

Musical theory and practice in South-Eastern Europe and Mesopotamia, in the light of the ancient culture and the folklore. A comparative study

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A history hidden between legends, myths, heroes and objective data transmitted some bright points on the screen of the ancient Europe and its relations with Asia. Greeks, Romans, Trakians, Illirians, Dacians, Getes, in south-eastern Europe, Summerians, Babylonians, Assirians in Mesopotamia, were the peoples who carried the culture in these continental areas. They gave the social space of some archaic relations in life and arts.

The Dacians and Getes, tribes of the Tracians, founded in 80 A.D. a Kingdom in Carpathian and Danubian area, faced the army of king Darius, and that of the Roman emperor Trajan, but, defeated by the latter in 110 P.D. they became Roman province.

With that moment it began, in a slow evolution, the birth of the Romanian people.

The culture of the Trakians, Dacians Getes was famous at that time. According to Strabo: „the Greek music, considering the instruments, rythm and melody, has a Trakian and Asian origin”. Some myths as Orpheus, The Muses, Amphion, Thamiris etc. related to the music had also this Trakian origin. An image in bas-relief of the „Danubian or Trakian Cavalier”, a local mythical hero, carrying a kithara with 6 strings, was discovered in northern Transylvania.

The Asian origin of the Greek music can also be explained by the numberless people movements, of the Trakian, Scythian, Chimmerian, Iranian, Dorian, Phrygian tribes along Minor Asia or the northern areas of the Black Sea, to Central Asia, or in opposite directions.

One of the most ancient elements of the theoretical thought in south-eastern Europe, is related to the Kithara. This musical instrument (according to Nikomachos), till the time of Orpheos, had four strings. These were accorded as follows: octave between the outer strings, fourth and fifth between these and the inner D—G—A—D. It's an order of Pythagorean origin, based on the *tetraktissos*: following the figures 1—2—3—4, or as pitch values: $1/2$ = octave, $2/3$ = fifth, $3/4$ = fourth. Related with the same Pythagorean source we found it in the ancient Babylonian culture, where it is applied on the cycle of seasons. Namely, spring is in relation of *fourth* with autumn, of *fifth* with winter, and of octave with summer. One can mention that according to Herodot, Zamolxes, the principal god of the Dacians or Getes had also a Pythagorean nature although (after the same Herodot) he was older than the Greek scholar. And on the other hand, Pythagora spent his life in Egypt, as well as in Babylone.

The system of the ancient kithara had a *tritonice* type, with the inferior doubling of the upper tone: D—G—A—D. This *tritonice* type is a second stage in the history of melody, the first being the first fifth: G—D a *bitonice* one. Adding a second fifth, D—A, the three sounds G—D—A, will be the base of this new stage a *tritonice* one: G—A—D and with the doubling of D, it became just the archaic system D—G—A—D. One can observe that this tonal frame is an important moment in the evolution of the future principal system of the ancient Greece, identical as interior pitches with the other: E—A—H—E. It's the *Systima teleyon*. Apart this system the musical practice

imposed to the theory the adding of an other system, related to the complexity of the melodies and their modulations. This other system, the *Systima elatton* substitutes the note H with a B and changes the tonal frame : instead of the two disjunctive *dorian* tetrachords, the system will present two conjunctive dorian tetrachords namely : $\underline{E-F-G-A}$ — $\underline{H-C-D-E}$ became $\underline{E-F-G-A}$ — $\underline{B-C-D-E}$. The upper E was added to complete the octave.

This proceeding to pass from a system to another is based on a *metabole* i.e. : the changing of H with B.

We detailed these aspects in the view of a comparative study between the south-eastern European and the Mesopotamian musical cultures.

The discovery and the decipherment of four ancient tables containing musical material of Babylonian nature, permitted to study the main principles of this ancient culture, on a theoretic, as well as on a practical side. The decipherment required for the scholars a large interdisciplinary research : Summerian & Babylonian philology, organology, history, related to musicological studies etc. These tables are kept at the museums of Philadelphia, Berlin, Oxford and London.

The researches of Mrs. M. Duchesne-Guillemain, identified step by step the number and the names of the strings, the names and structures of intervals, the names and structures of the modes, and the modal system and its modulations principle by *metaboles*. The metabole consisted in the descending or the rising with a semitone certain tones of the scale. Namely, in each scale *one* of the outer tones of a *tritone* (either augmented fourth, or a diminished fifth) must be descended or raised with the purpose : 1. to achieve perfect fourth or fifth and, 2. to pass through it, to another mode. By these successive metaboles, can be achieved the seven modes of the diatonic system. The table I shows the proceeding of the metaboles as a modulation system in the Babylonian theory. Mrs. Duchesne-Guillemain, added in his study also the succession of metaboles by *sharp* instead of *flat* ones. It's the parallel way to achieve the same diatonic modes of the system. The *Table I* shows the seven diatonic modes, and the successive metaboles only by flat tones. The triangles and the lines under the notes, show the different tritones and the sounds which must be changed. Counting downwards, the tritone is a augmented fourth in the modes nrs. : 1, 3, 4 & 6, being diminished fifth in the nrs. : 2, 5 & 7 (Table I).

We must observe that the modes 1 & 2 of the Babylonian system (*işartum* and *murub*) are identical with the scales of the ancient Greek systems : *teleyon* and *elatton*, by the common metabole changing the H in B.

One can remark also that the unchanged sound is the F, a real mese, middle note, in the Babylonian system, attributed by this important role to the god *Ea* (In the Greek system the *mese* is the *A*, element which distinguish it).

Ea was the god of the waters, where he had the residence, but during the day he came between the peoples to teach them the sciences, the arts, the construction of cities and temples, geometry, the agriculture, too. It reflects the phylosophical sense of the Babylonian system. In the greek mythology he corresponded to the god *Oanes*. We remember the façade and the coloumn of the Parthenon, was constructed upon the model of the pythagorean musical scale. Also, in the capital of the Dacian kingdom Sarmisegetuza, a number of monuments are attributed to the role of a calendar, but one can adopt the hypothesis that they implayed elements of musical thought, too. The close relation between astronomy and music, is a first argument for this, beside of the numberless figures organizing the design, as 1, 2, 3, 7, 8, 13, 21 etc. (Changing the 7 with 5, it's a real Fibonacci row !)

A second Table given by Mrs. D—G., shows in conclusion the seven Babylonian modes, organized upon the position of the fourth or the fifth, in the center being the unchanged *F* (Table II).

Appealing as above to the same influence of the practice upon the musical theory, we argue our hypothesis with the phenomenon of the *moving sounds* of a scale. These sounds, during the melody, can descend or rise a semitone, or a quarter-tone. Numberless examples offer in this sense the south-eastern European folklore, still vivid in the Romanian popular music. For instance, it's the case of the final cadences of a melody, where the penultimate note descend to a semitone, through a *metabole*. In our exemple, (transposed on the finale *A*, for an easy comparison), instead the aeolian cadence, the metabole changes it into a mediev-al-phrygian cadence : $A-B-C-D$

instead of : A—H—C—D. The Table III/a shows the two modes before and after the modification through the metabole. They can be identified with the first scales of Table I., although the melody has an extent of a hexacord, only. The Table III/b shows the melody of a Romanian ballad, in which the refrain (second staff) shows this final cadence.

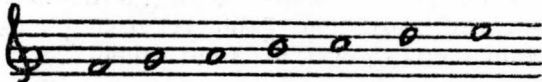
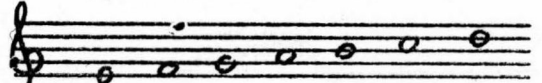
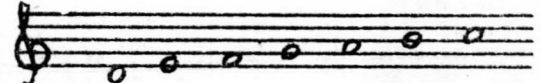
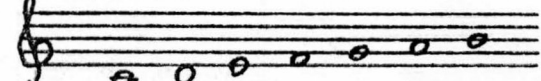
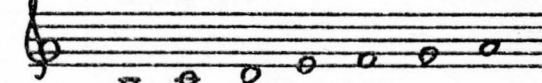
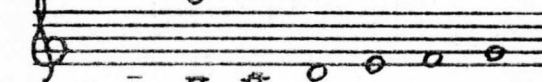
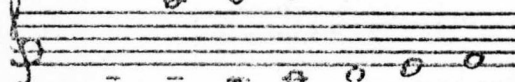
Table I

In the following, we propose an enlargement of our documentation, with the purpose for an approach of other aspects, either in ancient and more recent periods of the history, or other geographical areas, of a certain universality.

Starting with the Babylonian system of modes, we shall adopt namely : A. The *acoustical, meta-diatonic* system and B. the *enharmonic infra-chromatic* system.

A. According to Mrs. Duchemin-Guillenim, in the Babylonian musical thought, the consonance is based on the harmonic series of a sound, belonging to the wind instruments. These series give them a ground-scale which differs from the diatonic one, because on the fundamental note, it has an augmented fourth and a minor seventh. Just these intervals are given by the nrs. 11 and 7 of the harmonic series : C—D—E—F \sharp —G—A—B—C ; It's the scale issued from the harmonic series of the fundamental C, where nr. 11 is F \sharp and nr. 7 is B. Considering the role of the wind instruments in the Babylonian music, and in its thought of the consonance, we can study its modal system in an acoustical view. For that purpose we maintain the ground note F, on which we shall construct an „acoustical scale” instead the diatonic one. It's issued, as we said above, from the harmonic series (in this case) those of the fundamental F, between which the nrs. 11 and 7 shall be H and Eb, the scale becoming : F—G—A—H—C—D—Eb—F. The Table IV shows the harmonic series on C and on F, and the acoustical scales, issued from them. We can observe too, these scales correspond to the fragment between nrs. 8 and 16 of the harmonic sounds, where beside, nr. 11, the nr. 14 is the double of 7 and identical to its pitch with difference of one 8 $^{\circ}$.

Table II

	Niș gabri
	Ișentum
	Embubu
	Nid murub
	Murub
	Kitmu
	Pitum

The Babylonian system of modes
(upon the design of Mrs. M. Duchesne-Guillemin)

Table III

a) 



Metabole in the Romanian folklore

b) 

Ver-de- pe- li- ni- ță,

refrain: 

Lu-ni-ță, lu- ni- ță,

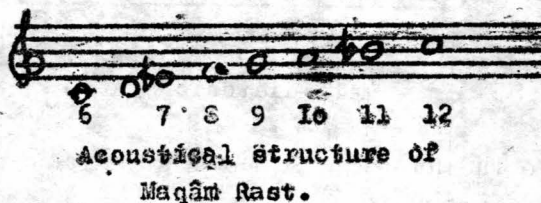
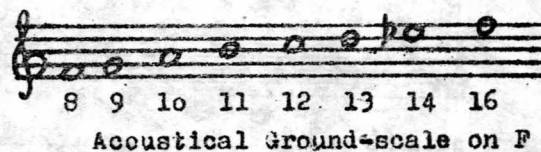
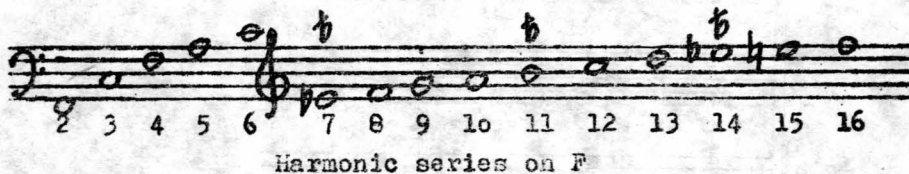
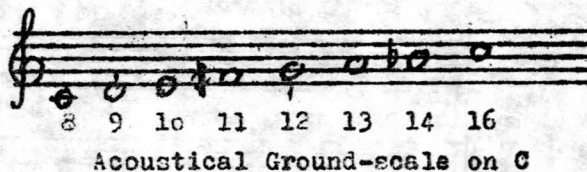
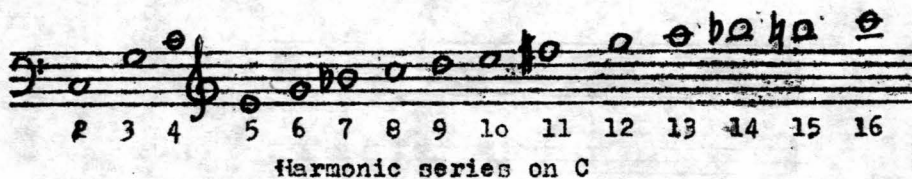


Noap-tea pe u-li--- ță.

Romanian Ballad

It's interesting to note already, that in contrast to the scale on C, adopted by convention on this note in the European musicology — which has two chromatic notes (F# and B), the accoustical scale on F, requires only one chromatic sound, the Eb. We can suppose that the Babylonian system on F is nearer to the accoustical world as the European thought based on C.

Table IV



One must remark that Mrs. D.G. justified the adopting of the note F, as fundamental, *mese*, of the Babylonian system, not by convention but because it was the right note to construct the modulations system, and the first scale, having a 1/2 tone on the base.

We may justify the acoustical system in the ancient Greek music, if we combine the B of Elatton system with the F# of the chromatic genre. In this case, the lydian mode on C, shall have a F# and a B, just the chromatisms of the acoustical ground-scale on C.

The Table V shows the graphic image of the system given by Mrs. G.G. viewed in an acoustical, meta-diatonic thought. We set at the base the ground-scale, to follow the modes in an upward order, for an easier comparison with the system on C, given by the European authors.

The scales are as follows:

1. The *ground-scale* which was identified in the Roumanian folklore by G. Enescu in his *Dixtu op 14* (1906), and by E. Caudella as a theoretical aspect (1910). Typical for the pastoral

flutes and the 3 meters long Carpatian bugles or horns, this scale has a wide spread in central- and south-east-Europe, by the Hungarians, Poles, Slovaks, Yugoslavians etc.

2. The *mirror-scale*, because „non-retrogradable”, by its symetry, in the order of its tones and semitones : T T S T S T T.

3. The *Istrian-scale*, with its diminished fifth on the fundamental.

Table V

Meta-diatonic system

4. Related to the former, a scale with the same diminished fifth but a semitone on the first degree.

5. A scale related to the mediaeval Dorian and identical with *Maqâm Nahawand* as it appears in the performing of Mr. Munir Bashir, at the lute. One must remark, that it's placed at the same register! This example is a proof that the maqâm-systems can be studied with the acoustical principle, too.

6. A scale related to the mediaeval Phrygian, through its semitone on the first degree.

7. A quasi-hexaphonic scale, because through the changing of the C and D in a Db, one can have a hexatonic scale : F—G—A—H—Db—Eb—F. It belongs to a Romanian flute. It's interesting to research this structure in some other Eur-Asian areas.

B. The *enharmonic* or *infra-chromatic* system is based on the same series of the harmonic sounds, but the nrs. 7 and 11, are interpreted as micro-intervallic pitches as they are really, instead of their tempered interpretation as in the former system. In this case the ground-scale contains the Eb (nr. 7) and the Hb (nr. 11). We have constructed it on the same fundamental note F of the Babylonian system, arriving to the wide spread mediaeval oriental Afro-Asian system of modes or

maqâams. It appears on the same register and structure as we know it in the classical authors, as : Ibn-Sina, Al-Farabi, Safi-al-Din or D. Cantemir. The last scholar combined the old and the new school of oriental thought. The names given to the maqams, Kurdi, Dasht, Rast, Awshar and Awj represent the structures adopted by the performances of Mr. Munir Bashir, at the lute and the others have traditional names (Table VI/a).

Table VI

a)

Maqâm Jaharkah

Maqâm Sikah

Maqâm Kurdi, Dasht

Maqâm Rast, Awshar

Maqâm Awj

Maqâm Hussayni

Maqâm Rast (mediaeval)

Enharmonic-infrachromatic system

b)

Aulodic mode
(Aristoxenos-Ptolemy)

In this Table VI, one can remark the *mediaeval Rast*, in the same register as Cantemir adopted it, a real *mirror-scale* with its symmetry of tones and middle tones : T M M T M M T. In our upward counting, we find also the *modern Rast* on C. The last maqam on F, the Jakarkah, has a less important role.

In this system has his place the ancient greek „aulodic” mode, of Ptolemy. According to Aristoxenos it's an empirical variant, inaccurate to the singing”. It's an identical mode with maqâm Husseini, and its micro-intervals on the 2d & 5th degrees. Through the Ptolemaic-egyptian origin, we can assert on one hand its oriental (perhaps Central-Asian or even Mesopotamian) nature. On the other hand, it's an argument to search for the origin of the mediaeval oriental musical theory in ancient Asian or Afro-Asian areas, beside the Greek nature in the thought of Al-Kindi (Table VI/b).

Beside the certified presence of maqam Husseini in the Greek ancient music, and the presence of the irakian maqâm Nahawand in the *acoustical* system (Table V, nr. 5), we can identify other

maqâms in the ancient Babylonian system. In this sense the scale of the Babylonian *Murub* is identical with the Irakian maqâm Lâmi, and the scale of *Išartum* is the same as the scale of maqâm Hijâz kâr kurd, both in the performing or Mr. Munir Bashir. In an identical way we can observe that the Maqâms Usak and Nawa given by Safi al Din had identical scales with the Babylonian modes Pitum and Kitum (see Table II).

At the end of our essay we can remark the followings :

1. Maintaining the Babylonian F as a fundamental note in all the studied systems we arrived at modes and scales in a similar register with that of the more recent European or Asian tradition.

2. This fundamental note of F assures to the systems a more acoustical nature, that in the traditional and conventional systems.

3. There are a great deal of relations between Europe and Asia, in both directions. Although, we remarked some Mesopotamian elements in the Greek theory one can not neglect the great, complex and logical construction of this last musical thought. On one hand, according to Strabo, (as we said above), the Greek music had a Trakian and Asian origin, but, on the other hand, beside this „local” nature, this Greek musical thought created a artistic culture, maintained up to the contemporary era, after more than 2500 years of evolution. The Greek *mese A* was also maintained till today if not in this role, at least as a scientific diapason for the pitch of our sounds.

Perhaps the music history begins with Summer, but there is a continuous flow of original creation troughout the world, in each time.

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