

PARADIGMS OF ARABIC MUSICAL MODES IN THE GENIZAH  
FRAGMENT CAMBRIDGE, T.S. N.S. 90,4

Hanoch Avenary, *Tel-Aviv*

The unique collection of medieval writings from the Cairo Genizah is an inexhaustible source of information on almost every branch of science and art. Through it, modern research has been able to draw a fairly detailed picture of family life, education, public affairs, commerce, medicine, poetry and learned studies in the Jewish community of old Cairo (Fostāt) and other towns of medieval Egypt. Research workers specializing in this field have developed such a feeling of intimacy with the life and manners of that remote community that they have acquired the habit of speaking familiarly of the "Genizah Folk".

The musical activities of these people are documented, first of all, by Obadiah the Norman Proselyte who recorded synagogue melodies in neumescript<sup>1</sup>. Synagogue chant and its performers are the subject of many letters and similar sources<sup>2</sup>. There is also valuable proof of the Fostāt Jews' interest in musical theory. Up to now, five fragments concerning musical science have been discovered (we are here presenting the sixth); all of them are in Arabic, but written in Hebrew characters. The five fragments are:

1. A short section from the famous epistle on music by the Ihwān al-Ṣafā' (10th century)<sup>3</sup> which was widely known among the Jews of Spain<sup>4</sup>. The fragment was reportedly found by Richard Gottheil in Paris, but its

1. From the rather extensive literature on Obadiah the Norman Proselyte, we shall quote only some basic publications: N. Allony, "Hamahzor le-Ovadyah hager minormandiah", *Sinay*, 57 (1965): 43-55; I. Adler, "Les chants synagogaux notés au XIIe siècle par Abdias, le proselyte normand", *Revue de Musicologie*, 51 (1965): 19-51; H. Avenary, "Genizah fragments of Hebrew hymns and prayers set to music (early 12th century)", *Journal of Jewish Studies*, 16 (1965) nos 3-4: 87-104; H. Avenary, "Hebrew melodies notated by Ovadya the Proselyte", *Tatzlül*, 14 (1974): 91-92 (in Hebrew).

2. H. Avenary, "Music in the Cairo Genizah period", *Tatzlül*, 15 (1975): 132-135 (in Hebrew).

3. Farmer, *Genizah*.

4. A. Shiloah, "Deux textes arabes inédits sur la musique", *Yuval*, 1 (1968): 222-234; A. Shiloah, "The Sources of Falaquera's Chapter on music in his *Sefer Ha-mevaqqesh*", *Fourth World Congress of Jewish Studies, Papers*, II (Jerusalem, 1968), p. 373-377 (in Hebrew; English abstract: p. 207); A. Shiloah, *The Epistle on music of the Ikhwān al-Ṣafā'* (Tel-Aviv, 1978), p. 11.

present whereabouts are unknown<sup>5</sup>. On the discoverer's request, H.G. Farmer identified its source; after Gottheil's death (1936), he described<sup>6</sup> the extent of the Genizah text as equalling approximately one page in the Bombay edition of 1887, and he also reviewed its contents: it deals with tuning of the lute (*al-c ūd*) and some allegories connected with the playing of this instrument.

Three other Genizah fragments connected with musical science are in too bad a state of preservation to be fully understood and translated, unless their sources will be identified someday:

2. Author unknown: Part of a philosophical discussion of the causes for motion and for sound and its perception (Cu, T.S. N.S. 30, 3; see Facsimile 1). The discourse keeps closely to the line of thought in Aristotle's *De anima*: The *recto* side of the fragment expounds the idea (Book I, 3) that every substance or object is in the state of rest so long as it is in its proper place; when displaced by an external force, it strives to return, and motion arises. The *verso* side indicates that sound is produced by the stroke of a moved object against a resting one (cf. Book II, 8). Actual hearing and real sound exist and vanish together, while the mere potency of sounding and the faculty of hearing may exist or disappear independently of each other (cf. Book III, 2, 426a, 15 seq.). The text of the Genizah differs, however, from Aristotle's layout and wording; it appears to belong to one of the paraphrases or commentaries.

3. Source unknown: Music as a part of the so-called "Practical (or marginal) Sciences" (Cu, T.S. N.S. 188, 2, *verso*). The fragment starts with parts 7 and 8 of some second division, dealing with the "science" or art of playing chess and polo. The third division appears to treat several aspects of movement, while the fourth division starts with music, followed by "How to influence people" and other useful things. The short music-paragraph comprises the four lines 9 to 12 of the *verso* side (see Facsimile 2).

4. Jewish author unidentified: Musical elements in [religious] poetry (Cu, T.S. N.S. 108, 142; see Facsimile 3). Only the lengthwise half of the sheet is preserved. The Arabic text includes some Hebrew elements: *al-ḥazzanîm* (*recto*, line 10), and a quotation from Isaiah 44, 18 (*verso*, lines 3-5). Furthermore, some points in the discussion can be discerned: rhymed prose, unrhymed; the *ḥazzanîm* and the inventors of melodies; *maqāmāt*;

5. See I. Adler, *HWCM*, p. XXVIII, no. 1.

6. Cf. Farmer, *Genizah*.

synagogues; prayers—on the *recto* side; the stanzas of Girdle songs; metric song; prose—on *verso*. The text obviously deals with the genres of poetry sung in the synagogues. It could be useful to compare it with Moses ibn Ezra's *Kitāb al-muḥāḍarah wa-'l-mudākarah*.

The almost complete copy of a well-known (but only recently published) Arabic treatise was also recovered from the Cairo Genizah:

5. Ibn al-Akfānī (Cairo, d. 1348): *The chapter on music from his compendium of the sciences al-Durr al-naẓīm* (Lbm, Ms. Or 5565c, f. [1]a-b). Copied by a certain Sa'īd b. Da'ūd al-Yamanī for his own use in 1463 (Colophon, see Facsimile 4). The most recent publication of the Genizah text is No. 050 (p. 37-39) in the RISM volume of Hebrew writings concerning music. Two versions of the Arabic original were published by A. Shiloah in *Yuval* [1] (1968): 234-248.

There are further traces of music literature used by the Jews of Medieval Cairo. For example, a *Book of music* is mentioned among the assets of a deceased Jewish physician (d. 1190)<sup>7</sup>. The fragment Cu, T.S. Arab. 12, 1, however, with its frequent mentioning the Greek term *musiqon* (and occasionally also of music, harmony) turned out to form part of Aristotle's *Physica*, Book I, 5 (188b, 1-28) where *musiqon* designates a cultured person who is appreciative of the fine arts. This text has no real connection with music, but we have mentioned it in order to establish its identity and to neutralize a potential pitfall for future musical Genizah research.

This impressive list has been extended by an additional document discovered (as were the fragments 2-4, and the second Obadiah sheet) by Nehemya Allony<sup>8</sup> in the Cambridge University Library, and entrusted by him to the present writer for publication. In the interim the text itself was released for pre-publication in the RISM volume of Hebrew writings concerning music<sup>9</sup>. The following study provides a translation, attempts to determine the historical position of this text in Near Eastern music and discusses its eventual contribution to our understanding of that interesting period in musical theory and the involvement of the *Genizah Folk* in it.

7. N. Allony, "The term *mūsīqah* in medieval Jewish literature", *Yuval* [1] (1968): 16, No. 23 (Hebrew Section).

8. We are glad to have this opportunity to acknowledge the active interest taken in Hebrew music texts by Prof. Nehemya Allony (Ben-Gurion University, Beer Sheba), and his advice on many problems.

9. I. Adler, *HWC*M, 100/Anonymous Cambridge, p. 54-55.

## I. THE TEXT

Manuscript (Genizah Fragment), Cu, T.S. N.S. 90, 4 (see Facsimile 5). Vellum sheet measuring ca  $5\frac{3}{8}$  by  $3\frac{15}{16}$  inch (13.7 by 9.8 cm). Fourteen lines of text on each side. No lines are wanting, but the margins are torn and creased, and there is a hole in the lower half of the sheet. The text, entirely in Arabic, is written in the so-called Hebrew "Oriental half-square" script; the paragraph headings are in "full-square" characters. The full-stop is marked by an encircled dot or, sometimes, by a colon. The copying was done rather carelessly, as is evidenced by corrections and dittographies.

The calligraphic style indicates that the text was written by a 12th or 13th century scribe (as assumed by N. Allony). It is clear from the captions that the present text comprises two complete paragraphs (9 and 11 lines respectively), framed by the final clause of the preceding, and the beginning of the following paragraphs.

It has not been possible to identify the original author. We shall show later that the contents of this fragment conform to a certain stage of Arabic musical theory, but the text itself is not known from other sources.

## (A) TRANSCRIPTION

Like many of the fragments from the Genizah, this text also offers serious obstacles to decipherment, reconstruction and understanding. Many of the readings proposed below were suggested by Allony or by the writer's colleague Amnon Shiloah; both of them also cooperated in the translation from Arabic.

The colon in the original is rendered by a colon, and the encircled full-stop by a simple full-stop. Diacritical points found in the original are rendered as such, and those supplemented by the editor are marked by an apostrophe. Square brackets have been employed to indicate restorations in the text.

*Recto*

בם פי הדיה אלתסויה עלי מטל[קה]  
 אלבם. ואמא אלמחמול :  
 פישר(a) אלבם חתי תסאוי בין נג[מה]  
 מטלקה ובין נגמה וסטי [א]למת-ני[ן]  
 5 תם תצרב(b). וסטי [א]למתני נקרה  
 מן פוק מטלקה [אל]זיר נקרה מן  
 פוק מטלקה [אלמתני?] נקרה מן ת[ח]ת  
 וסטי אל[מתני] נקרה מן פוק(c)  
 סבאבה אלמתני נקרה מן תחת  
 10 וסטאה נקרה מן פוק מטלקה אלזיר(d) מן

פונק מטלק]ה נקרה מן תחת  
 תיקול אלת'אני אלמטלק:  
 סבאבה אלמת'ני נקרה במוז'הא  
 עלי וסטאה. מטלק אלזיר נקרה

## Verso

15 [מ]ן תחת וסטי אלמת'לת' נקרה  
 [מ]ן פוק מטלק אלמת'ני נקרה מן  
 [ת]חת סבאבתה נקרה מן פוק  
 ממוז'ה בוסטאה מטלק אלזיר  
 נקרה (e) מן תחת וסטי אל  
 20 מת'לת' נקרה מן פוק מטלק אל  
 [מת']ני נקרה מן פוק סבאבה אל  
 זיר נקרה מן תחת וסטי (f)  
 אלמת'לת' נקרה מן פוק:  
 מזומה.  
 25 וסטי אלמת'ני נקרה מן תחת?  
 סבאבתה נקרה מן פוק  
 כ'נצר אלמת'לת' כארג' דסתאן  
 אלכ'נצר ממא ילי אלמשט

(a) ms. פתשר (b) ms. תטרב (c) פוק תחת changed to פוק  
 (d) ms. אלזיר interlinear (e) ms. נקרה נקרה (f) ms. אל אל

## (B) TRANSLATION

The text uses the nomenclature typically associated with the Arabic lute *al-ūd*. The four strings are called (from high to low): *Zir*, *matnā*, *matlat*, *bamm*. The frets are indicated by the names of the fingers that touch them, or by 'open string'. A distinction is made between strokes of the plectrum from above or below. Editorial restorations and interpolations are indicated by square brackets.

## Recto

*Bamm* in this tuning on the op[en string]  
*bamm*. Concerning the [mode] *maḥmūl*.  
 Stretch the *bamm* until the note  
 of the open string and that of the middle finger  
 on the *mat[nā]* are in unison<sup>10</sup>,

10. Actually: in the octave (which is reckoned among the unisons by the Arabs).

- 5 and then strike [with the plectrum the following notes]: Middle  
finger on the *maṭnā*, a stroke  
from above; open string *zīr*, a stroke from  
above; the open string [*maṭnā*?], a stroke from be[low];  
middle finger on the [*maṭnā*], a stroke from above;  
forefinger on the *maṭnā*, a stroke from below;  
10 its middle finger, a stroke from above; open string *zīr*, from  
abo[ve; open string], a stroke from below.  
**The second *ṭaqīl* of the [mode] *muṭlaq*.**  
Forefinger on the *maṭnā*, a stroke with its [grace] *tamzīj*  
on its middle finger. The open string *zīr*, a stroke

## Verso

- 15 [fr]om below; middle finger on the *maṭlaṭ*, a stroke  
[fr]om above; open string *maṭnā*, a stroke from  
[be]low; its forefinger, a stroke from above  
with *tamzīj* on its middle finger; open string *zīr*,  
a stroke from below; middle finger on  
20 *maṭlaṭ*, a stroke from above; open string  
[*maṭ*]nā, a stroke from above; forefinger on  
the *zīr*, a stroke from below; middle finger  
on the *maṭlaṭ*, a stroke from above.  
**Its<sup>11</sup> [mode] *mazmūm*.**  
25 Middle finger on the *maṭnā*, a stroke from [below?];  
its forefinger, a stroke from above;  
little finger on the *maṭlaṭ*, goes from the fret  
of the little finger which is near the tailpiece<sup>12</sup>.

The word *mzj* (lines 13, 18) is apparently connected with the musical term *tamzīj* which is defined by Ibn Sīnā<sup>13</sup>. It means a grace called “merging, blending” and is executed either by sounding two notes simultaneously, or by changing the finger position to another fret without striking the string again. Since the grace notes called for in our text are on one and the same

11. Possibly of the second *ṭaqīl* rhythm.

12. *al-mušt* = “comb”: the tailpiece which fastens the strings to the body of the lute at the rounded end opposite the neck.

13. Cf. El-Hefni, *Ibn Sīnā*, p. 50; text: p. 73-74.

string, they obviously cannot be sounded simultaneously, but only in succession, according to the second manner of execution.

(C) CONTENTS AND NATURE OF THE TEXT

The Genizah text is subdivided into three paragraphs with separate captions giving the names of musical modes. It is clear from the terminology used that all the sections enumerate sequences of finger positions on the soundboard of the short-necked lute (*al-ūd*). Since the verbal description given in the ms. specifies essentially the same details graphically rendered by European lute tablatures, we can easily transcribe it into the shape of an "Italian-Spanish lute tablature". Even the downward stroke of the playing hand is sometimes specified by a dot below the related fret-number, and the bottom line of the staff is assigned to the string highest in sound<sup>14</sup> as in Arabic theory. The resulting transcript is given in Table I.

Table I  
VERBAL DESCRIPTIONS RENDERED IN TABLATURE

*Strings:* Topmost line IV represents the deep-sounding string *bamm*, III the next-higher, etc., according to the habit of Eastern musicians, and some Italian-Spanish lute tablatures as well.

*Frets:* 0=open string, 1=forefinger, 2=middle finger, 3=ring finger, 4=little finger.

	<i>al-maḥmūl</i>	<i>al-ṭaqīl</i>	<i>al-tānī</i>	<i>al-muṭlaq</i>	<i>al-mazmūm</i>		
IV <i>bamm</i>							
III <i>maṭlaṭ</i>		2	2	2	4+		
II <i>maṭnā</i>	2	2-1	2	1,2	0-1,2	0	2-1
I <i>zīr</i>	0-0	0 <sup>?</sup> -0 <sup>?</sup>	0	0	0	1	

The fingerings described in a tablature can be realized as actual pitches as soon as the tuning of the strings (*accordatura*) is known. The rhythm, however, must be indicated by a separate set of signs. In the present case, the instructions on striking the string either from above or from below may be connected with the rhythm or accentuation of the notes. Further, the caption of the second paragraph explicitly mentions one of the classical rhythmic patterns, the second *ṭaqīl*, which is to govern the performance of this melody.

14. See W. Apel, *The notation of polyphonic music* (Cambridge, Mass., 1953), Facs. 19, p. 63; B. Disertori, in *Die Musik in Geschichte und Gegenwart* (Kassel, 1965), Vol. 12, col. 1046-1047.

Evidently, the text is intended to exemplify the tonal and rhythmic character of certain musical modes by describing their practical execution on the lute. Paradigms of this kind are found as a supplement of some theoretical treatises, and are called *ṭarā'iq* (sing.: *ṭarīqah*). Examples appear, e.g., in two books written by Ṣafī al-Dīn 'Abd al-Mu'min shortly after 1250, and are repeated by his commentators and followers. This great scholar recorded the *ṭarā'iq* unambiguously by means of a tablature consisting of letters for the pitches, and numerals for the time-values<sup>15</sup>. The earlier authors, however, used a cumbersome verbal description of the exact place for every finger-stop, as does also the Genizah text.

The particular modes are here given antiquated names which are only occasionally mentioned by Ṣafī al-Dīn and the later writers<sup>16</sup>. These names were used quite naturally by an 11th-century theorist, al-Ḥasan ibn 'Alī al-Kātib<sup>17</sup>, who denotes four "most famous" *ṭarā'iq* and relates their names to the four fingers employed in stopping the strings:

*muṭṭaq* = 4th finger (yielding the same note as the next following open string)

*mazmūm* = 1st finger (the finger note obtained by stopping)

*maḥmūl* = 2nd finger (named after its position "between" the 1st and 3rd ones)

*maḥzūr* = 3rd finger (the "extreme" position)

The three mentioned first by Al-Ḥasan are identical with the designations in the Genizah fragment, and it may be supposed that the missing fourth was treated in the lost continuation of the text.

Since the Genizah-writer also endeavours to express certain rhythmical features, his descriptions undoubtedly correspond to the definition of the *ṭarīqah* still given, among others, by al-Lādīkī (d. 1445)<sup>18</sup>: "... notes in an order acceptable [to the ear] and in accordance with a well-disposed rhythm: that is what one calls also a *ṭarīqah*".

## II. PROBLEMS OF MUSICAL INTERPRETATION

Because of the fragmentary state of the text which, as it stands, represents a fortuitous section of the original exposition, full understanding is hampered by a number of unresolved questions.

15. Erlanger, III, p. 178-182, 551-564. The music specimens are reproduced in part by H.G. Farmer, "The music of Islam", *New Oxford History of Music*, I (London, 1957), p. 454-455, and Plate XIV.

16. Ṣafī al-Dīn even designates them as "ancient modes", namely, *muḡannib (al-ramal)* and (*al-ṭaqīl al-awwal*) *al-muṭṭaq*.

17. A. Shiloah, tr. *al-Ḥasan ibn 'Alī al Kātib, La perfection de l'art musical* (Paris, 1972), Ch. 32.

18. Erlanger, IV, p. 484. For biographical details see H.G. Farmer, *The sources of Arabian music* (Bearsden, 1940), p. 57.



(a) *Accordatura*: Knowledge of the tuning system applied to the specific instrument is an indispensable condition for conceiving the pitches which the author had in mind. The very first line of the fragment preserves the end of a sentence that apparently dealt with the *accordatura*. Whatever its exact content may have been—it is superseded by a new instruction given in the paragraph on *al-maḥmūl* (*recto*, lines 3-4), and saying: The deep-sounding string *bamm* (IV) shall be stretched to sound the (lower) octave of the 2nd fret on the *maṭnā* string (II, 2). According to the “normal” tuning of the classical Arab lyre to intervals of a fourth throughout, *bamm* (IV, 0) would yield the ninth (and not the eighth) of the said fret (II, 2)<sup>19</sup>. In order to achieve the octave interval, the player had to apply one of the so-called “mixed tunings” where a third replaces one of the fourths (as is done with the European lute and guitar)<sup>20</sup>. Under the conditions given here, the third could occur either between strings IV and III, or between III and II. Our text clearly suggests that it is the *bamm* string (IV) that should be re-tuned; stretching it to sound a semitone higher yields the desired effect.

Actually, *bamm* (IV) is never touched in the music specimens given (compare Table I). However, in practice it was (and still is) used for doubling (*taṣqīq*), the corresponding note in the upper octave<sup>21</sup>, or as a sort of drone (*rāji*)<sup>22</sup>. Its octave, *a-flat*, is very often touched in the music examples of our ms.

(b) *Melodic modes*: The modes (*maqāmāt*) of Eastern music are designated by (more or less) constant names, such as *rast*, *abūsalīk*, *nūrūz*. At an earlier stage, these common names were preceded by a less fanciful and more technical nomenclature, as, for example, in the captions of the *Kitāb al-aḡānī* (ca 950).

The different modes are primarily characterized by their specific sequence on interval steps, comprising a tone (*ṭanīni*, abbreviated T), a semitone (the Greek *limma*; Arabic *baqiyyah*, abbr. B), and a microtone placed between semitone and tone (Greek *apotome* or double-*limma*; lumped together by the Arab theorists, and abbreviated J). The microtones

19. The octave-relations between the lute frets are fully expounded by the early theorist Ṭabīṭ b. Qurra (d. 900): see A. Shiloah, “Un problème musical inconnu de Thabit ibn Qurra”, *Orbis Musicae*, 1 (Tel-Aviv, 1971): 34.

20. Cf., among others, H. Hickmann, “Die Musik des arabisch-islamischen Bereichs”, in *Handbuch der Orientalistik*, 1. Abteilung, Ergänzungsband 5 (Leiden, 1970), p. 112.

21. El-Hefni, *Ibn Sīnā*.

22. According to <sup>c</sup>Abd al-Qādir (d. 1435), a deep open string is struck regularly after a certain number of melody notes. Cf. Erlanger, IV, p. 245-246.

are highly characteristic of Near Eastern music, and were produced on the lute by shifting the middle or forefinger to a position close to that of the normal diatonic interval.

However, the earlier "descriptive tablatures" fail to express exactly which of the possible positions of the middle or forefinger are meant, but leave this to the discretion of the practical musician. This usage recalls the habit of European *musica ficta*, which also left the proper placing of accidentals to the performer. In Near Eastern music, the name of the mode (*maqām*) governing a certain piece was regularly given in the headings of the song texts; it indicated, to the trained musician, which interval-species had to be chosen.

According to this old custom, the Genizah text, too, records only the basic fingerings without specifying their exact position—except in the case of the very last tone described in our text (see below). But in general we are left in the dark about microintervals that may perhaps be demanded.

### III. AN INTERPRETATION ATTEMPT

In interpreting the musical contents of the Genizah text, we may resort to the old theoreticians; but the eventual "result" must be taken with due reservations, since we cannot refer exclusively to sources of the same period and environment. However, the inevitable risks must be taken, if only in order to initiate a discussion.

#### (A) THE MODE PARADIGMS AND THEIR SPECIFIC INTERVALS

With regard to the characteristic, and probably non-diatonic, intervals, we are given the same hints as the contemporary musician, namely, the names of the modes involved: *maḥmūl*, *mutlaq*, *mazmūm*. The old names of "finger-modes" (*aṣābīʿ*) were still used in relation to certain interval steps by al-Lāḍikī (ca 1400). We shall list the intervals he assigned to the modes in Table 2. Now we know the interval sequences (in al-Lāḍikī's period), and may look for the names given to the same interval sequences by Ṣafī al-Dīn (ca 1250)<sup>23</sup>; his nomenclature is added in the last column of Table 2.

The *maqām*-scales explained by Ṣafī al-Dīn bear names which are still familiar to Eastern musicians today. Among them, *abūsalik* alone (today: *busalik*) = *al-mutlaq* has a diatonic structure (intervals T and B only); the others include microintervals (J). Are these intervals sequences reflected by

23. See Erlanger, III, p. 119, 135. Compare also M. Collangettes, "Etude sur la musique arabe; second article", *Journal Asiatique*, 10eme série, 8 (Paris, 1906): 178-180.

the Genizah paradigms? We shall try to restore them in music notation: See Table 3.

Table 2  
IDENTIFICATION OF MODES BY THEIR INTERVAL SEQUENCES

Names of <i>aṣābīʿ</i>	al-Lāḏikī			Ṣafī al-Dīn's <i>maqāmāt</i>
	Intervals*	1st Fret	2nd Fret	
<i>maḥmūl</i>	TJJ	<i>sabbābah</i>	Zalzal's	<i>rast</i>
<i>muṭṭlaq</i>	BTT	<i>zaid</i>	Persian	<i>abūsalīk</i>
<i>mazmūm</i>	JJT	<i>muḡannīb</i>	Persian	<i>nūrūz</i>

\*T=tone; B=semitone; J=microinterval

Table 3  
TENTATIVE TRANSCRIPTION OF THE GENIZAH PARADIGMS



We should not worry too much about these Genizah tunes' apparent lack of musical logic since the same criticism may be made of al-Kindī's *ūd*-exercises (early 9th century)<sup>24</sup>, and of Ṣafī al-Dīn's *ṭarā'iq*. However, the relation of the Genizah music to the modes characterized by the later theorists cited is another matter. As regards the diatonic *al-muṭṭlaq* = *abūsalīk*, the necessary sequence semitone-tone-tone (BTT) may be assembled from the notes a-flat—b-flat—c in the second half of the tune. The microintervals of the remaining modes could be produced by shifting the 2nd fret to the so-called "zalzal's middle finger" position. Microtone intervals (J) would thus appear on either side of the note a. If this procedure is accepted for *al-maḥmūl*, one might reconstruct the mutilated specimen in such a manner as to get the intervals TJJ, or JJT. Regarding *al-mazmūm*, one microtone is indicated by the Genizah text itself, while another could be obtained by "zalzal's middle finger". At any rate, the fragmentary and ambiguous nature of the source leaves the question of interval reconstruction rather uncertain.

24. A. Shiloah, "Un ancien traité sur le *ūd* d'abū Yūsuf al-Kindī", *Israel Oriental Studies*, 4 (Tel Aviv, 1974), see Table facing p. 203.

## (B) RHYTHMIC PATTERNS

Near Eastern music is shaped to a large extent by fixed patterns of rhythms ("rhythmic modes"), as was also European medieval polyphony<sup>25</sup>. The basic forms of these patterns were expounded by the early theorists, and were continually described by the later ones—although marked changes had taken place, and the number of patterns had increased<sup>26</sup>. The Genizah text mentions only one of the classical rhythmic modes, called second *ṭaqīl* (*recto*, line 12).

It was an old custom to express the different rhythmical time values by the syllables *ta* and *na*. Thus Ṣafī al-Dīn recommends, as a first exercise to beginners in *ūd* playing, the touching of an open string while the syllables *tana, tana...* are uttered simultaneously, and "one shall see to it that the syllable *ta* corresponds to the descending motion of the plectrum, and the syllable *na* to its ascent"<sup>27</sup>.

We understand from these words that the direction of the plectrum strokes was taken into account (as with the Genizah author), and that it was associated with the open (=metrical-short) syllables *ta* and *na*. We are not informed, however, about the relative length or duration of each note. The metrically long value is usually designated by a closed syllable, either *tan* or *nan*. Thus the classical second *ṭaqīl* rhythm is usually expressed in this manner: *ta-nan ta-nan tan/ta-nan ta-nan tan*, that means a double sequence of the values short-long, short-long, long.

We cannot adapt the notes of the Genizah paradigm to this pattern without having recourse to unprovable assumptions. Already in 1375, the commentator of Ṣafī al-Dīn's *al-Adwār* was in the same position, and was compelled to remark on Ṣafī's *Ṭarīqah* "in an ancient mode called first *ṭaqīl al-muṭlaq*<sup>28</sup>: One does not recognize the first *ṭaqīl* rhythm in the elements of this composition... Either the defects of the present copy or a special fashion of playing which dissolves this rhythm may be to blame for it". We can only subscribe to his conclusion and also leave the question open.

25. Dom A. Hughes, "Music in fixed rhythm", *New Oxford History of Music*, II (London, 1955), p. 318-320.

26. Erlanger, III, p. 485; About the middle of the 15th century there were 21 rhythmical modes (*Ibid.*, Vol. 4, p. 189 seq.), and around 1500 only two of the ancient patterns still survived (*Ibid.*, Vol. 4, p. 479-480).

27. Erlanger, III, p. 178; 551.

28. Erlanger, III, p. 563.

## IV. CONCLUSION

The “melodies” communicated by means of fingering descriptions turn out to be melodic formulas without artistic or aesthetic character: obviously the didactic purpose overshadows any other consideration. These formulas, short as they are, are nevertheless repetitive, and certain germs of motifs are reiterated. In this respect, the Genizah tunes resemble the melodic models for practicing the *ramal* metre which are given in the “Old Moorish Lute Tutor” of ca 1500<sup>29</sup>. One would expect that the repeated note patterns would be parallel to the recurring cycles of the rhythmic patterns, but this supposition is not confirmed by our or by Farmer’s interpretations.

On the evidence of al-Lāḍikī and Ṣafī al-Dīn, we have identified the mode *al-maḥmūl* with *rast*, *al-muṭṭlaq* with *abūsālīk*<sup>30</sup>, and *al-mazmūm* with *nūrūz*. The soundness of this identification can be tested by comparing the selection and successive order of modes found in the Genizah ms. with that proffered by the medieval theorists. The trio *rast*, *abūsālīk* and *nūrūz* form a coherent group in the treatises by al-Ḥasan and ‘Abd al-Raḥman<sup>31</sup>, and the three are quoted in each other’s immediate vicinity by Ṣafī al-Dīn (*Kitāb al-adwār*) and al-Lāḍikī. Whenever *rast* precedes, it is in accordance with the practice of our time.

With regard to chronology, it will be recalled that paleographic evidence suggests the 12th and 13th centuries for the Genizah ms. Its text is certainly the copy of a lost original. This still unknown treatise clearly reflects an older state of musical doctrine than that represented by Ṣafī al-Dīn—that does not necessarily imply that it was actually compiled long before 1250. If it was a primarily didactic work for practical instruction, its falling behind the innovations of eminent theorists would be a feature common to all popular text-books.

Nevertheless, the practical trend represented by the Genizah fragment helps to round out our knowledge of musical developments in the medieval Near East, as well as our appreciation of the high level of musical erudition among the “Genizah Folk”.

29. H.G. Farmer, *An old Moorish lute tutor*, Glasgow, 1933 (previously in: *Journal of the Royal Asiatic Society*, 1931, 1932).

30. The medieval order of intervals in *abūsālīk* (BTT) is called *Kurdī* today.

31. Late 15th century treatise *Risāla musīqī*, ed. Tashkent, 1960.

## WORKS CITED

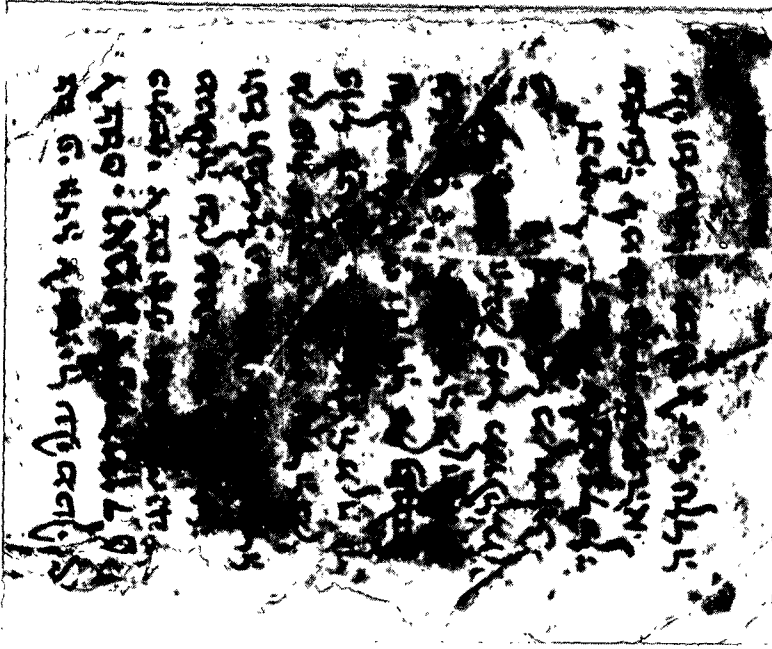
Adler, *HWCM*I. Adler, *Hebrew writings concerning music...*, München, 1975.El-Hefni, *Ibn Sīnā*M. El-Hefni, *Ibn Sinā's Musiklehre*, Berlin, 1931.

Erlanger

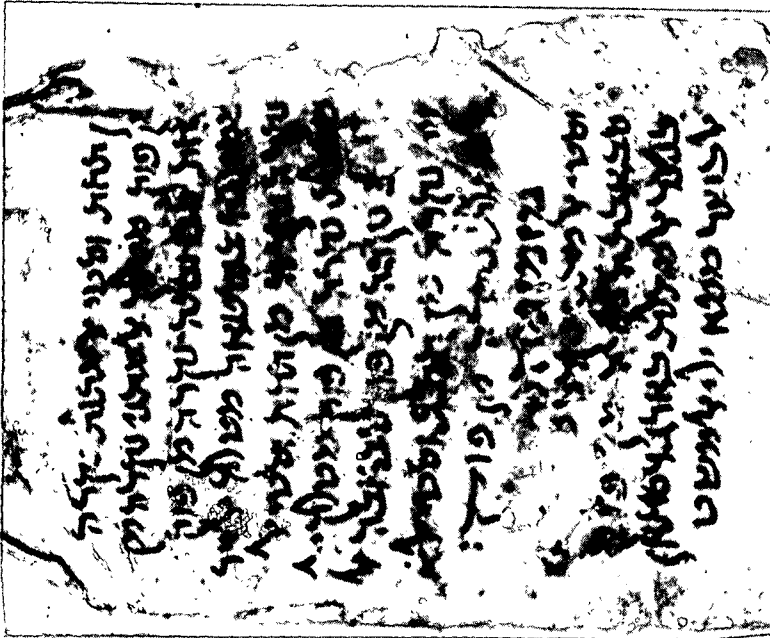
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Cu, T.S. N.S. 30, 3

recto

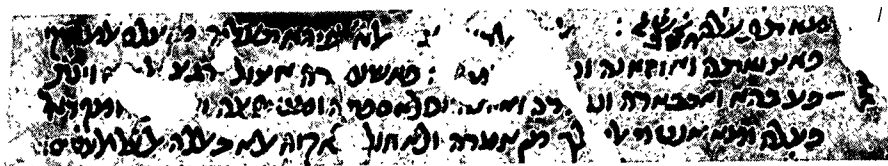


verso



Facsimile no. 2

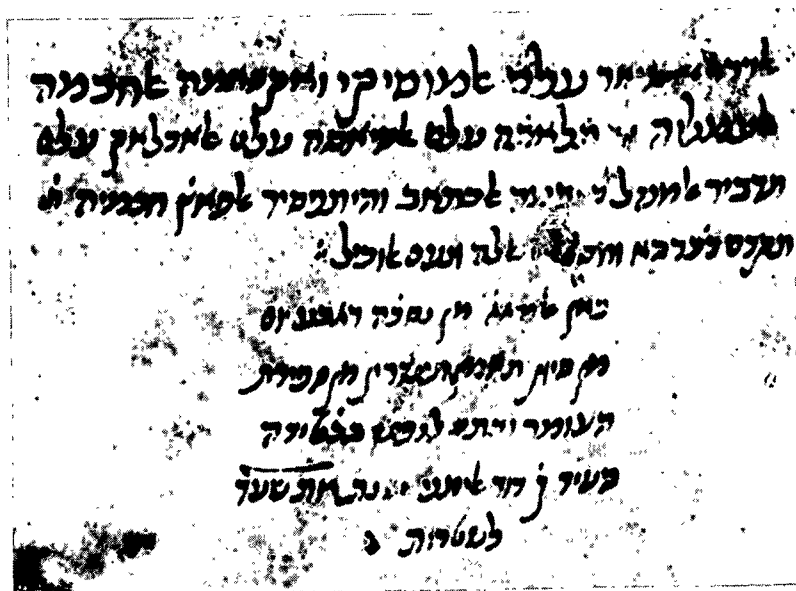
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Facsimile no. 4

Lbm, Ms. Or. 5565c, fol. 3a

כאן אל [פר]אג' מן נסכ'ה ראבע יום  
 מן סיון תאמן ועשרין מן ספירת  
 העומר וכתב לנפסה בכ"ט ידה  
 סעיד ן' דוד אלימני בשנת אתשעד  
 לשטרות









# YUVAL

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## ABBREVIATIONS

## קיצורים

Adler, *HWCM* ראה אדלר, כתבים עבריים  
 המכון לתצלומי כתבי יד, בית הספרים הלאומי  
 והאוניברסיטאי בירושלים  
 ראה *RISM* ריס"מ

<i>Adler, HWCM</i>	I. Adler, Hebrew Writings Concerning Music in Manuscripts and Printed Books, from Geonic Times up to 1800, München, 1975
<i>Cat. Margoliouth</i>	Margoliouth, G., Catalogue of the Hebrew and Samaritan Manuscripts in the British Museum
<i>Cat. Neubauer</i>	Neubauer, A. Catalogue of the Hebrew Manuscripts in the Bodleian Library
<i>Cu</i>	Cambridge University Library
<i>EI<sup>2</sup></i>	The Encyclopaedia of Islam, new ed. Leiden, 1960-
<i>EJ<sup>2</sup></i>	Encyclopaedia Judaica, Jerusalem, 1971-72
<i>Erlanger</i>	Erlanger, R. d', La musique arabe, Paris, 1930-1939
<i>HUCA</i>	Hebrew Union College Annual
<i>IMHM</i>	Institute of Microfilms of Hebrew Manuscripts, Jewish National and University Library, Jerusalem
<i>JA</i>	Journal asiatique
<i>JJS</i>	Journal of Jewish Studies
<i>JMRS</i>	Jewish Medieval and Renaissance Studies, ed. A. Altmann, Cambridge, Mass., 1967
<i>JNUL</i>	The Jewish National and University Library, Jerusalem
<i>JQR</i>	Jewish Quarterly Review
<i>JRAS</i>	Journal of the Royal Asiatic Society
<i>KS</i>	Kiryat Sefer; Bibliographical Quarterly of the JNUL
<i>Lbm</i>	London, The British Library

<i>Mbs</i>	München, Bayerische Staatsbibliothek
<i>MGWJ</i>	Monatsschrift für Geschichte und Wissenschaft des Judenthums
<i>Mus. pass.</i>	Passage(s) concerning music
<i>Njts</i>	New York, Jewish Theological Seminary of America
<i>Ob</i>	Oxford, Bodleian Library
<i>Pn</i>	Paris, Bibliothèque nationale
<i>REJ</i>	Revue des études juives
<i>RISM</i>	Répertoire international des sources musicales
<i>Tb</i>	The Babylonian Talmud