coplas* is a theme for *carceleros* (prisoners' songs) rather than a *martinete*, but the sound of the "hammer" on the "anvil" confirms the *martinete*.

[98] The verb is here at the third person (should be "*he*").

[99] The syllables in italics are performed in melisms, the "…" indicate a slight pause – taken from [Gomez, 2000, v. 1, p. 60–61].

Dios *mío* ¿ qué pa|sa*rá* ?[100]
Y porque "ha" nací[d]*o*[101] g*itano*
no crean que soy *malo*
que habemos *ma*los y bue*nos*
y tam*bién* somos cristia*nos*

The performance is divided in three parts, with an onomatopoeic introduction and two parts corresponding loosely to the two *coplas*[102].

Literal analysis and description of the performance by El Camarón de la Isla of "*Las Doce Acaban de Dar – Martinete*"

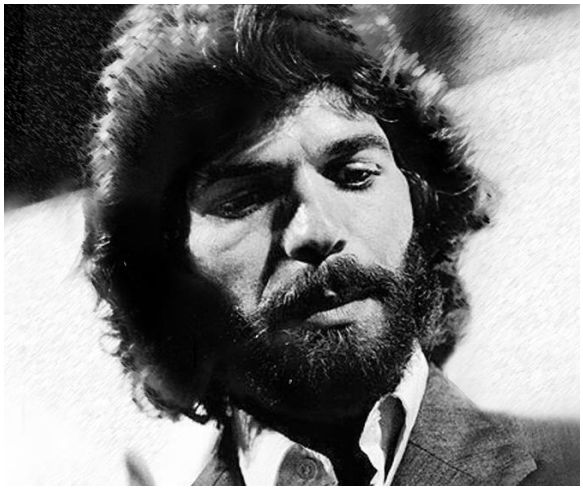


Fig. 28 El Camarón de la Isla (Art photo, author unknown).[103]

Part I (0-24 s_a – Opening):[104]

The piece begins (0-12 s_a) with the irregular "hammering" on the "anvil" of the blacksmith[105], although a loose 12/8 rhythm can be detected, with subdivisions 2 2 2 3 3. Around 9.* s_a, a voice says "¡Vamos allá Camarón!", then begins (12.* s_a) the introduction with the onomatopoeia (nonsensical syllables) "trin" (12.*-17.*) – for the sound of the hammer on the anvil marking the *martinete* – and "ay" which reminds that this is a dramatic song, with a "major" *genos* (*ʿajam* in *maqām* music) *c* 442 ending on a varying (slightly lower then rising) tonic (15-17 s_a). The second "phrase" (19-24 s_a) is a variant of "ay" in "Flamenco" (*kurd*) *genos c* 24(4) ending similarly on the tonic.

Part II (29-81 s_a): 1st *copla* plus one verse of the second *copla*

After a pause (24-29 s_a), the second part begins (29.* s_a) with a wide (vertical) call of fifth from below the tonic, and alternations around it (one tone below, one semi-tone above) which is in favour of either a "Flamenco" (*kurd*) *genos c* [4]2(44) or a "chromatic" (*ḥijāz*) *genos c* [4]2(62)[106] {"Las doce acaban de *dar*"}: it evolves however rapidly towards (36.*-41) the "chromatic" (*Ḥijāz*) mode *c* 26242(44) {"y en el relo*j*"} with a modulation through *e_f* (41 s_a) to the descending mode "major" (*ʿAjam-ʿUshayrān*) *c* 4424(442), then ascending rapidly (44-45.*) with a descending portamento (45.*-47 s_a) exploring once again the *f_e* interval and rejoining the tonic (47.*-49 s_a) {"de la au*di*en*c*ia"}. After a (dramatic?) pause (49-53.* s_a), the repetition (53.*-58 s_a) of the first line {"Las doce acaban de *dar*"} is then further undertaken in *genos ʿajam* ("major") *c* 4(42) – which reinforces the repetition, followed by a series of consecutive modulations (58.*-68 s_a) to mode "chromatic" (*Ḥijāz-ʿAjamī*) *c* 26242(44) (58.*-61.* s_a) then *genos* "major" (*ʿajam*) *c* 442 (61.*-64.*) then a two-notes modulation (64.*-66 s_a) to *genos* "Flamenco" (*kurd*) *c* (2)4(4) and finally (66-68 s_a) a one note modulation (back) to "major" *c* 4(42) {"pendiente *de mi* senten*c*ia"} – Fig. 31:24.[107] The next line {"Dios *mío* ¿ qué pa|sa*rá* ?"} reinforces (68.*-74.* s_a) the "major" *genos c* 442 while modulating with a semi-tonal shift of the tonic (74.* s_a,

[100] The vertical bar indicates a slight out of time (delayed) performance of the next syllable.

[101] The singer does not pronounce the "d", and in the Andalusian pronunciation the final "s" is also not pronounced.

[102] The first part, in the analyst's (musical) view, comprises the first verse plus the first line of the second verse.

[103] Retrieved 20/10/06 from https://www.alaireyacompas.es/noticias/los-goyas-del-flamenco-llevan-el-nombre-de-camaron-de-la-isla.

[104] Reminder: The video Analysis is available at https://youtu.be/M6wy2wehftA.

[105] It is notable that the performer's father was a smith by profession – See [Gomez, 2000, v. 1, p. 182].

[106] This lingering around the tonic maintains an uncertainty which creates expectancy with the auditor, not knowing which mode or *genos* follows from the two possible ones.

[107] The note $e^{\flat}$ used by the *cantaor* around 65 s_a imposes a modulation which could have been to "minor" *c* 4 *d* 2 $e^{\flat}$ (4) *f*, continuing till 68 s_a; the insistence of El Camarón on *d* (66-68 s_a) as an ending note for this line is, however, in favour of a further modulation to "major" *c* 4(42), which enforces the preceding *genos* "Flamenco" *c* (2)4(4); this is confirmed by the continuation of the (suspended on *d*) melody with the next line, in "major" *c* 442.

MSTST ↑) to "Flamenco" *genos* (*kurd*) *c* 24(4) then returning (77.*-81 s_a) to "major" *c* 4(42). This marks the end of Part II, confirmed by the exhortation of an auditor "¡Vamos a acordarnos de la fragua de Manuel!"[108]

Part III (84.*- s_a): Remaining verses of the second *copla*

The performer begins this third part from the onset with (a near-octave leap to *e* marking with the following *f*) the "chromatic" (*Ḥijāz-ʿAjamī*) mode *c* 26242(44) with a small (non-structural, but aesthetical and musical) semi-tonal incursion (86 s_a) between a^b and *a*. The degree *e* serves (89.* s_a) then as a pivoting note to the "major" *genos c* 442 resting (92-93.* s_a) on the tonic {"Y porque 'he' nací[d]*o gitano*"} – See Fig. 32:24. The next line starts anew with (a double call of fifth to *c* then of fourth to *e* then with the) "chromatic" (*Ḥijāz-ʿAjamī*) *c* 26242(44) mostly developed in the middle range *e f g* a^b (+ *a*) with (106-109 s_a – See Fig. 29) a similar – long – descending portamento as around 46 s_a (as with Part II), exploring once again the *f_e* interval and with (107.*-108 s_a) a central wide vibrato, then rejoining the tonic and (110 s_a) using the *c_*d^b semi-tone as a stepping stone for a (rare and incomplete) "minor" *genos c* 42(4) (110-112 s_a) transforming (112-114 s_a) into "Flamenco" *c* 244 and shortly resting (114-115 s_a) on the tonic.

At this stage, and while continuing in *c* [4]244 (112-117 s_a), the *cantaor* performs in ascent a weird g^b (see Fig. 33:24) which he consolidates by holding (117.*-118.*) the pitch, which lies completely outside the usual notes of the *Cante Jondo*. This is better shown in Fig. 30, with the four graphic scales of modes "major", "minor", "Flamenco" and "chromatic" superposed and creating a perfect semi-tonal vertical grid – if not for the *f_g* interval which plays a pivotal role and remains entire.

There is no doubt that Camarón was very conscious of this "dissonance" – as with using a degree of the scale not generally used and not included in the usual modulations –[109] that, I think, he uses as a variation destined to attract the attention of the auditor to the word "buenos" ("good", for "Gypsies are good" which according to Gomez[110] is the main message of this *martinete*).

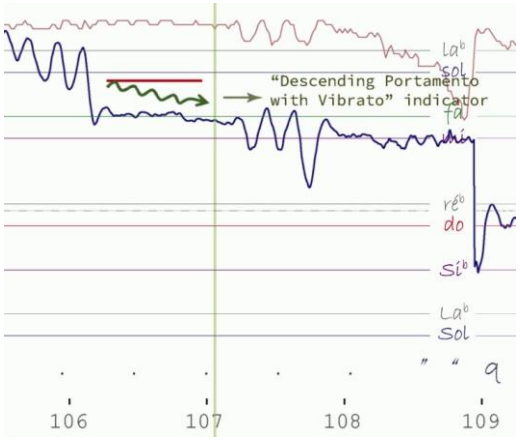


Fig. 29 Long, descending portamento with vibrato around 107.* s_a.

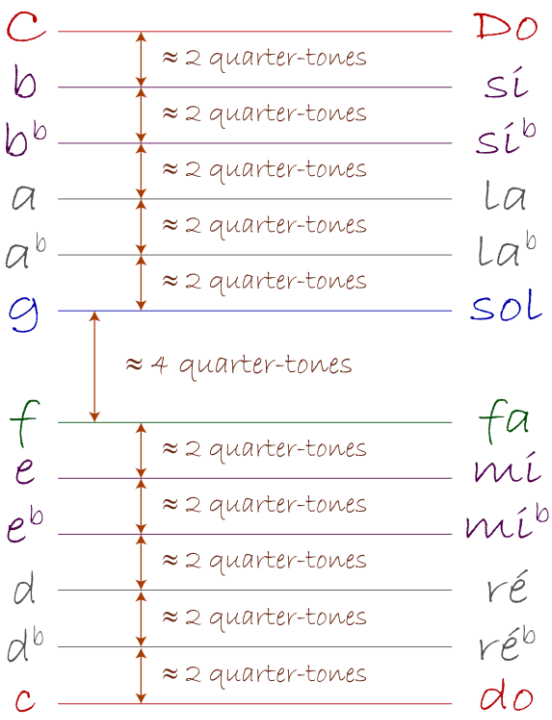


Fig. 30 Graphic scale resulting from the superposition of the 4 scales used in *Cante Jondo* in the three analyzed performances: it is, except for the interval *f_g* (*fa_sol*), a near-perfect semi-tonal addition of intervals. Interval *f_g* plays a clear pivotal role.

[108] "Let's remember Manuel's forge": according to [Gomez, 2000, v. 1, p. 61, fn. 111], Manuel is the elder brother of El Camarón. He was a smith – a profession he took over after the death of their father in 1962.

[109] At least to the extent of what the first analyses show.

[110] See aforementioned [Gomez, 2000].

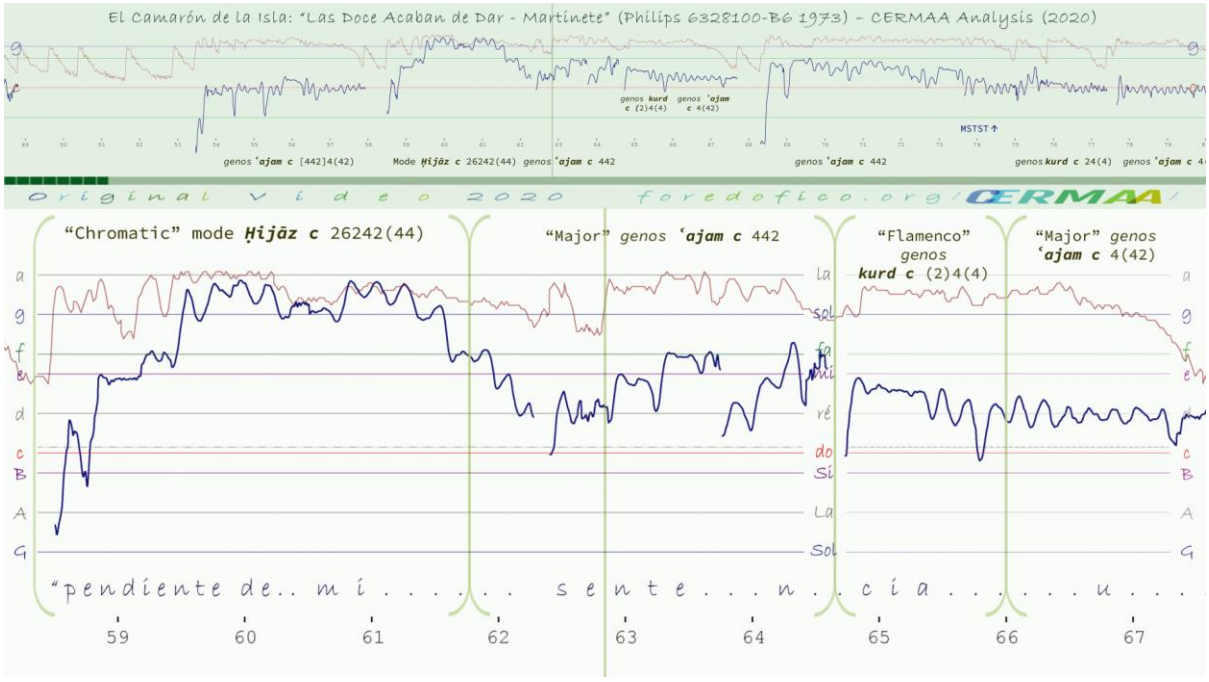


Fig. 31 Suite of 3 modulations from 61 to 67 s_a.

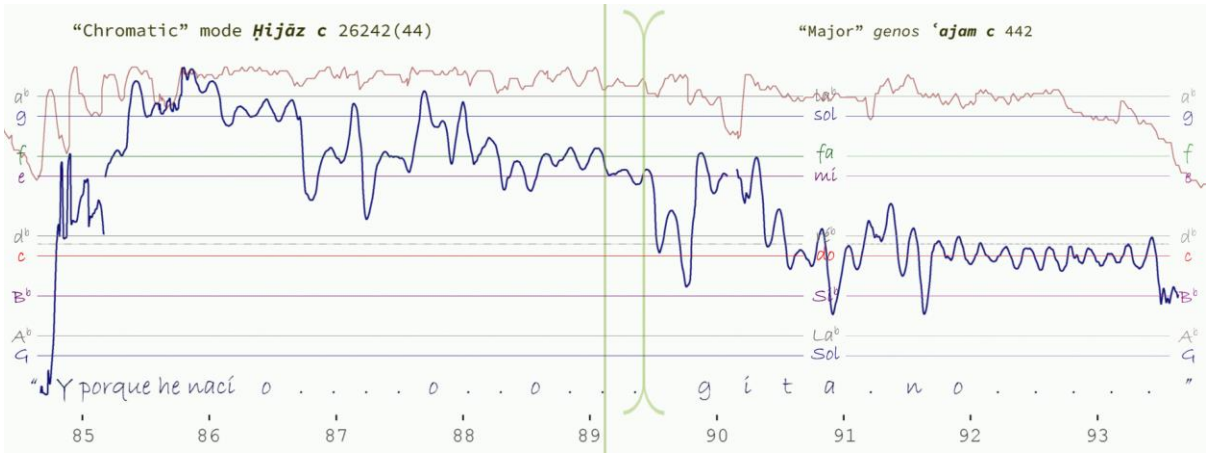


Fig. 32 Development of the lower and mid parts of *Ḥijāz-ʿAjamī c* and modulation to (lower) *genos ʿajam c* from 85 to 93.* s_a.

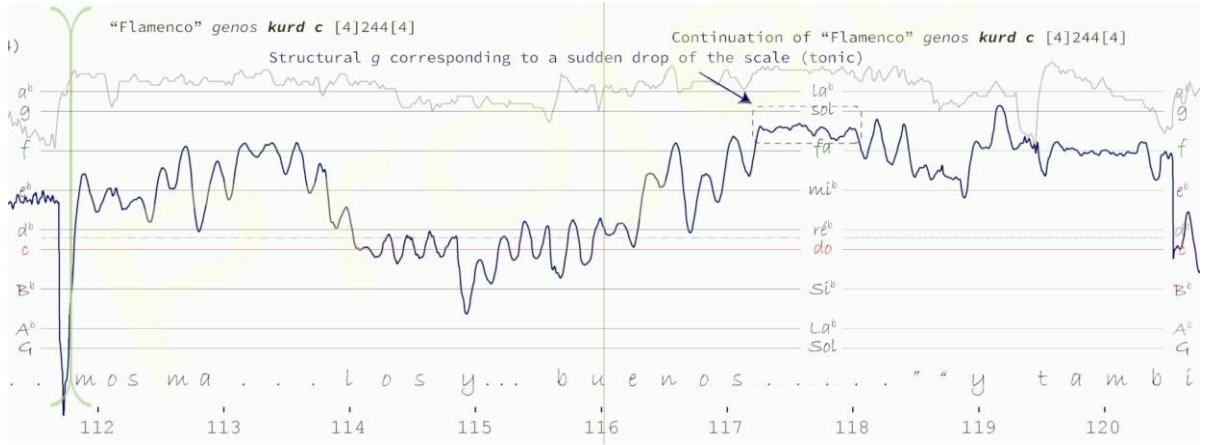


Fig. 33 Use by El Camarón of the "degree" $g^{\flat}$ (117.*-118.* s_a) otherwise not used in the four *Cante Jondo* scales found in the three analyses of this article (see Fig. 30).

Nevertheless, the "Flamenco" *genos* is re-established immediately after (118.*-120.* s_a) with a short rest on the tonic (120.*-121.* s_a). The *cantaor* concludes then the *martinete* in "major" *c* 44(2) with a final drop of the tonic and a hiccup (129.* s_a – See Fig. 34): the hammering is heard for a few more seconds and the song ends (139 s_a).

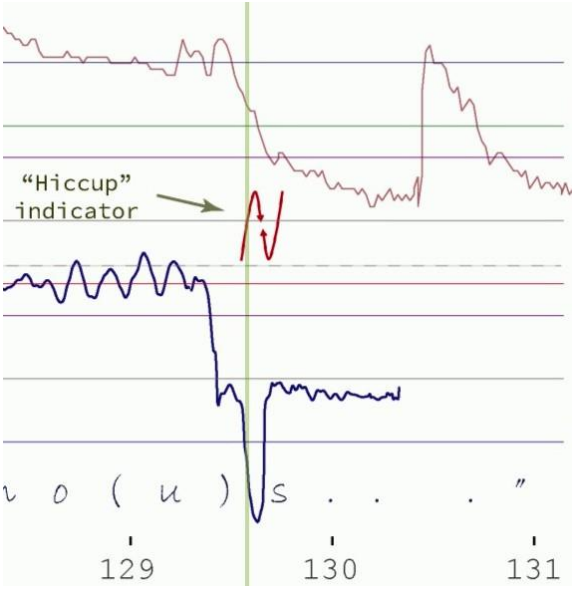


Fig. 34 Final "hiccup" at 129.* s_a.

Conclusions for El Camarón

Although El Camarón's modulations are not as clearly – or "simply" – delineated as with Bacán, his rendition of this *martinete* includes no less than 20 modulations and micro-modulations, using sometimes one or two notes to delineate the latter which makes it very difficult to distinguish them with the usual musicological tools.[111] This great number – within less than two minutes – makes this performance a probably unique phenomenon, and it is difficult to imagine how a guitar player could match such non tempered and subtle variations in the melody and in the intensity of the voice, not forgetting the *portamenti* and other peculiar techniques used by the singer.

Of these techniques, the most distinctive is probably the use of such a heavy dissonance as the "degree" $g^{\flat}$ at 117.*-118.* s_a, the more when it underlines a positive feeling (the term "*buenos*").

Let us also note a similitude with Bacán – although less accented – which is the tendency to use conjunct syllables at the beginning of a melodic phrase such as at 29-31 s_a and 53.*-55.* s_a {"Las doce acaban de *dar*"},[112] followed by another conjunction around 37 s_a {"y en el rel*oj*"},[113] and another one around 59 s_a {"pendiente d*e*"}[114].

As for the "general characteristics of Flamenco singing" signalled at the beginning of Part II, we can note a certain instability of the pitches with sudden changes in intensity, reduced tessitura and conjunct degrees, with a very high degree of ornamentation (melisms) and micro-tonal variations. And "yes", the *martinete* finishes in the major mode, although the four canonical modes are used mostly equally by the singer.

Finally, the tonic sinks with time,[115] approaching sometimes a semi-tone discrepancy (for example around 100 s_a), not to speak of the modulation with semi-tonal shift (or MSTST – see Fig. 36:27) at 74.* s_a.

While I still have to discern an "A1 // B2, // C3 D4 or A1 // B2, C3-4" scheme within this song (or others), it may seem difficult, after the summits reached with Camarón's performance, to await more beautiful – and more complex – a rendition than this one, but the performance of "*Cante del Yunque*" by Pepe de la Matrona and its analysis may bring some surprises to the musicologist.

*
* *

[111] Although the most important musicological tool, the ear, senses the changes in the melodic line, without however being – always – able to determine the corresponding mode or *genos*. In fact, the procedure of recognizing the modulations by ear necessitates a few prerequisites such as a good capacity to discriminate different pitches, a very good knowledge of the repertoire, a good knowledge of the different *genē* and much time spent in analysing different renditions within a repertoire.

[112] Without the final, melismatic, "r".

[113] Similarly without the ending "oj".

[114] Similarly without the ending "e".

[115] See the video analysis at 17-20 s_v.

*Performance by Pepe de la Matrona (*cante*) of* "Cante del Yunque – Martinete"[116]

"The singing is based on a dorian tetrachord of the diatonic syntonon type as Aristoxenos defined it. The music is related [...] to Japanese singing in the 11th-12th centuries [...], to Indian traditional singing, […] to Cretan traditional singing, to the chant of the monks of Mount Athos, of the Greek refugees from Asia Minor in the 1920s […] and probably also to the music from Central and Western Europe …"

[Iannis Xenakis (about the singing of Pepe de la Matrona)][117]

"Sing, Gypsy!"

[Caridad, former African slave in Ildefonso Falcones' fiction *The Barefoot Queen* set in 18th-Century Spain][118]

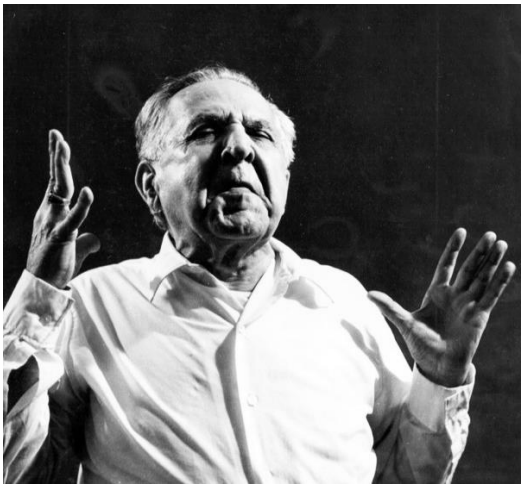


Fig. 35 Pepe de la Matrona.[119]

This third *martinete* in the series – the second analysed in the CERMAA – is sung by Pepe de la Matrona (Fig. 35 above) *a cappella*, while an underlying 12/8 rhythm can be loosely perceived, with alternating binary and ternary subdivisions. The singer's performance is particularly rich in vocal and musical techniques (Fig. 36:27 and Fig. 37:28)[120] which seem to be characteristic – if not distinctive – of *Cante Jondo* of the pre 1960s generations or, simply, of Pepe's performances.

The range of the *martinete* is contained within one octave (noted per convention from *c* to *C*), with the upper range of the octave explored mainly (but not exclusively) within the "chromatic" mode (*Ḥijāz-ʿAjamī* – or simply *Ḥijāz* – in *maqām* music) *c* 2624244, while the whole range is explored within, mainly, this mode and mode "Flamenco" *c* 2444244 ("*Kurd*" in *maqām* music); most modulations occur between these two modes the boundaries of which are sometimes consciously blurred by the performer. Occasional incursions in the minor mode and one main intrusion of the "major" mode *c* 4424442 were observed in the performance. (SeeFig. 22:18 for the graphic representation of these scales.)

The Lyrics

The lyrics were kindly transcribed and translated[121] by Jérôme Cler and Juan Cordoba and comprise two *coplas* and a conclusive call (as with Bacán):[122]

[Ay, trin]
[Ay,] To(d)íto se me volvían pérdi(d)as
por buscar mi bienestar.
To(d)íto se me vuelven pérdi(d)as
por yo buscar mi bienestar,
la puerta donde me arrimo
la encuentro claveteá(da).

[Ay,] La(s) mare(s) de to(d)íto(s) lo(s) gitano(s)
[Ay,] la(s) bata(s) de to(d)íto(s) lo(s) gitano(s)
iban a despe(d)irlo(s) al tren
y yo como no telero
no me pue(de) venir a ver.
[Ay,] Si no es verdad

[116] From the LP *Cante Jondo N° 3*, 1957, LDY 4134-A1.

[117] Taken from the homonymous CD [Pepe de la Matrona, 1992, v. 1, p. 6]. (Translated from the French original: note that Pepe's singing is not – or by no means? – compared by Xenakis to Arabian singing or chanting.)

[118] [Falcones, 2014]: such were the words the dying Melchor Vega – gypsy and tobacco smuggler – heard from Caridad, the former African slave who – for decades – used to sing for him.

[119] Retrieved 2020/12/13 from https://www.discogs.com/artist/945427-Pepe-De-La-Matrona?noanv=1.

[120] See also the dedicated CERMAA video at https://youtu.be/bER2W9bWuqI.

[121] To French, from which I propose the English translation below.

[122] The letters between brackets are not pronounced by the performer (the letter "s" is similarly not pronounced); the words between square brackets ["Ay", "trin"] are onomatopoeia. Note that in this reproduction of the lyrics, there is no differentiation between melismatic (in italics) and syllabic (regular font) parts, as the vocal techniques used by Pepe go well beyond this simple differentiation and would require a series of new – literal – conventions that I would not wish to inflict on the reader: the conventions used in the video analysis (Fig. 36:27) are enough indicators for these – very refined – techniques.

que Dios me mande la muerte
si me la quiere mandar.

Here is one possible translation:

[Ay, trin]
[Ay,] (I had completely lost them)
(because I was seeking for my happiness.)
(I had completely lost them)
(because I was seeking for my happiness,)
(the door to which I held)
(I found locked up.)

[Ay,] (All the gipsy mothers,)
[Ay,] (all the mothers of Gypsies)
(went to the train to bid them farewell)
(but because I had none,)
(I could not come.)

[Ay,] (If it is not the truth)
(Let God give me death)
(If it is His will to give it.)[123]

About the vocal techniques used by Pepe

The multiplicity of vocal – but also musical – techniques used by Pepe de la Matrona bewildered me at first, and compelled me to approach this type of performance dually. I followed the changes in the scale and *genē*, while identifying the vocal techniques used by the performer – which greatly enrich the expressivity of the performance.

Eight major techniques were identified – but there could be others that I did not detect – namely (1) a sort of limited Yodel which I named "wide dynamic vibrato" (for this and the following techniques see Fig. 36, and the dedicated video), (2) numerous "hiccups", (3) "ascending tonics", (4) more than one "descending *portamento* with vibrato", (5) "sub-tonal tonics", (6) frequent "semi-tonal alternations" of notes and lingering around one note, with (7) "vowel to consonant ruptures with intensity changes" which are frequently repeated in the same sentence ("continuation") and (8) the very subtle "modulations with semi-tonal shifts of the tonic" in the ascending or descending direction.

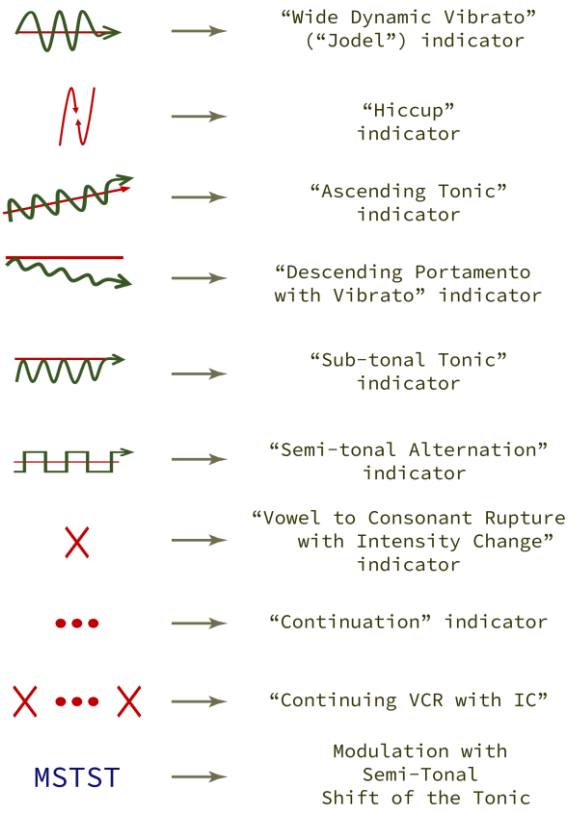


Fig. 36 Main indicators for vocal and musical techniques notably used in the video analysis of Pepe de la Matrona's *martinete* "*Cante del Yunque*".

Some of these techniques – such as the wide dynamic vibrato, the hiccup, the ascending tonic, the descending portamento with vibrato, the sub-tonal tonic – are consciously or unconsciously used by other performers[124] and are mainly vocal. Other techniques such as the semi-tonal alternations and the MSTSTs seem more to be musical techniques, the firsts being frequently used as a preparation for the lasts. What should be noted, however, is the frequency with which all these are used by de la Matrona, with nearly two techniques per second of *cante*. (Fig. 37:28.)

[123] The French translation by Jérôme Cler and Juan Cordoba stands: "(1st *Copla*) Je les avais totalement perdues / parce que je cherchais mon bonheur, / la porte à laquelle je m'accroche / je la trouve fermée à clé – (2nd *Copla*) Les mères de tous les gitans, / Les mamans de tous les gitans / allaient leur dire adieu au train / mais comme je n'en ai pas [de mère] / Je n'ai pas pu venir – (Outro) Si ce n'est pas la vérité, / que Dieu m'envoie la mort, / S'Il veut me l'envoyer."

[124] For example the "Descending portamento with vibrato" is used by Tio Gregorio El Borrico (track 06 in the homonymous CD LDX 274928, entitled "*A mi el Llaman el Loco*", 0:33-0:38 m:ss) and by El Camarón in the previous analysis; "Hiccup" is used by Gabriel Moreno (track 15 – "*Murió Toma*" in the CD *Magna Antologia Del Cante Flamenco Vol. 1* HISPAVOX 7 99165 2 – around 1:00), but also by El Camarón in the previous analysis, etc.

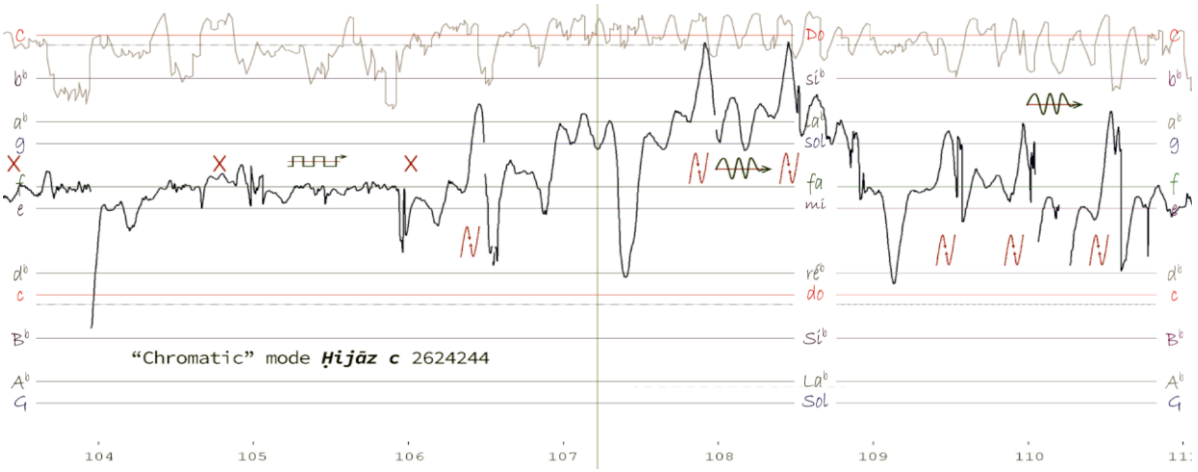


Fig. 37 One example of the display of indicators for vocal and musical techniques used in the video analysis of Pepe de la Matrona's *martinete* "*Cante del Yunque*". (Extract of the lower stripe of a frame from the video at 107.* s_a.)

Literal analysis and description of the performance by Pepe de la Matrona of "*Cante del Yunque – Martinete*"

Part I (0-40 s_a – Opening):[125] "Flamenco" *genos c* 244 with a small incursion to the middle range of the octave including a short modulation to "minor" *c* (4)2442(44)

Pepe starts with a one-whole-tone call B^b_*c* (0.*[126] s_a) of the tonic which lingers partly below (what could be perceived as) the effective pitch (1-4 s_a – Fig. 38) while ending (4.* s_a) with a drop of fifth. Follows a high attack (coming from the lower *G*) of the third degree e^b of the "Flamenco" *genos c* 244 which is underlined shortly (5-7 s_a), then ends (7-17 s_a) with a (mainly) semi-tonal movement around the tonic interspersed with momentous descents below it (within an extended fifth – Fig. 39).[127]

A variation still attacked from below but with an intermediate use of *c*-d^b[128] and longer development of the same *genos* takes place from 18.* to 22 s_a {"Ay"}, ending (22.*-27.* s_a), after a brisk semi-tonal displacement up-and-down of the tonic, similarly – but more steadily – with the characteristic semi-tonal movement based on the use of *c*-d^b {"To(d)íto se me volvían pérdi(d)as"}.

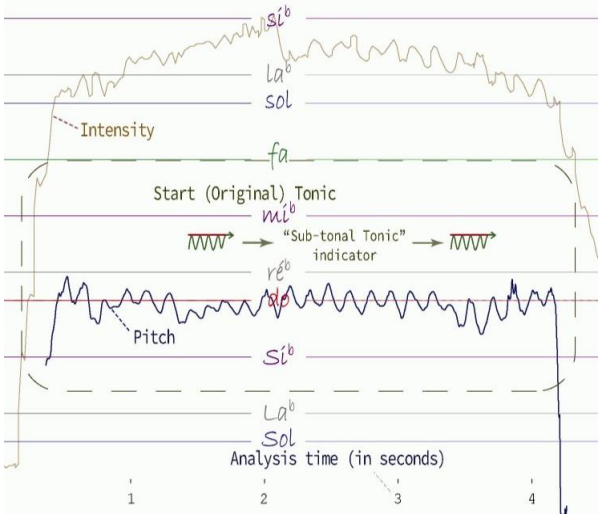


Fig. 38 Sub-tonal start tonic.

After a short pause (27.*-30 s_a), Pepe moves to the upper range of the octave delineating (30-32 s_a) the contours of a minor (*Nahawand* in *maqām* music) mode *c* (4)2442(44)[129] promptly changing back to the "Flamenco" *genos c* 244 with, however, a nearly continuous

[125] Reminder: the video analysis is available at https://youtu.be/pqpduB_vZl8.

[126] The "*" indicates a fraction of a second.

[127] Pepe uses in these first 17 seconds, as with the two other *Cante Jondo* performers reviewed in this article, the onomatopoeia (nonsensical syllables) "Ay" (0.* -9.* s_a) – which reminds that this is a dramatic song – then "Trin" (9.*-17 s_a) for the sound of the hammer on the anvil – the latter confirming that this is a *martinete*.

[128] Reminder for the conventions for intervals and notes: *e f* = "the interval between *e* and *f*"; *e-f-** = "the suite of pitches *e*, *f*, and *"; *e f ** = "the notes *e f* and *".

[129] While the upper part of the scale is similar for the three "Flamenco", "minor" and "chromatic" scales (*i.e.* e^b *f g* a^b b^b *C* → 4 2 4 4), Pepe makes a clear use of the degree *d*, which confirms the modulation to "minor".

use of wide and dynamic (and slightly changing) Yodel-like vibrato (32.*-34.* – Fig. 40) around e^b which contributes to the blurring of the borders between the pitches, while diminishing (34-36 s_a) towards the tonic and ending in the now familiar semi-tonal alternation around the tonic (36-39 s_a). {"por buscar mi bienestar"}

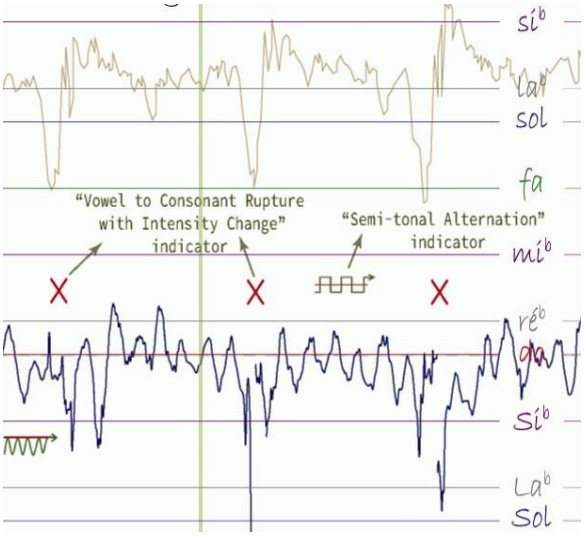


Fig. 39 Semi-tonal movement around the tonic with momentous descents below it around 10 s_a.

Part II (41-77 s_a): Introduction of "chromatic" mode *Ḥijāz-ʿAjamī c* 2624244 with frequent modulations to and back from *genos* "Flamenco" (*kurd*) *c* 244

A double call (whole-tone + fourth at 41.* s_a) from B^b to *f* (the latter being attacked high) starts this sequence in mode "chromatic" (*Ḥijāz-ʿAjamī*) *c* 2624244 which evolves at first (42-46 s_a) in the upper-middle range with a superb, long, descending semi-tonal portamento with vibrato (46-49.* s_a – Fig. 41) from *f* to *e* which establishes completely the chromatic aspect of the scale {"To(d)íto se me vuelven pérdi(d)as"}.

Similar debut (51 s_a) of the next phrase with a variant of extended vibrato for the descending portamento (57-59.* s_a) which transforms delineating the lower "chromatic" (*ḥijāz*) tetrachord *c* 262 till 60.* s_a {"por yo buscar mi bienestar"} and evolves (60.*-62.* s_a) semi-tonally around and above the tonic with a beautiful modulation to the "Flamenco" mode (*Kurd*) *c* 24442(44) till 67 s_a {"la puerta donde me arrimo"} with a similar (67-69 s_a) lingering around the tonic allowing for a further modulation back (68.* s_a) to "chromatic" (*Ḥijāz-ʿAjamī*) in its lower part *c* 262 using the technique of wide dynamic vibrato (69-71 s_a) to create an ambiguity between *c* 244 and *c* 262, with a long (now usual) rest (71-76 s_a) lingering semi-tonally about the tonic. {"la encuentro claveteá(da)"}

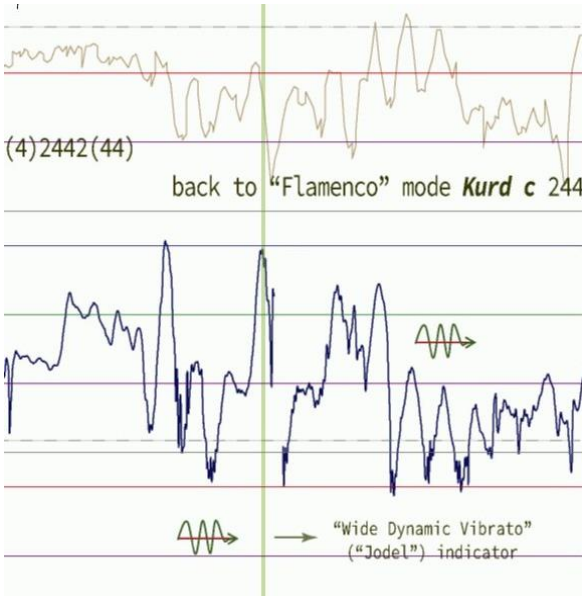


Fig. 40 Repeated wide dynamic vibrato (with corresponding intensity changes) around 33 s_a.

Part III (79-129 s_a): Instant incursion to "major" *c* 442 and "chromatic", dynamic exploration of the upper range of the octave with the intensification of vocal and musical techniques evolving between "chromatic" and "Flamenco"

In this third (deduced) part Pepe starts with an instant modulation (79.*-81.* s_a) to the "major" *genos c* 442 {"Ay" till 82.*} which quickly evolves (81.*-83 s_a) into a lower "chromatic" (*ḥijāz*) tetrachord *c* 262 lingering (82.*-88 s_a) – as has now become usual – around the tonic and ending at 88 s_a {"La(s) mare(s) de to(d)íto(s) lo(s) gitano(s)"}.

After two further rapid delineations of the lower *ḥijāz* ("chromatic") tetrachord *c* 262 (90.*-92 and 93.*-94 s_a) the singer "transposes" his technique of semi-tonal alternation, this time around the *e*_*f* semi-tone (93.*-96.* s_a –Fig. 42) and explores then – with increased intensity of the sound as with Bacán – the upper range of the scale (notably *g*-a^b) while interleaving the melody with "hiccups" (Fig. 43) – a technique he

will use further in the song – ending (101.* s_a) on a suspended *e* {"[Ay,] la(s) bata(s) de to(d)íto(s) lo(s) gitano(s)"}.

Fig. 41 Descending portamento with vibrato around 47-48 s_a.

Fig. 42 Semi-tonal alternation around the *e f* interval.

The next (102.*-111 s_a) sequence is a development and amplification [through the vocal techniques the singer uses, and through the (near) reach to the upper octave *C* – Fig. 43] of the preceding sequence, with however, at the end, a continuation (with decreased intensity, 111-112.* s_a) of the lower "chromatic" tetrachord *c* 262 {"iban a despe(d)irlo(s) al tren"} with a come-back (112.*-114.* s_a) to the semi-tonal alternation around the tonic and a modulation (back) to the "Flamenco" *genos c* 244 (114-119.* s_a) transposed one semi-tone higher {"y yo como no telero"}, while a further semi-tonal passage around the tonic (119.*-121 s_a) allows for (120.*-123.* s_a) a renewed short modulation (back) to the "chromatic" mode *c* 2624(244), nonetheless interspersed with large dynamic vibrato techniques peaking at *g* (123.* s_a), immediately followed by the usual semi-tonal lingering (123.*-128.*) to conclude the phrase – and Part III of the performance. {"no me pue(de) venir a ver"}

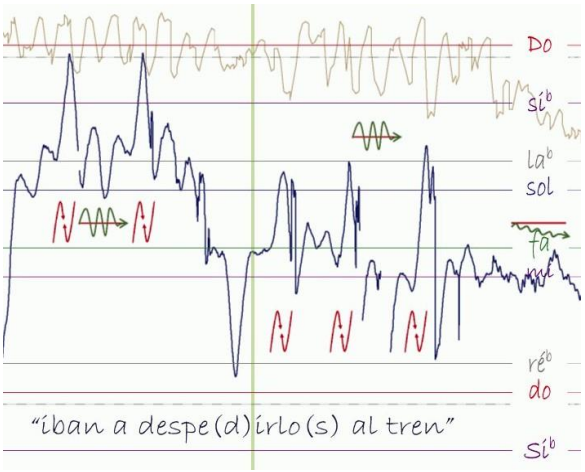


Fig. 43 A festival of hiccups and wide vibratos around 109 s_a.

Part IV (132-163 s_a – Conclusion): Modulations from and to "Major" and "Chromatic *Ḥijāz* with MSTSTs in both directions with alternations of *ḥijāz* (chromatic) and Flamenco *genē*

This part begins also with a double call *e-f f-g* (132 s_a) while nonetheless on conjunct degrees of the scale, with an increased intensity of the voice delineating (132.*-135 s_a) {"Ay"} the *g_a*^{b} semi-tone then (134.*-135.* s_a) the whole – descending – "*sabā-zamzama*" *genos e* 242, characteristic of the central part of the scale of "chromatic" *Ḥijāz-ʿAjamī c* 2624244. The singer then (137.*-138.* s_a) performs an instant modulation (again) to "major" *genos* (this time on) *e*^{b} 442[130] with a (rising) semi-tonal shift of the tonic (or "MSTST ↑"), which immediately (139 s_a) returns to *Ḥijāz-ʿAjamī c* 2624244 with a symmetric semi-tonal drop of the tonic ("MSTST ↓"), then (139.*-142 s_a) {"Si no es verdad"} delineating again – in descent and with decreasing intensity – the "*sabā-zamzama*" *genos e* 242 and (142-145.* s_a) the lower *c* 262 "chromatic" *genos* beginning (141.*-143 s_a) with a descending (and

[130] This could be part of the more general "minor" scale *c* 4244244.

vibrating) portamento around *f-e*. The ending of the previous sequence evolves nearly instantly, with a semi-tonal shift of the tonic (MSTST ↑) to the ascending (145.*-148.* s_a) "major" (*ʿAjam-ʿUshayrān*) *c* 44244(42) with a descent (149-150.* s_a) dissolving into (151-154 s_a) {"que Dios me mande la muerte" till 153.* s_a} "Flamenco" *c* 24442(44) which, around the tonic (154 s_a) turns into an alternation with ample dynamic vibratos (155-157.* s_a) of *genē c* 244 ("Flamenco") and *c* 262 ("chromatic") and concludes (157.*-162.* s-a) by lingering around the – slightly – ascending tonic (Fig. 44). {"si me la quiere mandar"}

Fig. 44 Ascending final tonic with semi-tonal lingering vibrato.

Conclusions about Pepe's *martinete*

The first impression I had – as an auditor – when listening to Pepe's *martinete* was one of bewilderment. The second impression – here of the musicologist – was that I could never analyse such a complex, intricate while still versatile performance. Despite this apprehension, the tools perfected during the last two-three years allowed for this analysis.

Let us note first that the particular non-tempered, semi-tonally frequently modulating style of Pepe de la Matrona may well be distinctive of him, and can with great difficulty be accommodated with tempered guitar (or other tempered instrument) accompaniment.[131]

Furthermore, there are some other peculiarities of Pepe's performance when comparing it with the other two performances analysed in this article. The first particularity is the very concentrated usage of very varied technical and musical procedures which greatly enrich the performance, while using less modulations than Camarón (but at least as much as Bacán), and while having much less recourse to the major scale, to the point that Pepe's *martinete* is the only one among the three which does not end in the major mode.[132]

His frequent use of MSTSTs in both directions is also distinctive, as well as his dazzling ambiguity when navigating between the lower *kurd* ("Flamenco", "Phrygian") and *hijāz* ("chromatic") *genē* – *c* 244 and *c* 262 respectively –,[133] not to speak of his ability to combine these techniques within a few scarce seconds.

As for the similitudes with the characteristics of Flamenco singing as quoted at the beginning of Part II: Instability of pitch is a distinctive feature of this performance, as well as the sudden changes in intensity, the frequent – and extended – *portamenti* while using conjunct degrees mainly, with a high degree of ornamentation and the permanent use of micro-inflections of the melodic line.

All in all, as would say the French, "*C'est du Grand Art*", a great artistic performance by an exceptional *cantaor*, and a master at disguising the very elaborate techniques he uses to enrich his performances.

Conclusions of Part II

Now… it seems that it was Manuel de Falla who said that *Cante Jondo* was an "extremely rare example of primordial singing"[134]?

Whenever the tradition carried down by *cantaores* of Flamenco seems to have its roots in Early – if not Ancient – traditions around the Mediterranean (and beyond), I would not dare characterize such a display of mastery in modulation as "elementary"… but to the contrary as extremely sophisticated, and surely very original…

In such a context, *genos* analysis proves to be a very powerful tool for *Cante Jondo* chants, at least with the three *martinetes* analysed in this article.

[131] See for example the YouTube available *Bulerías* "*Cantiñas de Vejer*" at https://www.youtube.com/watch?v=S398eaUBAbE, (accessed 2021/04/05) and listen carefully from 1:55 to 2:03 (m:ss), when Pepe manages clearly to slip out of the tempered zone, with the guitar (played by Román el Granaino – see https://music.apple.com/us/album/martinete/1167521611, last accessed 2020/12/13) being clearly unable to match his singing.

[132] This is also different from the generalized characteristics of *martinetes* listed at the beginning of Part II.

[133] See the concluding phrase from 154 to 158 s_a.

[134] Translated from the French-language booklet [Pepe de la Matrona, 1992, v. 1, p. 5].

It is clear, however, that a much wider research must be undertaken with the MAT for the VIAMAP, encompassing probably the complete range of available recordings of old *martinetes*, *carceleros* and other solo *a cappella* performances, before being able to assess definite trends of this highly complex vocal art.

It is nonetheless also clear, even at this early stage, that *maqām* music and *Cante Jondo* are either inter-related, or have at least deep affinities such as the conjunct use of particular vocal techniques with very versatile modulating capacities, two main common characteristics of these musics. Naturally, other common characteristics can be pinpointed, as the micro-tonal variations, the multiplicity of scales and modes, etc.[135]

Furthermore, with both types of analyses, be it of *maqām* performances or of *Cante Jondo* songs, our understanding of modality broadens and deepens.

General Conclusions

The VIAMAP is for the time being only scratching the surface of modal music, exploring with each new analysis yet another facet of the complex and very rich world of modality. It is true that the VIAMAP is not the simplest way of analysing *Cante Jondo* or *maqām* music, and that statistic procedures seem to be more gratifying while giving us precisely the type of trends that we lack for complete repertoires.

However, a few questions arise: How will an automated procedure identify and classify the g^b of El Camarón in *Las Doce Acaban de Dar*? Will this g^b, which crowns the performance, be simply disregarded or considered as an "oddity"? How will an automated procedure identify the MSTSTs (modulations with semi-tonal shifts)? How will it discern between the subtle modulations of Pepe de la Matrona between *kurd* and *ḥijāz*, the more when he uses MSTSTs in conjunction with hiccups or other vocal and musical techniques? How will such a procedure distinguish between scales having one single pitch difference which may occur so subtly that only a very attentive ear (or a graphic representation) can discern the difference between the two?[136]

And, finally, how can a statistical study account for the permanent modifications of the tonic all along the performances of these three authors, not to mention dozens of performances which are statistically processed in such procedures?

Maybe a super musicological AI will be able to do so sometime in the future – although I doubt this would happen in the *near* future – but with today's tools, no statistic study of the scalar composition of such chants seems possible, or pertinent. In such a recent study 72 *a cappella* flamenco songs[137] were analysed for various characteristics, including scales!?[138] How can one identify a scale automatically, I wonder, with all the refinements, instant modulations and semi-tonal shifts, one or two-notes modulations, etc.?

As stressed above, only a complete and detailed analysis of the available *Cante Jondo* repertoire – together with the complete analysis of the *maqām* vocal repertoire – can provide us with firm conclusions on this and on other subjects.[139] Our small research centre can only, when confronting such an enormous task, contend itself with showing the alternative ways of analysing these musics, in the hope that numerous other researchers will complete, in the next decades, this systematic exploration of two of the most interesting repertoires of modal music in the world.

What remains to be answered is the most important question: "What does it mean?", and further "Why do they do it?".[140] While I hope this article could provide the basis for a beginning of an answer to such questions, I personally decline to answer them completely, and leave the definite answers to specialists in the above explored fields.

* * *

[135] The extension of modal music goes well beyond these two musics, and many more comparisons could be made between sister musics but, as explained above and further, a lot more analyses should be undertaken before any comparison be pertinent.

[136] Especially when only a previous knowledge of the repertoire allows for such identifications.

[137] Mainly *deblas* and *martinetes*.

[138] See [Gómez et al., 2016].

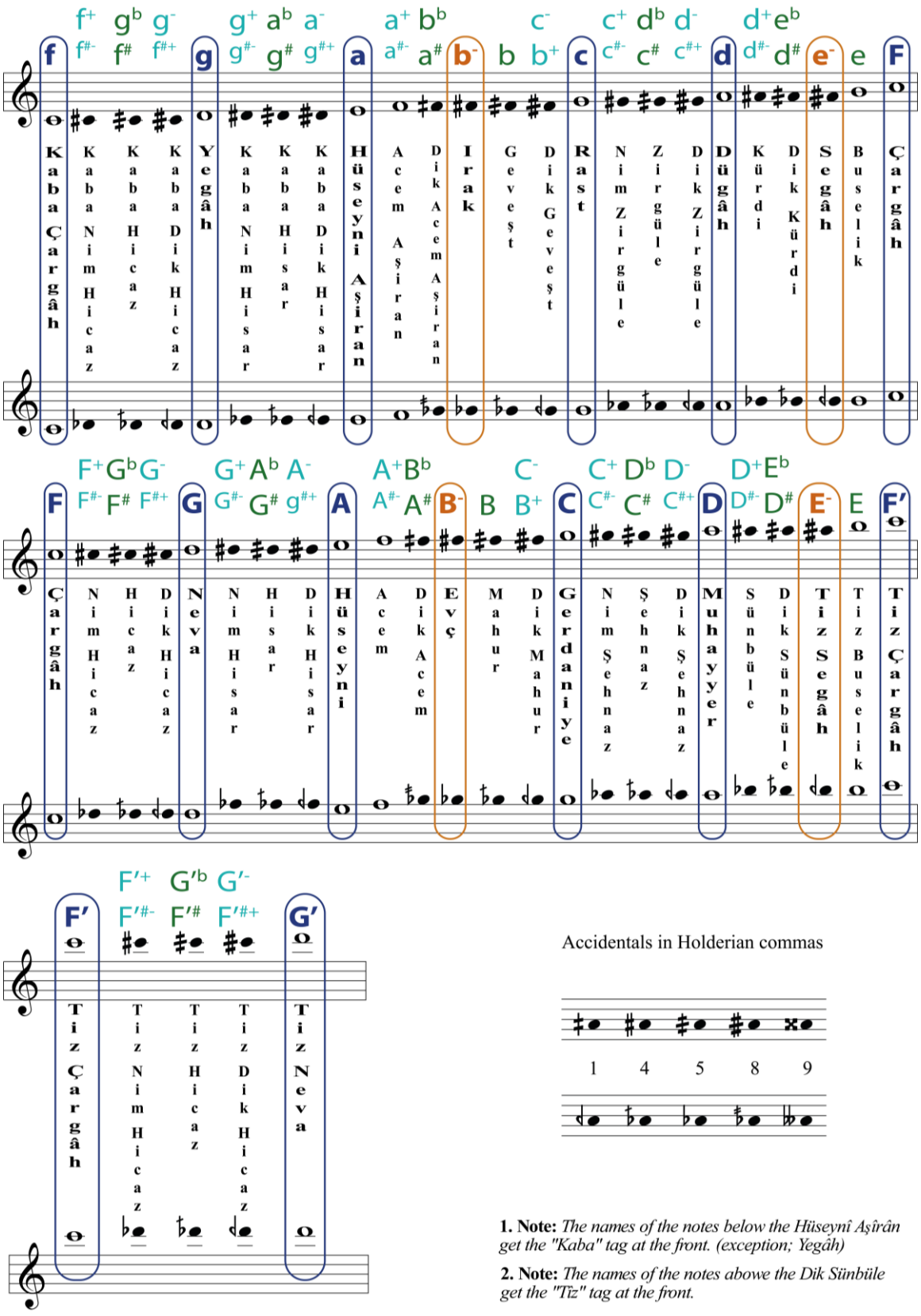
[139] What should in fact be undertaken – as with *maqām* music – is a complete detailed analysis of the whole repertoire, beginning with one type of songs (for example the *martinetes*) and exploring the neighbouring types till the exhaustion of the repertoire – at least the traditional one. Only then could a researcher pretend to have explored and determined all the characteristics of this music.

[140] I wish to thank here Wim van der Meer who reminded me of these primordial questions in musicology.

PLATES

Type	Name	Main "tonic"(s)	Composition	Polychordal type	Remarks
Zalzalian	*rāst*	*rā* (*c*) or *na* (*g*), also on *ja* (*f*) and *dū* (*d*)	**4 3 3**	Mainly tetrachordal	Became prominent with Western influence
	***musta'ār* (1) (2)**	*sī* (e^-)	**4 3 3 4 - 4 3 3 2**	pentachordal	Mostly Turkish - has a variant (2) with *'AJAM* instead of *AWJ*
	banjikā	*c*	**4 4 3 3**	pentachordal	Mostly Turkish
	bayāt	*dū* (*d*), also on *ḥu* (*a*) and *na* (*g*)	**3 3 4**	Mainly tetrachordal	Probably the most important component of *maqām* (s)
	ṣabā	*dū* (*d*)	**3 3 (2 [6 2])**	Mainly tetrachordal	Structurally intricated with ***ḥijāz*** type tetrachords 262, 352, 253
	sīkā	*sī* (e^-), sometimes on *aw* (b^-)	**3 4 [4]**	Mainly trichordal	Can be reintegrated within *rāst* as *rā* [4 3] *sī* 3 4; called ***farāḥnāk*** when on b^-
	Turkish sīkā	*sī* (e^-), sometimes on *aw* (b^-)	**3 4 [3 4]**	Mainly pentachordal	Confusion with ***'irāq*** (extended ***'irāq*** tetrachord)
	'irāq	*aw* (b^-)	**3 4 3**	Mainly tetrachordal	Sometimes confused with ***sīkā*** (see above)
Semi-tonal	***'ajam***	*'Aj* (B^b) (upper octave)	**4 4**	Mainly trichordal	"major", probably influenced by western Brass instrumentarium
	'ajam-'ushayrān	*'aj* (b^b) (lower octave)	**4 4 2 [4]**	Mainly pentachordal	"major", probably influenced by western Brass instrumentarium
	jahārkā	*ja* (*f*)		Mainly pentachordal	"major", sometimes confused with ***'ajam-'ushayrān***
	nahawand	*rā* (*c*)	**4 2 4 [4]**	Mainly tetrachordal	"minor", but with generally a small semi-tone
	būsalīk/'ushshāq	*dū* (*d*)		Mainly tetrachordal	Like ***nahawand***
	kurd	*dū* (*d*)	**2 4 4 [4]**	Mostly pentachordal	"flamenco"
	"Piano ḥijāz"	*(see "Chromatic" below)*	**2 6 2**	Tetrachordal	Hybrid, mostly Mid-Eastern
Chromatic (ḥijāz types)	***ḥijāz(-kār)***	*rā* (*c*)	**2 5 3**	Tetrachordal	Two declinations based on the conservation of *sī* (e^-) unchanged in the general scale of *maqām* music
	ḥijāz(-aṣl)	*dū* (*d*)	**3 5 2**	Tetrachordal	
	Semi-tonal ("Piano") ḥijāz	*nearly anywhere*	**2 6 2**	Tetrachordal	Called ***ḥijāz-kār*** if on *c*, ***sūzdal*** if on b^b, ***shah-nāz*** when on *d*, ***shadd-'arabān*** on *g*, ***awj-ārā*** on b^-
	nawā-athar (nakrīz)	*rā (c)*	**4 2 6 2**	Pentachordal	Mostly used in Maghreb countries and in Balkanic music; may be called ***ḥiṣār*** when on *dū (d)*; can use (Turkish music mainly) other subdivisions of *ḥijāz*

THT 1 Polychords in use in Arabian-Turkish music.



FHT 1 Turkish "Conservatoire" (Arel-Ezgi-Sufi) notation with added Arabic/Western equivalents. (Original Turkish notation courtesy of Murat Aydemir – See [Aydemir, 2010, p. 18].)

FHT 2 Complete Graphic score from an Early version of the video analysis of Inés Bacán's "*Y a la Puerta Llaman*" (*Martinete*), first displayed in Sfax (Tunisia) as a poster in March 2020.

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