Pitched-sound Grammars in the Sharh-iadvar (Commentary to “Circles”) of Abd al-Kadir al-Maragi (1353-1435)

Giula Shamilli
Department Theory of Music
State Institute for Art Studies
Moscow, Russia
E-mail: shamilli@gmail.com

Abstract—This article examines Abd al-Kadir ibn Gaybi al-Hafez al-Maragi’s (1353-1435) Sharh-iAdwar (Commentary to “Circles”) treatise on music which reflects on the six hundred years of scientific experiences in music theory since al-Farabi up to the beginning of 15th century. Analyse discovers two description languages of the same pitched-sound system. Both of them depend on the hierarchical and non-hierarchical organization of the structural units, connected with the analytic and synthetic research methods and the genus-species and non-genus-species relations of the basic categories of music theory.

Keywords—theory of music; pitched-sound system; logic; structural unit; maqam

I. INTRODUCTION

The article is based on the critical editions of the Arabic treatises on music including 1- ālrīn Ǧyīl 1-Hāfez al-M ār āği’s (1353 – 1435) treatises [6], [7], [8] n his Šrāḥ-i wār (Comment ry to “Circles”) which was fragmentarily translated in Russian [14], [15], [16]. I will give a very general outline of the basic idea, remaining in the field of theoretic I thought out the r t of m q ām n n ly zing the Šrāḥ. By stu ying the role of the Šrāḥ through the history of medieval maqam theory, it is possible to understand the two strategies of the organization of the pitched-sound systems in relation to scientific methods and description of the basic music categories. There is the conflict of two scientific metho s in the Šrāḥ in spite of the similarities of the themes and problems in the Arabic and Persian treatises on music of the 10th – 15th centuries. And this conflict was dependence on two world pictures of the classical Arabic-Muslim culture (7th – 15th cc.).

Despite the fact that all treatises in genre risalah al-mūṣīqī n ġm u‘ ārī etc. Here y it is possi le to contempl te the Šrāḥ as the encyclopedia of music-theoretical thought of 10th – 15th centuries. This work, not without re so n overcomes the ss erion th t: of the v rious comment ries on the Kitāb I- wār y fr the most opposition-and-unity relations. If we cannot get the completely description the maqam idiom in the original medieval treatises on music there is reason to understand how the description language of the structural units of maqam was organized in connection with the philosophic systems of that historical period.

The main idea of the article is below in the thesis and five paragraphs after that. Because of above mentioned procedures’ action, there is reason to observe two world pictures in the organization of the pitched-sound systems:

- The first is the substance-dependent world picture, which is revealed in the understanding the tone as the substance, which has such accidents as location, movement, time, etc., and determines the hierarchical organization the pitched-sound grammar of musical language;
- The second is the non-substance-dependent or process-dependent world picture, which is revealed in understanding the tone as the timeless process and determines non-hierarchical pitched-sound grammar of musical language;
- Both pitched-sound grammars are discovered in the Al-Mārāği’s Šrāḥ and seem to be a short history of the development of music theory during six ages of the classical Arabic-Muslim culture.

II. ABOUT THE ŠRĀḤ

Let us note that al-Mārāği’s Šrāḥ reflects on the 600 years of scientific experiences in music theory since al-Fārābī up to the beginning of 15th century. Mārāği consistently translates it to Persian and comments on the Arabic text of Šrāḥ 1- Din’s Kitāb 1- wār r 1-Mūṣīqī (Book of Circle in Music) and at the same time also reveals the views of the scholars on the basic musical science categories such as mūṣīqī n g m u‘ ār etc. Here y it is possi le to contempl te the Šrāḥ as the encyclopedia of music-theoretical thought of 10th – 15th centuries. This work, not without re so n overcomes the ss erion th t: of the v rious comment ries on the Kitāb I- wār y fr the most
significant is the so-called Š rḥ of M ṭ lānā Mu ḫ r Sh h (777/1375)” [21].

The Š rḥ contains the Introduction (muqaddima), two parts (m q āl) or 15 chapters (f s l) and the fundamental Conclusion (ḥātim) [8] of ten chapters title F w ā ī -i Š rḥ; in fact, independent work was separately copied through the centuries as a stand-alone treatise [3]. Al-M rāġī’s Š rḥ remembers the dramatic pages of the history of the classical Arabic-Muslim culture when the different world pictures clashed to form the contradictory unity. Perhaps a set of different opinions could give rise to see the chaotic way of presenting the information about a subject matter without its strict selection or erasing in the Š rḥ. However, my investigation started with the first chapter being about the main thing we term ―music‖ (m uṣ ṭ i ǧ) n reveals that all citation instances have the aim of establishing the truth (ḥ q īq t) of phenomenon to show how different n t s same time irreconcilable as the positions of the authorities. 1- Š rḥ n is the syllis of the pre-eccesors’ definitions demonstrates how correctly appending a word or short phrase forms a new way of understanding the well-known definitions.

III. METHOD AND LOGIC

Analysis of the basic musical categories coherency in the al-Urm w ʾ s itā on the one hand n l-M rāġī’s Š rḥ the other, gives grounds to discuss two research methods in touch with two types of theoretical thought. The first one is the analytic method which has been applied since Ptolemy’s (100 – 175 B.C.) Harmonica and was well known in the E ternal peripetic tetic philosophy school ( ʾ uN ş r Muh m m al-F rā ī l ). (950 n others) irrespective of acceptance or critics of Pythagoreans cosmology. The second one is the synthetic method which w s orrowe y Ş ft l-Dīn from the classical theory of Arabic grammar and applied to the description of the pitched-sound system in Kitāb. P r t i lly it was supported by al-M rāġī in the Š rḥ hon the s e o of “root-runch” (g s l—f r t) pair c for classification and systematization of the difference phenomena [15].

Relative to the Eastern peripatetic philosophy school and non-form lizing logic of Mu ʾ zi l n theoretical Sufism, there is reason to connect both above-mentioned methods with “the logic of su st n c e” n “the logic of process” [2 18] forming two types of thinking and the specific description language for each of them. The first type completely reflects the genus-species relationship between the basic categorics in music theory’s description language; it was expressed by al-F ā r ī l in his “Gre t Book of Music” (Kitāb l-mūs īqī ī 1-k n) [1]. The second one reflects the non-genus-species relationships and, to my thinking, could be partially considered in the matter of Fakh r al-Dīn l-Rāżī’s (1141 – 1209/10) acoustic theory [11, 12, 13]. At the s m e time in Ş ft l-Dīn’s acoustics theory [20] n his pitched-sound grammar [19] was not completely supported y M rāġī n return to the irrection of the n lyric method [8] in the Conclusion of the Š rḥ.

IV. RETURNING TO ANTIQUITY METHOD

Wh t oo be returning to nitiqumetho “ me n rel tiv ely to the Š rḥ h “ 1- ā ir al-M rāġī? l-M rāġī took Ş ft l-Dīn’s view of the music science su jct inspir y his r t i o n l e for the “t e” c tegory s as the principle of org n izing the potent i l (84 w ār) n c t u 1 (12 š u ā 6 āw āz t) soum structures. Expressing admiration and at the same time criticizing his spiritual teacher, Sheikh al-M rāġī o not however opt his method wholly nor the description language of pitched-sound grammar completely, in which there was no fundamental c tegory such s the “pre ter system” (= m ātāmm; pers. jam-tāmm; “s ect system”= m ān kāmil; pers. j m ān-kāmil). This category was explained for the first time in Harmonica of Ptolemy [5] and transformed by al-F r ā ī l’s Š rḥ- m uṣ ṭ i ǧin correspon e nce with the music l pr cte of M averannahr where he had lived for approx. 40 years. This greater system provides the hierarchical organization as the guarantor of the order and harmony in the world of sounds. It seems that the lack of a hierarchically organized pitched-sound system in Kitāb is the result of the otherness of Ş ft l-Dīn’s logic not the misun erstanding of the young scientist.

Al-M rāġī ec e es to write the final chapter of the Š rḥ correcting” Ş ft l-Dīn’s “excessively su tle music stu y” [8] n to solve the theoretic l questions “y the wor s of pre-eccesors”.

Al-M rāği writes:

―s f r s we h v e ( lre y) h the solutions to 11 the problems that explain the numerous benefits and excessive su tlety of the stu y of music (in Kitāb ) from the M q āš ed al-Alḥān (cre e rlier th n this Š rḥ but later than the J m l-Alḥān) using the wor s of our pre-eccesors w e will expl in the ten “enefits’ for knowing the [truth] (s āḥ ebe-tadw q) and the amor nus of the prevai n g desir e [to it] ( s eq ṣ n-e ġ āle -iš w q) in or er to show how we c n profit from it. I c ll e this ook Z wāi l-F w ā ī which h s ten ch pt ers” [8].1

Therefore, there is reason to speak about the reconversion in m q ām theory consi ering M rāği’s Š rḥ through the method and description language, not only this treatise. The comparison of two versions of the treatise known as the “tre se in music of Niš pūr” [9 10] gives reason to conclude that:

• “tre se in music” h een written in the e rly 14th century y non’ u thor which w s the ver l commentator (muq t r r) of Niš pūr’s oo k;

• “tre se in music” is the compen i u m n represents the adaptive version of al-Urmavi’s theory for the musical practice of Khorasan and Persian musical terminology to describe the substance-dependent world picture and the hierarchical organization of the sound structures. However, this is a topic for a separate study.

1 Translated from the Persian by G. B. Shamili.
V. TWO PITHED-SOUND SYSTEMS

Abd al-Ḳā ir not cci ent ll y st rте Zwāi with the chapter out Sequencing (t rī ) of four tetr chor l r n ks (tabaqat) in the greater system (jam' tāmm) [8], presenting one in the geometric image of hierarchical integrity of the small and large circles "Fig. 1". The largest one is the double-oct v e interv l (u‗ul-żīkkullm r r t in) cont ining c cor ing to the u thor gre te r system in which there re four qu rts (u‗ül-1-arba') and two whole tones (u‗ül-1-n ml) [8]. The gre te r system is ivi e into two h lv es y the –mu t l mi st’ (1-wasatī l-mušt r k) or two oct v es (u‗ül-1-kull). Each of them contains two tetrachords (jins) and a whole tone that is organically linked to Ptolemy’s σύστημα τέλειον "Fig. 2" and al-Fārā ī`sj m ‘tamm [1] with regard to part-and-whole and opposition-and-unity relations as the fundamental procedures of theoretical thought.

Here we can see the hierarchical paradigm in which (1), the parts are contrary and leaving a gap in-between; and (2), the whole in the case of where its augmentation or reduction remains the sum of its parts in the Aristotelian sense as is possible to see in his Metaphysics:

— whole me ns (1) th t fr om which is sent none of the parts of which it is said to be naturally a whole, and (2) that which so contains the things it contains that they form a unity; and this in two senses-either as being each severally one single thing or s m k ing up the unity ‘tween them".2

However, in this case, the greater system includes a number of the features that al-M r āģī oes not consi er. First there re the fixe soun s (έστϖτεςυθόγγοι = n ġ m rāti h) as the boundaries of tetrachords and non-fixed sounds (κινούμενουθόγγοι = n ġ m mut ġ y yir h) etween them. Secon ly it m k es tr n sition (μεταβολή = ‘intiqāl) from one mode to another by means of a common sound or two or three of them:

I see the contradiction arising not because these greater system’s qualities were ignored by al-M r āģī ut ec u se he i not w iv er from Ş f ī l-Dīn’s system tic principles n even developed them, whereas the notions of order and h r mony in Ş f ī l-Dīn’s theory is not associated with the hier r chic l org n iz tion. On the contr r y Ş f ī l-Dīn describes each tone of the pitched-sound system as a –rot ti on x is” (m ār) for melo ic structure. 1-’Urm wī st r ts the secon chp ter of Kitā out –The  ivision of the frets” y the revolution r y thesis which seems pr oxic l and, in essence, cancels put any possibilities of being able to comment on it as a specific option of greater system "Fig. 3", "Fig. 4".

He writes, –The frets (1- sātīn) whose signs re v il le in the sh k es (ș w ā’i ) of the string instruments (al-1-lāt w āt 1- w tār) re the pl ce (m q ām) where the process of tones coming into existence (muxārij 1-n ġ m) from the parts of the string (ajzah al-watar) comes true. 17 tones, each of which is the axis of rotation for the melodies (m ār l-alḥān) re loc te on one string" [19 8].3

---

2 Metaphysics, by Aristotle. Book V.
https://ebooks.adelaide.edu.au/a/aristotle/metaphysics/book5.html.

3 Translated from the Arabic and Persian by G. Shamilli.
Studying the question of why every tone of the 17-tone scale is the root of the melodic structure and the pill or tone of the melodic structure is described not as a substance, occupying an equal place, but a process, or logical relationship (nisbat) of two sounds (swār) in the tone c tu lly equal to the interval. There y all sound structures such as interval, tetrachord, pentachord and octave scale are described as transformations; only one pitch of four, the so-called root-tone in such states as the composite (tālīf) connection (iżāf) where the root tone is the part of the melody equal to the whole. The root tone (m qāmān) is the fullness of all these states. Thus, the coherence of the structures is in the description in the article of al-Urma wī his successor Quṭ-Dīn l-Shirāzī (1236 –

 Investigating the partially complete 17-tone qāmān theory and practice discovers two paradigms in the pitched sound system’s description language. The first one is the hierarchical organization of the structural units, connected with the analytic research method and the genus-species relations of the basic categories (Eastern peripatetic school). The second one is the non-hierarchical organization of the units, connected with the synthetic method and the non-genus-species relations of the basic categories (al-’Urnnāvī). There y the ‘system tics’ school (al-’Urnnāvī l-Māriq al-l-Shirāzī) c mot e considered as a unified theory from this method’s point of view: the contradictions are evident not only between, but also in the theory of each of these scientists. Despite the fact that all theories use the same set of basic categories, the connectivity one is not the same and depends on the type of theoretical thought — the systems of different sources who considered these states above in the case of al-Māriq’s Š r h. Reconversion” relativistic methods are not the same as the “foreign” method of classical Arabic-Muslim culture. But, in fact, it is not return to the “foreign” and significant to us.

 This is extremely important in understanding the function of the basic structures (12 swār; 12 m qāmān) and their internal links. Abd al-ā ir i discusses these structures in his own root (ṣl). Well-known to all people (maşhūr) unit of pitch-sound, grammar-tone in such states as the characteristics of the 12 m qāmān are considered the root (uṣūl) in the fundamental term (wār) cultureally equ l to the interval. There y the rotation x is on the whole in the case of its augmentation or reduction is contrary, (2) have an indissoluble connection, and (3) are not contrary. One of the main points is the method’s point of view: the contradictions are evident not only between, but also in the theory of each of these scientists. Despite the fact that all theories use the same set of basic categories, the connectivity one is not the same and depends on the type of theoretical thought — the systems of different sources who considered these states above in the case of al-Māriq’s Š r h. Reconversion” relativistic methods are not the same as the “foreign” method of classical Arabic-Muslim culture. But, in fact, it is not return to the “foreign” and significant to us.

 Thus, unlike the greater system, there is absolutely other part-and-whole relative composition in the root- r n ch’ systematization of 12 swār. We c n see the results of the analysis in the table (Fig. 5). Transition from one structure to another is possible with the mutation from one to four elements (tones) of the s c e structure (root) ut other elements are the same.

 In the case of the non-hierarchical paradigm, (1) the parts are not contrary, (2) have an indissoluble connection, and (3) the whole in the case of its augmentation or reduction is destroyed. I see this as the opposite way to the greater system’s mode relations.

 VI. CONCLUSION

 REFERENCES

 [1] A N sr Fārābī. –Kittā 1 l-Māsīqī l-k. (Gr n Book of Music. Reproduced from MS 953) Köprülü Kütüphanesi, Istanbul. Edited by Eckhard Neubauer. Frankfurt am Main: Institute for the History of Arabic-Islamic Science at the Johann Wolfgang Goethe University. 1998.

 [2] Sc tev e n 1 cole 1 c cognitive principles of r -Muslim culture: collective monograph. Moscow: Languages of Slavic cultures, 2017. (In Russian) [–R synp noe’ i so r noe’: str tegii organizacii smyslovogo prostranstva v arabo-musul’skoi kultur: kollektiv y monogr fi ’]. Moskv : Y zyki sl vy nsk kultur 2015.]

 [3] S. H. Agaeva. –Encyclopedia i of zer ij ni mugh m”. B ku 2012. (In Russian) [S. H. g v –Enciklopediya iy zer j zh nsko mug m m “. B ku 2012].

 [4] V. Belyaev. – out music i folclore n ncient liter ture”. Moscow 1971. (In Russian) [V. Bely ev – O muz k’nom fol’klore I revnej pis’mennosti”. Moskv 1971.]

 [5] –Greek Music l Writings”, Vol. II. –M ronic n acoustic theory”. Edited by Andrew Barker. Cambridge — New York: Cambridge University Press, 2004.

 [6] al- ir i n G i i l-Mar gi. –Destin tion of the melo ies”, Teh n 1966. (In Persian) [al- al- ir i n G i i l-Mar gi –M qāsi n-alalhān”. Tbr h 1966.]

Translated from Persian by G. Shamilli.
