THE MUSICAL REALIZATION OF BIBLICAL CANTILLATION SYMBOLS (ṬEᶜAMÎM) IN THE JEWISH YEMENITE TRADITION[1]

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INTRODUCTION

This study[2] concentrates on the Pentateuch, recited by the Yemenites in three different social and religious contexts: (a) the various synagogal services, of which the biblical recitation is a central liturgical part; (b) the traditional study-sessions of biblical sections; and (c) the *ḥeder*, where the recitation of biblical texts is the basic educational instrument. The Yemenites declare that although they have a repertory of six different tunes according to which these public recitations are performed, the tunes are unified in that their structure depends on the *ṭeᶜamîm*, the cantillation symbols[3]. The aim of this paper is to present the repertory of the musical renditions of the Pentateuch and to investigate the relationships between the *ṭeᶜamîm* and their musical realization within these three social contexts.

A.Z. Idelsohn was the first to attempt systematization of the musical traditions of Yemenite scriptural recitation, based on field recordings (Idelsohn 1913). His approach to the investigation of music as an oral tradition was based on the view that music is, first and foremost, an

2. The study is based on fieldwork done during 1971-78, observing various rituals and interviewing representative individuals from seven Yemenite congregations in Israel, who all claim that they have preserved the same tradition of the region of Ṣanᶜa, capital of Yemen. Hebrew text-underlay (below the music) and Hebrew names of *ṭeᶜamîm* are given in phonetic transcription, according to S. Morag's system, "Pronunciation of Hebrew", *Enclyclopaedia Judaica* (1971), XIII, 1120-1143. Other Hebrew terms are transliterated.

3. The *ṭeᶜamîm* are symbols placed above or below the biblical text, so that each word usually has one symbol. The system is uniform for most books of the Bible (21 of them), with the exception of Psalms, Proverbs, and most of Job, where there is a different set of symbols (parts of Job with the same set as the 21 books are chapters 1 and 2, chapter 3 verse 1, and chapter 42 verses 7 to the end). The difference between these two sets is expressed in the traditional recitation of the texts. It is generally believed that a recitation of sections from the 21 books is a musical performance based on the *ṭeᶜamîm*, whereas recitations of sections from the other three books are considered a musical performance based on the general syntactical structure of the verses rather than on their *ṭeᶜamîm*. For more details on this matter in Yemenite tradition, see Joseph Qafiḥ 1951: 263-4; 1961; 1962: 371-6, and Shelomo Morag 1963: 212-4.

acoustic phenomenon. This accounts for his efforts to measure the pitches in order (a) to arrive at some organization of a scale-system and (b) to reach a final picture of a few basic motives upon which the ritual music is composed through a process of imitation and development[4]. His fieldwork consisted of recording two respondents who chanted several verses from the Pentateuch, the music of which included two tunes: the 'tôrah tune' and the 'šîrah tune'[5]. As will be shown further on, Idelsohn did not accede to a large amount of information because he did not examine the music in its actual performance in the synagogue. Moreover, his transcriptions are his intuitive "summation" of only some of the many extant variants. Finally, he concludes by presenting fixed motives and their "tonal" interrelationships. But these conclusions do not exist as such in the Yemenite conception and therefore play no role in the actual "music making" process among the Yemenites.

In order to understand this process, an attempt has been made here to examine the biblical tunes of the Pentateuch as they are performed in their natural contexts, and then to compare the results with the same repertoire as recorded out-of-context in interviews with individual respondents. Based on these examinations, I have tried not only to deepen our knowledge of the Yemenite conception regarding the tunes and their structures, but also to understand the function of every musical feature, and thus to make possible an in-depth explanation and prediction.

I. THE PENTATEUCH RECITATION IN THE YEMENITE COMMUNITIES

One of the important parts of the Jewish synagogal service is the public recitation of one of the weekly portions from the Pentateuch. Every such portion is divided into seven passages. In accordance with the general Jewish tradition, the Yemenites recite the first passage of the portion at the afternoon service (*minḥah*) on Shabbat and at the morning services (*šaḥarît*) on the following Monday and Thursday; they recite the entire portion at the morning service on the following Shabbat. In most of the other Jewish communities, these public recitations are performed by experts (*baʿalê qerîʾah*). The Yemenites, however, differentiate between three types

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4. See, for instance, his opening statement regarding the 'Prophets' mode', (p. 24), the discussion concerning the 'Lamentation mode' (p. 29), the 'selîḥah mode' (p. 35), and more.

5. Idelsohn does not provide us with sufficient information regarding his recordings. We do not know, for instance, whether the transcribed verses are the only recorded ones, or whether he recorded more variants of all these verses.

of performance: (a) the recitation of the entire portion at the morning services of Shabbat and festivals, each passage being recited by a different adult congregant; (b) the recitation of the *šiššî* (i.e. the sixth passage) which is usually given to a boy; and (c) the recitation of the Aramaic translation (*targûm*) of the entire portion, which is given to another boy. The manner of these recitations is as follows: The reader of the Hebrew text chants a verse, and the boy chants the *targûm* to that verse. Thus the reading continues verse by verse.

According to the Yemenites, each one of these three types of recitation is chanted to a special tune, consisting of a melodic phrase which "covers" a whole verse and which is repeated with every verse. Thus, the Yemenites speak of (a) the 'regular tune of the *tôrah*' (Pentateuch); (b) the 'boys' tune', in which the *šiššî* is chanted by a boy; and (c) the '*targûm* tune'. A fourth tune, the '*šîrah* tune', is chanted to four special Pentateuch sections: the 'Song of the Sea' in Exodus 14, 30-31; 15, 1-18 (=*šîrat hay-yam*, hence the name '*šîrah* tune'); the Ten Commandments in Exodus 20, 2-14; the Ten Commandments in Deuteronomy 5, 6-18; and the verses recounting the death of Moses in Deuteronomy 34, 5-12.

Apart from the synagogal services, texts from the Pentateuch are also chanted by the Yemenites in the course of the study-sessions which are held in the synagogue every Shabbat before morning prayer; between the afternoon and evening prayers; on the night of *šavûʿôt* (Pentecost); and on the night of *hôšaʿnā rabbah*, the seventh day of *sukkôt* (Tabernacles). In general, there are two ways of conducting these sessions: (a) the participants (adults as well as boys) may recite the entire Hebrew text or part of it together, while each of the Hebrew verses is followed by its Aramaic counterpart recited in the '*targûm* tune' by one man or one boy who is appointed to sing the entire *targûm*; (b) the recitation of the verses one by one by all present, each participant taking a turn according to the place where he is sitting. Here too each Hebrew verse is followed by its *targûm* recited by the appointed reader of the Aramaic text. In both (a) and (b) the recitation is chanted to the same tune.

We have already mentioned the *heder*, which still functions as the traditional elementary educational institution in many Yemenite communities in Israel[6]. The recitation of biblical texts by the pupils is the basic tool through which Jewish-Yemenite traditional patterns are transmitted

6.   For more details on the *heder*, see Sharvit, 1980: 33-49.

and preserved. The boys are usually divided into three "grades" according
to age. The first graders, after passing the stage of the Hebrew alphabet,
learn the traditional pronunciation of complete words and the traditional
recitation of verses and clauses from the Pentateuch. This is done through a
special 'learning tune'. The boys of the second grade, in addition to this
tune, learn two other tunes: the above-mentioned 'boys' tune' and the
'targûm tune'. The third graders learn the 'šîrah tune'.

The differentiation between the above six tunes is based on two criteria:
the texts, and the social functions. Thus, the 'tôrah tune', the 'šîrah tune',
and the 'targûm tune' are differentiated by their texts. On the other hand,
the 'boys' tune', the 'learning tune' of the ḥeder, and the tune for the study-
sessions in the synagogue indicate three different social functions. This lat-
ter criterion is of great importance because the Yemenites' attitude toward
all six tunes and, in fact, toward their entire repertory of traditional music,
is based largely on the social function of the music. According to the
Yemenites, the 'tôrah tune' and the 'šîrah tune' are "the most revered"
ones, whereas the 'targûm tune' is "the most simple" because it is usually
chanted by a boy, and also because its text is "only a translation". The
'boys' tune' and the 'learning tune' of the ḥeder are both "more revered"
than the 'targûm tune' because of their Hebrew text, but still they do not
reach the top of the hierarchy because they belong to the boys' repertory.
The 'learning tune' of the ḥeder, since it is not a part of the synagogal ser-
vice, is graded even lower than the 'boys' tune'. This is also the reason for
grading the tune of the study-sessions in the synagogue as "very simple",
although the text is in Hebrew, and although it is performed mainly by
adults.

This distinction between "simple" and "revered" tunes is applied also to
different performances of the same tune. A "revered" way of chanting con-
tributes to embellishing the tunes and, through this, the whole event
becomes "successful".

Equally, an adult should not sing "like a little boy", because "it is not
becoming"; in other words, it works against the social and aesthetical expec-
tations of the Yemenites. A rather strong reaction can be expected if a boy
should imitate the "adults' way of singing". Such a boy would be considered
impudent[7]. This distinction is expressed through specific musical features
which will be discussed below.

7. For a longer discussion of this question, see Sharvit 1980: 46.

2. THE YEMENITES' CONCEPT OF THEIR CANTILLATION SYSTEM

There are 28 different *ṭeʿamîm* some of which are placed above the letters, others below[8], generally one to each word. The *ṭeʿamîm* occur on the initial letter of the accentuated syllable[9] and they indicate the role of the word in the syntactic structure of the verse. (These functions do not apply to the *meteg* and therefore it will not be included in our discussion.) Most verses are divided into two major clauses, each of which may be subdivided into two or more sub-clauses. The points of division between these clauses are indicated by disjunctive *ṭeʿamîm*, placed above (or below) the last word of a clause, whereas the other words of the clause are provided with conjunctive *ṭeʿamîm*. The disjunctive *ṭeʿamîm* are divided into three types according to their syntactic function. (1) The end-of-verse is indicated by the *söf pàsug*, and the main division of the verse into two major parts is indicated by the *'atnàḥà*; these two *ṭeʿamîm* are first-degree disjunctives. (2) The sub-division of each of the two major parts of the verse, is indicated by a second-degree disjunctive. (3) The further division of a clause into sub-clauses is indicated by a third-degree disjunctive.

Thus we have four types of *ṭeʿamîm*, named by the Yemenites as follows:

a. *Mölik̲*   (lit. "moving")
            conjunctive;
b. *Mafsig*   (lit. "pausing")
            disjunctive (3rd degree, not strong);
c. *Maʿămid̲*   (lit. "standing")
            disjunctive (2nd degree, stronger);
d. *Söf pàsug*

            (lit. "end of verse") and *'atnàḥà*
            (lit. "a rest")
            disjunctive (1st degree, the strongest).

The following is the Yemenite grouping of the *ṭeʿamîm* into these four types: The first type, *mölik̲*, includes nine different symbols:

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8.   Two exceptional symbols are the *maqqaf* (or *magaf*) and the *pesîq* (or *pàseg*) which are placed between the words.

9.   Since the final syllable of a word is usually the stressed one, most of the words have only one *ṭaʿam*, which occurs on this syllable. In a word whose penultimate syllable is stressed ("*milʿêl*"), most of the symbols would appear on that syllable. There are five symbols (see below, notes 10-13) that appear twice: first, on the stressed syllable and secondly, on the final one. In such a case, one of these five symbols, the *fišṭa*, is named by the Yemenites *tàren fišṭin*. Thus they speak of 29 rather than 28 different symbols.

šöfår höleḵ ($\overline{}$),   *šöfår håfuḵ* ($\overline{}$),   *tilšå såmöl* ($\overline{}$)[10],
dirğå ($\overline{}$),   *magaf* ($\overline{}$),   *ma'åråḵå* ($\overline{}$),
tåre ṭaᶜåme ($\overline{}$),   *'åzel* ($\overline{}$), and *yaraḥ ban-yömö* ($\overline{}$).

The second type, *mafsig*, includes seven different symbols:
zirgå ($\overset{\frown}{}$)[11],   *ṭifḥå* ($\overline{}$),   *yåṭiv mugdåm* ($\overline{}$)
påseg ($\vdash$),   *fišṭå* ($\overline{}$),   *šalšalaṯ* ($\overline{}$),
and *tåren fišṭin* ($\overline{} - \overline{}$).

The third type, *maᶜåmiḏ*, includes eight different symbols:
zågef ğåḏöl ($\overline{}$),   *zågef gåṭån* ($\overline{}$),   *såḡulåṯå* ($\overline{}$)[12],
påzer ($\overline{}$),   *garne fårå* ($\overline{}$),   *råbiyaᶜ* ($\overline{}$),
tåbir ($\overline{}$),   and *tilšå yåmin* ($\overline{}$)[13].

The fourth type, which is considered the strongest *maᶜåmiḏ*, includes the two symbols mentioned above:
söf påsug ($\overline{}$), and *'atnåḥå* ($\overline{}$).

'atnåḥå sometimes serves as a second-degree disjunctive rather than a first degree.

Three more symbols, *'åzel wö-'åte* ($\overset{\frown}{}$),   *'åte* ($\overline{}$), and *tåren ṭirsin* ($\overline{}$), are considered *maᶜåmiḏim* (second-degree disjunctives) except when they are followed by the cantillation *råbiyaᶜ*. In that case, they become *mafsigim* (third-degree disjunctives).

According to the Yemenites, the two first-degree disjunctives, *söf påsug* and *'atnåḥå*, which are considered the strongest *maᶜåmiḏim*, reflect the strongest "power of closure" (=*köaḥ ha-hafseg*) in a verse; the *'atnåḥå* closes the first part of a verse, and the *söf påsug* closes the whole verse. Consequently, the second-degree disjunctives are considered *maᶜåmiḏim* of less strength since they end the clauses, thus reflecting a lesser "power of closure", and the third-degree disjunctives are considered only *mafsigim* since they end the sub-clauses, thus reflecting the least "power of closure" in a verse. The following is an example of a printed biblical verse (Numbers 1: 1) divided into clauses and sub-clauses according to the syntactic hierarchy of the cantillations. This division is common to all Jewish communities whereas the names of the *ṭeᶜamîm* and their syntactic function are used solely by the Yemenites[14].

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10. This is one of the five *ṭeᶜamîm* which appear twice on a "*milᶜêl*" word. See above, note 9.
11. See note 10.
12. See note 10.
13. See note 10.
14. Regarding the syntactic function of the *ṭeᶜamîm*, see also Bayer (1971), Breuer (1958), Dotan (1971), Levi (1966), Ne'eman (1955), and Rosowsky (1957).

Table 1. THE SYNTACTIC DIVISION OF A VERSE
(reading right to left)

First example (reading right to left):

Clause:	C.							
Sub-clause:				S.C.		C.		
Hebrew text (vowelized):	מַ֣עַל	בָּאֵ֣ל	ס֫וּף	בַּמֶּרְכָּ֣ב	הַשֶּׁ֥ה	אֵ֭ל 15	אֵ֣ד	וַיֵּ֥ד
Cantillations:	˅	˄	˅	˅	˄	˄	˅	˄
Yemenite names of the symbols:	ʾatnāḥā	Šôfār hôlek	Tifḥa	Maʿarāḵā	Tabir	Magaf	Dirǧa	ʾazel
Yemenite Title:	Maʿamid	Môlik	Mafsig	Môlik	Maʿamid	Môlik	Môlik	Môlik
typology / Function:	Disjunctive of 1st degree	Conjunctive	Disjunctive of special degree	Conjunctive	Disjunctive of 2nd degree	Conjunctive	Conjunctive	Conjunctive

Second example (reading right to left):

Clause:	C.				C.	S.C.	C.		S.C.	
Sub-clause:										
Hebrew text (vowelized):	לֵאמֹ֣ר	מֵהֶ֣ם	מֵאָרֶ֣ץ	לְאָדָ֣ם	הַשֶּׁ֣רֶת	אֲשֶׁ֣ר	אֲ֣תֶ	לְחֻ֣שׁ	אֶ֣חַ	אֹ֣דֶף
Cantillations:	ˈ	˅	˅	˅	˅	˅	˅	˅	˅	˅
Yemenite names of the symbols:	Sôf pāsug	Tifḥa	Maʿarāḵā	Tabir	Rabiyaᶜ	Šôfār hôlek	ʾate	Môlik	ʾazel	Tilišā samōl
Yemenite Title:	Maʿamid	Mafsig	Môlik	Maʿamid	Maʿamid	Môlik	Mafsig		Môlik	Môlik
typology / Function:	Disjunctive of 1st degree	Disjunctive of special degree	Conjunctive	Disjunctive of special degree	Disjunctive of 2nd degree	Conjunctive	Disjunctive of 3rd degree	Conjunctive	Conjunctive	Conjunctive

15. God's name, written as YHWH, is always pronounced *Adônay*.

3. THE FORMAL PRINCIPLES OF THE SIX PENTATEUCH TUNES

One of the traditional features common to the Pentateuch tunes of many Jewish Communities, is that every *ṭaᶜam* has a fixed musical motive. The Yemenites, however, deviate from this norm in that they have fixed motives not to a single *ṭaᶜam* but rather to a syntactic function which may be indicated by several *ṭeᶜamîm*. Thus, different *ṭeᶜamîm* may be chanted according to the same motive when they indicate the same syntactic function. The primary principle, then, is that each one of the six tunes mentioned above reflects the syntactic structure of the verses through special fixed moptives, or "movements"[16], eahc of whic is chanted on the last stressed syllable of the final word of a clause. Most of the verses consist of at least three such movements: (a) the final movement of the tune, chanted on the last word of the final clause; (b) the movement which designates the final word of the penultimate clause; and (c) the opening movement, which expresses the first clause of the verse. In the following discussion, 'F' will indicate the final movement and 'Y', the opening one. The penultimate movement, which "heralds the coming end-of-verse" as the Yemenites say, will be indicated as 'H'.

When a verse consists of more than three clauses, its tune may be expanded by repeating the opening movement 'Y' several times depending on the number of clauses preceding the penultimate one. This principle of "backwards-development" also characterizes the individual clauses. When a clause is further divided into sub-clauses, the opening sub-clause gets the new movement, 'X', whereas the regular movement ('Y', 'H', or 'F') designates the final sub-clause. A typical musical phrase of a simple tune can be described as follows:

$$(X) \ Y, \ (X) \ Y, \ \dots (X) \ Y, \ (X) \ H, \ (X) \ F \ .$$

The three movements 'X', 'Y', and 'F' express the syntactic functions of the three types of disjunctive mentioned above: 'X', which indicates a sub-clause, expresses a third-degree power-of-closure (*mafsig*); 'Y', which indicates a clause, expresses a second-degree power-of-closure (*maᶜămiḏ*); and 'F', which indicates a final clause, expresses a closing power of the first degree. Movement 'H' is exceptional in that it does not express any degree

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16.   I have adopted the term "movement" suggested by A.Z. Idelsohn in his book mentioned above. It seems to me that the term successfully reflects the fact that the importance of this musical motive lies not in the absolute pitch of its tones, nor in fixing exact intervals between the tones, but rather in the direction of the melody's "movement" and the rhythmic patterning of its final tones.

of disjunctive. Its function is rather to establish the overall form of the entire verse through "heralding" the coming 'F'. Hence, its special musical realization of the penultimate symbol of the *maʿămiḏ* type, which is different from the regular 'Y' movement of the other *maʿămiḏim* in the verse. The Yemenites call it *kisra* (= "broken" in Arabic) because it "breaks the fluency of the verse", as they say.

Three tunes, namely, the *'targûm'*, the *'šîrah'*, and the tune of the learning sessions, are considered "simple" ones because even their most complicated version is structured on the basis of no more than the above four movements. The other three tunes, namely, the two tunes of the *ḥeder* and the *'tôrah* tune', are considered "more complicated" since they are divided into two complete musical units each of which is based on an opening movement 'Y' and a final movement 'F'. The first 'F', which ends the first unit, designates the symbol *'atnăḥâ*, whereas the final 'F' designates the *sôf pâsug*. Both of these ultimate disjunctive symbols of each syntactical part of a verse, are preceded by the same symbol, *ṭifḥâ* (‑ᴛ‑), which is the penultimate disjunctive of each part. Although *ṭifḥâ* belongs to the *mafsig* type, it has two kinds of new musical movements, 'P' and 'P₁', which are different from 'X', the regular movement of the *mafsigim*. 'P' (= "Penultimate"), which is the realization of *ṭifḥâ* preceding *'atnăḥâ*, functions as "heralding" the end of part I of the verse, and 'P₁', which is the realization of *ṭifḥâ* preceding *sôf pâsug*, functions as an additional "heralding" movement (following movement 'H') which precedes the end of the final part of the verse. Thus, by the appearance of 'P' before 'F', the musical phrase gets its meaning as the opening part of the tune, and by the appearance of 'H' followed by 'P₁', the musical phrase gets its meaning as the closing part. A typical structure of such a tune can be described as follows: (X) Y, (X) Y, ... (X) Y, P, F;
(X) Y, (X) Y, ... (X) Y, (X) H, P₁, F.

The basic structure of this two-part musical phrase is further emphasized by the technique of cheironomy which is widely known among the Yemenite communities in Israel. This phenomenon may be observed during the synagogal services when the performer of the Pentateuch recitation does not remember the cantillation symbols of the text[17]. When this happens, he is helped by a person who stands on his left, who, looking at a printed Bible

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17.   The Yemenites follow the ancient custom common to all Jewish communities of reciting the Pentateuch at public services from a parchment scroll. The scroll does not contain vowels, punctuation signs or *ṭeʿamîm*.

showing the *ṭeᶜamîm*, moves his right hand in a certain manner, using a little pointer or his index finger. This technique includes five different hand-motions, four of which indicate the four basic musical movements; (1) the raising of the pointer (or the finger) together with a clockwise turn of the hand indicates a *mafsig*, i.e. a third-degree disjunctive ('X'); (2) the lowering of the pointer together with the turn-back of the hand indicates a *maᶜămiḏ*, i.e. a second-degree disjunctive ('Y'); (3) the repetitive motion of lowering the pointer or the shaking of the pointer in a downward direction indicates the symbol *'atnàḥà*, i.e. the first-degree disjunctive ('F'); and (4) the rightward motion of the pointer together with a counter-clockwise turn of the hand indicates the *kisra* ('H'), i.e. the penultimate *maᶜămiḏ* in the verse. Thus, in a verse whose *'atnàḥà* is the penultimate *maᶜămiḏ*, it would be indicated not by the third hand-motion but by the fourth one.
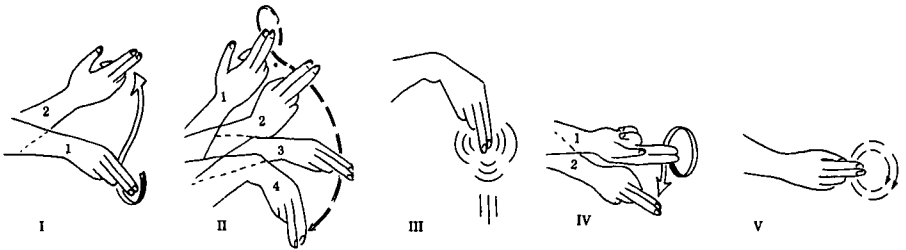
The aim of these four motions is, therefore, to indicate the structural function of the four main movements of the musical phrase. Hence there is no need for a special indication for the movement of *sŏf pàsug*, because its chanting is 'assured' through the indication of its preceding *kisra*. A fifth hand-motion (5), whose aim is rather to describe the character of a particular movement, consists of a clockwise roll of the pointer. This is the description of the "trilled" (*mesulsal*) movement of the symbol *zirgă*, the only one which indicates a melodic contour rather than a structural or a syntactical function[18].

The term 'trill' (*silsûl*) is the Yemenite expression of one of the musical features characterizing a "revered" tune or a "revered" way of chanting.

18.   A different cheironomy system, used by the Italian community in Rome, is mentioned in Adler, 1981.

Another such system is described in *Maḥberet hat-tigăn*, published (Paris, 1876) from an anonymous fourteenth century manuscript. The description of nine movements indicating nine *ṭeᶜamîm* is followed by the phrase "and thus similarly for all the accents and servants" (p. 416). This reflects a tradition according to which every *ṭaᶜam* had a particular tune, as is explicitly stated on p. 383. Although Yemenites today do not follow this tradition, one remark regarding the hand-movement for the *tăbir* may hint at some connection: "[the *tăbir*] turns the hand and breaks the word" (p. 380). Such a gesture exists today among the Yemenites to mark the *kisra*, which "breaks the fluency of the verse" as I have already indicated.

This conceptual characterization, together with that concerning the number of different movements, will provide our basis for the following tune analyses.

4. THE MUSIC

The Yemenite division of tunes into "simple" and "revered" implies a musical hierarchy in which the more embellished the tune, the higher its position in the hierarchy. It is important, therefore, to analyze the tunes in their hierarchical order, from the simplest tune to the most elaborate one.

THE 'TARGÛM TUNE'

The *targûm* is now printed without cantillation symbols; only a dot separates one verse from the other, and a comma one clause from the other. Therefore the tune expresses the division of this translated verse with respect to its syntax and not with respect to the cantillation symbols of its parallel Hebrew verse. Following is the tune of the Aramaic translation of our sample verse (Numbers 1, 1).

Ex. 1 [19]   The '*targûm* tune' (Yc 750)

19.   The musical transcriptions in this study are not statistical summations of any number of recorded variants, nor perfect descriptions of any particular one. Rather, they represent typical versions of the tunes, recognized as such by the Yemenites who listened to several versions of each tune. The rhythmic values represent the actual rhythmic relationships in performance, so that Yemenite concepts of rhythm and form can be perceived in these examples.

We can describe the tune thus:[20]
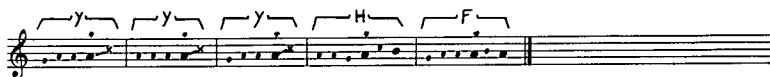
Every asterisk indicates an accented tone starting a group of tones on which the last stressed syllable of the word is sung. This group, which is fixed in terms of melodic contour and rhythmic relationships of its tones, is named $^c\check{a}mid\mathring{a}$[21] (= "standing") because "the tune stands for a while at that point" as the Yemenites say. The formal organization of the movements is based on the following three principles: (a) The musical realization of a clause is on the last stressed syllable of the final word; (b) the final movement of the tune, 'F', is preceded by a "heralding" one, 'H'; and (c) the opening movement, 'Y' is repeated several times depending on the number of clauses preceding the penultimate one.

A typical structure of the '*targûm* tune' can be described thus:

Y, Y, ... Y, H, F.

THE '*ŠÎRAH* TUNE'

The following example is a typical boys' version of the tune as chanted in the *ḥeder* on a verse from the Song of the Sea (Exodus 15, 16).

Ex. 2   The '*šîrah* tune' — boys' version (Yc 742)

20.   The large-size heads indicate longer duration of those tones in comparison with the tones indicated by small-size heads.

21.   This word, together with the word *ma^{c}ămiḏ* mentioned above, are two verbal nouns derived from the same root ^{c}*md* עמד.

Like the verses of the *targûm*, here, too, every verse is a complete musical unit. Here this is so since the symbol *'atnàḥà* designates a second-degree *maʿămiḏ* rather than a first-degree disjunctive, thus avoiding the division of the verse into two parts. The final movement, 'F', is the musical realization of the symbol *söf pâsug*, and it is considered the strongest *maʿămiḏ* (i.e. primary disjunctive) in the verse. The "heralding" movement 'H' designates the penultimate symbol of the *maʿămiḏ* type in the verse (=the *kisra*), movement 'Y' designates all the other symbols of the *maʿămiḏ* type, movement 'X' designates all the symbols of the *mafsig* type including the *ṭifḥà*, and movement 'X₁' is the musical realization of the *mafsig* symbol immediately preceding the *kisra*.

A typical structure of the '*šîrah* boys' tune' can be described thus:

(X) Y, (X) Y, ...(X) Y, (X₁) H, (X) F.

The above version is performed by the boys in the *ḥeder* and also by the whole congregation in the synagogue during a learning session, an event which will be discussed further on. At this point it is important to mention that, on both occasions, it very often happens that the singing becomes slower, very rhythmic, and develops into a two-part "organum"-like texture of parallel fourths or fifths.

The first of the following two examples demonstrates the adults' version of the '*šîrah* tune' as it is chanted in our sample verse (Exodus 15, 16). The second example demonstrates the Aramaic translation to this Hebrew verse as recited by a boy in the same '*šîrah* tune' but in a "simple way".

Ex. 3   The '*šîrah* tune'—adults' version (Yc 742)

Ex. 4   the '*šîrah* tune'—*targûm* version (Yc 742)

/ Y \

תִּפּוֹל עֲלֵיהוֹן אֵימְתָא וְדַחְלְתָא.

/ Y \

בִּסְגֵּי תּוּקְפָּה יִשְׁתְּקוּן כְּאַבְנָא.

/ H \

עַד דְּיַעְבַּר עַמָּךְ אֲדֹנָי יָת אַרְנוֹנָא.

/ Y \

עַד דְּיַעְבַּר עַמָּא דְנָן דִּפְרַקְתָּא יָת יַרְדְּנָא.

According to the Yemenites, these two versions, together with the *šîrah* version of the *ḥeder* described above, are considered the same tune. The following is a schematic description of the three versions of the '*šîrah* tune'.

There is, however, an intentional distinction between the adults' version and the two boys' versions. The former is considered the "most esteemed", and "more beautiful" than the other two boys' versions, whereas the *targûm* version is considered the "most simple one". This differentiation is the result of three features.

The first feature consists of "lengthening the *ᶜămiḏâ*-s by adding trills", as the Yemenites say. This process is expressed through applying the complete melodic pattern of a movement to a single syllable, and also through augmenting a movement by repeating one or more of its tones prior to the final one. These two ways, which can be seen when we compare movements 'Y', 'H', and 'F' of the adults' version with the parallel movements of the other two versions, are important factors in structuring the whole musical phrase. The adult can expand the 'F' over the other *maᶜămiḏim* of the tune by adding longer 'trills', thus indicating the end-of-verse. Boys, on the other hand, since they do not use this technique in order not to be impu-

dent, have only the "heralding" movements 'X₁', and 'H' to indicate the coming end-of-verse.

Another way which expresses the process of "lengthening the ʿǎmiḏà" is the creation of melodic fluency. This phenomenon, which occurs in all 'X' movements of the adults' version, consists of replacing the final, long-duration, tone of the parallel 'X'-s of the boys' versions by two tones of short duration. The second feature is the number of different movements. In the *targûm* version, since the printed text does not divide the clauses into sub-clauses, there are only two movements ('Y' and 'H'). In the boys' version of the Hebrew text, according to which the verse is divided into sub-clauses, there are four movements ('X', 'Y', 'X₁', and 'H'). In the adults' version, there are five movements ('X', 'Y', 'X₁', 'H', and 'F') because, unlike the boys' versions whose closing movement is similar to its 'Y'-s, here, as indicated above, 'F' is different from the 'Y'-s in that it is more "trilled".

The third feature is the slow tempo which marks the distinction between the "esteemed" version of the adults and the "simple" *targûm* with its characteristic fast tempo.

THE TUNE FOR THE STUDY-SESSIONS IN THE SYNAGOGUE

The following is the tune used by adults in study sessions, which are of course not part of synagogal services. The verses are recited from books (not from the scroll) by the entire group.

Ex. 5   The tune for the study-sessions in the synagogue (Yc 750)

וַיְדַבֵּר אֲדֹנָי אֶל־מֹשֶׁה בְּמִדְבַּר סִינַי בְּאֹהֶל מוֹעֵד

בְּאֶחָד לַחֹדֶשׁ הַשֵּׁנִי בַּשָּׁנָה הַשֵּׁנִית לְצֵאתָם

מֵאֶרֶץ מִצְרַיִם לֵאמֹר.

The schematic description of this tune, when applied to our sample verse (Numbers 1, 1), is as follows:

Like the tunes of the *targûm* and the *šîrah*, here, too, every verse is chanted as a complete musical unit. As in the '*šîrah* tune', here too the symbol *'atnàḥà* designates a regular *maʿămid* (secondary disjunctive). The melodic line of the final movement of this tune is identical to the melodic line of the movement of the rest of the *maʿămidim*, that is, all the 'Y' movements in the verse. The only difference between them is the length of the *ʿămidà* of 'F' compared to the short ones of all 'Y' movements. This fact, together with the appearance of the particular movement 'H', gives the 'F' its cadential strength and, therefore, its meaning as the closing movement.

The tune is considered "simple" because "it is not much trilled and it is chanted very fast", the Yemenites claim. Another feature which might add to the feeling of simplicity is the fact that it consists of only four movements: 'F', the closing one; 'X', which is common to all symbols of the *mafsig* type including the *tifḥà*; 'H', the penultimate *maʿămid* in the verse; and 'Y', which is common to all the rest of the symbols of the *maʿămid* type. It is important to point out the organum-like singing which very often occurs during the congregational singing, a phenomenon which has been mentioned in connection with the '*šîrah* tune'. Here, too, the congregational singing is very rhythmic, and much slower than the solo chanting.

THE 'LEARNING TUNE'

The following is an example of the tune as recited in the sample verse (Numbers 1, 1).

Ex. 6   The 'learning tune' (Yc 630)

way-da-ber 'ă- dö-năy 'al mö- ša_____ bă-mid- bar si-nay bă- 'ö- hal mö- ʿe-____ d

bă- 'a-ḥăd la- ḥö- daš ha- še- ni ba- šă- nă ha- še- ni- t

lă-șe- ṭăm me- 'a- raș miș-ra- yim le- mö-____ r

The musical realization of both *'atnăḥă* and *söf păsug* is indicated above as 'F'. The opening clause of the first part of the verse ends with the word whose symbol is ᴖ, the *tăbir,* and the opening clause of the second part ends with the word whose *taʿam* is ᴖ, the *răbiyaᶜ*. Both symbols are of the *maʿămid* type (secondary disjunctive), whose musical realization is indicated above as 'Y'. It has been mentioned that every such clause may be further divided into sub-clauses whose final words are designated by cantillations of the *mafsig* type (third-degree disjunctive). In our example, this type comprises the symbol *'ăte* (ᴖ)[22] in the second part of the verse, whose musical realization is indicated as 'X'. 'H' comprises the symbol *tăbir,* 'P' is the realization of *ṭifḥă* preceding *'atnăḥă,* and 'P₁' is the realization of *ṭifḥă* preceding *söf păsug*. The *mölik* type (conjunctive) comprises, in our example, the symbols *'ăzel* (ᴖ), *tilšă sămöl* (ᴖ), *dirğă* (ᴖ), *ma'araḳa* (ᴖ), and *šöfăr hölek* (ᴖ). Each of these *teᶜamîm,* which indicates a word included within a clause or within a sub-clause, does not have any power of closure. Its function is, rather, to attach the accented word to a closest following word accented by a disjunctive *taᶜam*. The tune and its division into the eight movements can be described thus:

22.   This is an example of *'ăte* coming before *răbiyaᶜ,* a case in which *'ăte* turns to be a *mafsig* type instead of *maᶜămid*.

It must be added that, in this tune, the opening movement 'Y' may be repeated several times depending on the number of clauses preceding the final clause ('F') in the first part or the penultimate clause ('H') in the second part.

A typical structure of the 'learning tune' can be described as follows:

(X) Y, (X) Y, ... (X) Y, P, F;
(X) Y, (X) Y, ... (X) Y, (X) H, P₁, F.

THE 'BOYS' TUNE'

Our sample verse (Numbers 1, 1) will also allow us to demonstrate this tune through the following example which presents two possible variants:

Ex. 7   The 'boys' tune' (Yc 750)

For the Yemenites, the two variants are identical. Indeed, the similarity between the variants is very clear when we compare the melodic contour of the most important movements in the verse, namely, 'M' and 'F'. But even the seeming difference in melodic contour between the other parallel movements of the variants is, practically, ignored by the Yemenites. They comment that, since the ʿᵃmiḏᵃ-s of the parallel movements are chanted on the same syllable and are similar in their melodic contour (like 'P' and 'H') or in
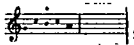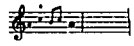
their relative duration (like 'Y' and 'P₁'), the other differentiating features "have no importance".

For the purpose of comparison between the above 'learning tune' and this tune, the first variant of the latter will serve as the representative case, because the similarity between the 'learning tune' and this variant will sharpen the most meaningful features that differentiate between the two tunes.

The schematic description of the first variant is as follows:

In general, the tunes are similar in their division into eight movements and in the syntactical function of these movements. But the main difference between the tunes lies in the structure of movements 'X', 'P' and 'P₁'. In the 'learning tune', each one of these movements was identified as a "disjunctive" of a fixed melodic contour whose distinctive feature was its final, lengthy tone. In the 'boys' tune', however, these three movements do not end with fixed single tones. Rather, they are chanted as "conjunctive" movements of a flexible melodic contour, attached to the following 'Y' or to other movements of the disjunctive type. As a result, while maintaining the lengthy duration of the ʿămiḏă, thus giving it a distinctive power-of-closure, the performers, by avoiding a single final tone of lengthy duration, create a melodic fluency through the movements.

The Yemenites are aware of this differentiating feature, and they see the 'boys' tune' as more "trilled" than the 'learning tune'. Regarding the 'atnăḥă and the söf păsug, there is also an interesting difference between these two tunes. Unlike the 'learning tune', whose final movement is the same for both 'atnăḥă and söf păsug, the 'boys' tune' differs between the two symbols. The musical realization of 'atnăḥă, , is similar to movement 'F' of the 'learning tune', but that of söf păsug, , is a new movement. Thus, the 'familiar' final movement marks the completion of the first part of the verse, and the new movement marks not only the end of the second part of the verse, but also the completion of the entire verse. The new 'F', then, becomes the strongest disjunctive in the verse, while the old 'F', sung on 'atnăḥă, becomes a 'mediant' (='M') movement, and a disjunctive secondary to 'F'. As such, 'M' joins the three "heralding" movements 'P', 'H', and 'P₁' in their function as the establishers of the overall structure of the complete musical unit of the 'boys' tune'.

A typical structure of the 'boys' tune' can be described as follows:

(X) Y, (X) Y, … (X) Y, P, M;

(X) Y, (X) Y, … (X) Y, (X) H, P_1, F.

An important feature of both 'learning tune' and 'boys' tune' is the possibility of changing their formal organization, depending on the syntax of the verse. This phenomenon can be exemplified by a short verse (Numbers 1,51) whose second part consists only of the disjunctives *ṭifḥå* and *sȯf påsug*. In such a case, the necessity of having a complete musical unit expressed by the succession of movements 'H', 'P', and 'F' is stronger than the need to express the division of the verse into two parts through the realization of *'atnåḥå* as 'M' in the 'boys' tune' or as 'F' in the 'learning tune'. The following three examples are transcriptions of parts of a recording made during a learning session, in which the above-mentioned verse (Numbers 1,51) was studied. As customary in such sessions, the verse stated by the teacher (Ex. 8), repeated by a group of boys (Ex. 9), and repeated again by one boy (Ex. 10), was sung each time as a single musical unit.

Ex. 8   (YC 631)

Ex. 9   (Yc 631)

Ex. 10   (Yc 631)

A boy:

ʾu-vin- sŏ- waʿ ha- miš- kå-_____n   yŏ- ri- ḏu ʾŏ- ṭŏ   hal-wi- yi-   m

ʾu- va- ḥă- nö- ṯ ha- miš- kå-   n

yă- gi- mu ʾŏ- ṭŏ   hal- wi- yi- m   wă- ha-zăr ha- gå- re- v   yu- må-_____ṯ

וּבִנְסֹעַ הַמִּשְׁכָּן יוֹרִידוּ אֹתוֹ הַלְוִיִּם וּבַחֲנֹת הַמִּשְׁכָּן

יָקִימוּ אֹתוֹ הַלְוִיִּם וְהַזָּר הַקָּרֵב יוּמָת.

As can be seen in the transcription of the latter variant (Ex. 10), the *ʾat-nåḥå* is realized as a *kisra*, namely, the last *maⁿămiḏ* before *söf påsug*. As such, it is sung as the "heralding" movement 'H'. The following is a schematic description of that variant:

These three melodies (Ex. 8-10) are considered by the Yemenites as three versions of the same tune. The difference in pitch between the versions does not have any conceptual meaning for the Yemenites, although they do comment that boys "naturally have thin voices". The melodic embellishments and the special rhythmic patterning of the *möri*'s version (Ex. 8) are considered "lengthening the *ⁿămiḏå* points" by filling them out with "'trills' which turn the tune into a more revered one". Thus, the tune as chanted by the boys (Ex. 9) is considered "the least enriched", the solo performance (Ex. 10) is "more enriched", and the *möri*'s version (Ex. 8) is considered "the most enriched one". Regarding the organum-like sonority and the slow tempo of the boys' chanting (Ex. 9), the Yemenites comment that "this is the way a coherent group of boys should sing; slowly and together". Another result of an elevated and enthusiastic atmosphere is the unconscious process of a gradual rise in the general pitch in the course of singing.

Through acquiring both the 'boys' tune' and the 'learning tune', the boys in the *ḥeder* become acquainted with four main principles of Jewish Yemenite traditional music:

1) The structure of a verse as well as of a musical unit is recognized through hierarchical arrangement of different musical movements which function as disjunctives of varying power-of-closure.

2) The distinctive and meaningful feature of a musical unit of any size is its final part. Consequently, the formal development of a musical unit is achieved by inserting additional material in the opening part, while keeping the final one unchanged. The development may proceed within a small unit (the singer may embellish the syllables preceding any disjunctive point); a large unit (the singer may add 'X' movements before concluding with a 'Y' movement); and a still larger unit (he may add complete 'X-Y' movements before any 'H' movement).

3) In general, a tune can be "more beautiful" when it is performed by a group in a two-part "organum" or when there is a constant process of a gradual rising of pitch[23]. Both phenomena occur unintentionally when, in the course of the chant, the participants work themselves into ecstasy.

4) The tune is evaluated as "simple" and, therefore, "childish" or even "inferior", when its movements are chanted in accurate diatonic steps, creating a melodic line whose range reaches the interval of a fifth, and the tones are of fixed time-value. On the other hand, a "revered" way of singing is based on a melodic line of narrower range consisting of micro-intervallic steps, on tones of unfixed rhythm, on slow temporal lingering of the syllables, and on a process of creating melodic fluency through performing 'trills'. The latter are produced by filling out the disjunctive points (pauses as well as tones of long duration) with two or three successive tones of short duration, or with rapid alternation of the final tone with the approximate minor second below or above it.

Through practising the musical realization of biblical *teᶜamîm*, the boys in the *ḥeder* learn not only the traditional principles of Jewish Yemenite music, but also the broader connection between music and other Yemenite cultural features. This connection is expressed through the distinction of certain biblical texts and also through the differentiation between the status of boys and that of adults.

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23. Idelsohn mentions this latter phenomenon without realizing its broader function (Idelsohn 1913 [1925]: 18).

THE *'TÔRAH TUNE'*

It has already been mentioned that, according to the Yemenites, both Shabbat and weekday recitations are chanted "in the same *'tôrah* tune'". On Shabbat, however, the tune is "more revered" than the "simple" one sung on weekdays. The following example demonstrates these two versions according to which our sample verse is chanted.

Ex. 11 (Yc 750)

Both versions of this tune can be described schematically thus:

"Revered": [musical notation with labels Y, P, F]

"Simple": [musical notation]

"R": [musical notation with labels X, Y, H, P₁, P, F]

"S": [musical notation with labels X, Y, H, P₁, P, F]

The similarity between this tune and the 'learning tune' and 'boys' tune' is expressed through their general form as well as through the syntactical function of their movements.
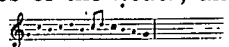
An interesting difference between the tunes of the *ḥeder* and the *'tôrah tune'* concerns the realization of the *kisra* ('H'). Its melodic contour, which resembles that of 'Y' in the tunes of the *ḥeder*, turns into a kind of diminished 'F' in the *'tôrah* tune'. The reason for this may be that in the *ḥeder*, emphasis is placed on the basic elements of the syntactical divisions, and the fact that 'H' is also a penultimate symbol is not stressed, out of pedagogical considerations. Therefore 'H' resembles the rest of the *maʿămiḏim*, i.e. the 'Y' movements. On the other hand, adults, who are able to broaden the scope, stress the overall form of the verse through expressing 'H' not only as a special disjunctive, but also as a musical preparation for the coming 'F'. There are two other factors in this process of emphasizing the overall form of the verse. The first one concerns the melodic resemblance of 'P₁' to 'H' and, therefore, to 'F'. The result is a coherent final group of movements, which further emphasizes the strength of 'F' as a cadential point. The second factor is the rhythmic fluency of 'P₁' towards 'F' and of 'X' toward the following *maʿămiḏim*. Thus, the *'tôrah* tune' continues the same process which started with the 'boys' tune', namely, the expression of the 'conjunctive' meaning of these *mafsigim* through inserting "more 'trills'" or through "lengthening the ʿ*ămiḏâ*" as the Yemenites say. But the adult performer does not limit himself to the rhythmic fluency of these two movements. Rather, he tries to "enrich" all of the movements by lengthening

their ʿămiḏà-s. Indeed, in both versions of the 'tôrah tune', the ʿămiḏà-s
are much richer in tones and wider in range than the ʿămiḏà-s of the ḥeder
tunes. Consequently, the Yemenites call the various ʿămiḏà-s of the 'tôrah
tune' "adults' 'trills'", a musical term by which they differentiate between a
"simple tune" and a "more revered" one, as we have already mentioned
regarding the 'šîrah tune'. This distinction can clearly be seen in movement
'Y', for instance, where its ʿămiḏà in both tunes opens and closes on the
same tone, 'c'. In the tunes of the ḥeder, the ʿămiḏà-s consist of three tones;
in the "simple" version of the 'tôrah tune' the ʿămiḏà-s consist of 4-5 tones;
and in the "revered" version, they consist of 6-8 tones. The range of both of
the latter versions is approximately a third, whereas the range of the tunes
of the ḥeder is a second. Finally, while in the tunes of the ḥeder, only the
final tone is of a lengthy duration, in the "simple" 'tôrah tune', both the first
and the final tones of the ʿămiḏà are lengthy and, in the "revered" version,
a third tone becomes lengthy.

The same thing can be traced in examining movement 'F' whose ʿămiḏà,
in the tunes of the ḥeder, consists of 3-4 tones, the range of which is a minor
third, and only the final tone is of lengthy duration. In the 'tôrah tune', the
ʿămiḏà of 'F' consists of 6-14 tones ranging approximately a fifth, with two
or three tones of lengthy duration.

The 'tôrah tune', then, is not only a developed version of the tunes
learned in the ḥeder, but also an advanced level of musical achievement
which follows the cultural concept of the Yenenites, and which expresses the
meaning of two socio-cultural features: the status of adults versus that of
boys, and the importance of the Shabbat versus that of weekdays.

Before reaching our conclusions, we should mention the ṭaʿam zirgà
which is unique among the 28 (29) cantillation symbols. Syntactically, it
functions as a *mafsig* (third-degree disjunctive) preceding its fixed maʿămiḏ
(second-degree disjunctive), namely, the symbol săḡulàṭà. Musically,
however, the *zirgà* has a special "trilled" movement, , which is
also common to the tunes of the ḥeder, and which can be performed in a
more "revered" variant: . In the other tunes mentioned
above, the zirgà is realized as an elongated *mafsig* of each particular tune.
This is the only case where the musical realization of a symbol functions as
an aesthetical feature rather than a syntactical one.

5. CONCLUSIONS

The following chart presents a schematic description of the above six

tunes, the classification of which follows the Yemenite grading of "simple" or "less enriched" versus "revered" or "more enriched" tunes. This grading is based on three musical phenomena: (a) the melodic and rhythmic structure of the movements; (b) the number of different movements and their syntactical function in a tune; and (c) the function of these movements in organizing the musical phrase.

(a) Considering the melodic and rhythmic structure of the movements, the chant demonstrates very clearly the Yemenites' conception that a tune "becomes more revered" through the performance of more 'trills', and through lengthening the $^c\breve{a}mi\underline{d}\dot{a}$-s of its *mafsigim* and *ma$^c\breve{a}mi\underline{d}im$*. An $^c\breve{a}mi\underline{d}\dot{a}$ becomes longer by increasing the number of its tones and also by lengthening the duration of some of them. Such augmentation is, usually, the result of repeating some of the tones of the movement, but very often, it is the result of applying the entire melodic pattern of the movement to a single syllable, the last stressed one of the clause. Such is the case with movements 'Y' and 'H' of the adults' version of the '*šîrah* tune', whose $^c\breve{a}mi\underline{d}\dot{a}$-s consist of the entire melodic pattern of 'Y' and 'H' of the boys' version.

Another way of turning a tune into a more "trilled" version is by adding one or two tones in order to heighten the ascending line of the opening part of the movement, thus widening its range.

Examining the 'Y' movements throughout the tunes, we can see that in the '*targûm* tune' (No. 1), the range is of an approximate second; in the three versions of the '*šîrah* tune' (2a, 2b, and 2c), it is of an approximate third; in tune No. 3, the range of 'Y' is a fourth; in the tunes of the *ḥeder* (4 and 5), it is a fifth; and in tunes 6a and 6b, it is a sixth.

The same phenomenon can be traced when we examine all the other movements of the tunes. Looking at the $^c\breve{a}mi\underline{d}\dot{a}$-s of 'Y', we have already mentioned the difference in the number of tones between the '*tôrah* tunes' and the tunes of the *ḥeder*. It is important to point out tunes 1 and 3, the most "simple" ones, whose 'Y' movements consist of a single-tone-$^c\breve{a}mi\underline{d}\dot{a}$. The same hierarchy can be seen in the 'Y' movements of the '*šîrah* tune', whose $^c\breve{a}mi\underline{d}\dot{a}$-s in versions 2a and 2b are sung on two tones, whereas in 2c, the adults' version, the $^c\breve{a}mi\underline{d}\dot{a}$-s of 'Y' consist of 5 tones. The same phenomenon can be found in the other two *ma$^c\breve{a}mi\underline{d}im$*, 'H' and 'F'. In the "revered" version of the '*tôrah* tune', the $^c\breve{a}mi\underline{d}\dot{a}$-s of 'H' and of 'F' consist of 8 and 14 tones respectively, and in the adults' version of the '*šîrah* tune', they consist of 7 and 6 tones respectively. In all other tunes, however, the

ʿamiḏā-s of 'H' and of 'F' consist of a lesser number of tones. The same process occurs with all of the *mafsigim*, but it stands out very clearly with the movement of 'P₁', whose ʿamiḏā consists of six tones in tune 6b, of three tones in tune 6a, of two tones in 5, and of one tone in 4.

1. The "targum tune":

2a. The "sirah tune"; targum version:

2b. The "sirah tune"; boys' version:

2c. The "sirah tune"; adults' version:

3. The tune of the study-sessions in the synagogue:

4. The "learning tune" in the ḥeder:

5. The "boys' tune" in the ḥeder:

6a. The "tôrah tune"; "simple" version:

6b. The "tôrah tune"; "revered" version:

A comparison between 'F' and 'Y' of the same tune, however, shows that, in tunes 1, 2c, and 3, 'F' is always an augmented 'Y'. This process, therefore, gives meaning not only to the hierarchy of the tunes, but also to the hierarchy of the movements within a tune. The hierarchy is also expressed in tunes 4, 5, 6a, and 6b, but through a different process. In tunes 4, and 5, 'F' applies the rhythmic pattern of the ʿamiḏā of 'Y' to the "completion of the melody", as the Yemenites say, i.e. to the descending part, up to the 'tonic' 'a'. In tune 6a, the intermediate 'F', which is an augmented 'Y', consists of the entire 'Y' and of an additional descending

part up to the 'tonic' 'a'. The final 'F' of the same tune, which is an augmentation of the intermediate 'F', applies the resulting extended melody to a single syllable, the last stressed one of the final clause. This same process also occurs in tune 6b, whose intermediate 'F' is an augmented 'Y', and whose final 'F' is the augmentation of the intermediate 'F'.

Another important factor which emphasizes the hierarchy of the movements within a tune is the melodic similarity between the *mafsigim* and the *maʕămidim*. In tunes 2 and 3, movements 'X' and 'X₁' consist of parts of 'Y'; in tunes 5, 6a, and 6b we also find a similarity between 'X' and 'Y'; and in tunes 4, 5 and the two versions of tune 6, there is also a conspicuous similarity between 'P' and 'Y'.

Regarding movements 'H' and 'P₁', their melodic similarity to the final 'F' is another factor which emphasizes their function as "herlading" the *söf påsug*.

It must be added that the Yemenites prefer to lengthen the *ʕămidå*-s not so much through widening the range of the movements, as through chanting long, rapid 'trills' of micro-intervallic steps while narrowing the range of the movements, as in Ex. 8. This preference is also expressed through the cheironomy system mentioned above, whose five motions are not indications of pitch but are rather descriptions of lengths of 'trills' and indications of syntactical functions.

The aesthetic principle common to the above ways of building musical phrases is that of accumulating similar segments, the smallest possible ones, into larger forms. Through this process, a tune becomes "enriched" and, therefore, "more important and revered".[24]

(b) Considering the syntactic function of the movements, we can recognize six degrees of musical "enrichment". The first (lowest) degree concerns the *targûm* version of the 'šîrah tune' (No. 2a). It consists of only

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24. We find this same principle in the fields of Yemenite embroidery, silversmith work and dance. The Yemenites claim that a dance becomes "revered" when it is performed by adults who know how to enrich their body movements beyond the basic patterns. An example regarding silversmith work can be found in the various pieces of jewellery described by Eilon 1976. The *labbeh* (fig. 5), a neck ornament worn on festive occasions, is much richer than the *maᶜanakeh* (fig. 6), which is intended for everyday use. This richness is made up of an accumulation of segments similar to those found in the *maᶜanakeh*.

Another example of this principle, regarding embroidery, can be seen in an article dealing with Yemenite dresses (Barᶜam 1979). A dress for everyday use (fig. 10) is very similar in its general outline to the dresses for festive occasions (fig. 4 and 6), but it is much less elaborated. The elaboration of the latter is based on filling in the empty spaces of the general outline with the same stitching patterns and forms that are used for the everyday dress.

two movements, 'Y' and 'H', which are the realization of the four main clauses. The second degree of enrichment concerns the '*targûm* tune' (No. 1). It also expresses the four main clauses which are realized here by three movements, 'Y', 'H', and 'F'. The third degree concerns the tune of the learning sessions (No. 3). It has, in addition to the above three basic movements, a fourth one, 'X', which is the realization of all the similar *t̥eʿamîm* of the *mafsig* type. This tune, then, emphasizes the difference between the clauses and the sub-clauses included in it. The fourth degree of enrichment concerns the boys' version of the '*šîrah* tune' (2b). It is similar to the tune of the learning sessions (No. 3) in that it consists not only of the basic movements 'Y' and 'H', but also of movement 'X' which marks the sub-clauses. On the other hand, the tune is also similar to the "less enriched" *targûm* version of the *šîrah* (2a) in that it lacks a special 'F'. But its uniqueness is expressed by its new movement, 'X₁', which is the realization of the symbol of the *mafsig* type immediately preceding 'H'.

This tune, then, is "more revered" than the previous one in that it distinguishes between the special sub-clauses of the "heralding" clause and the other sub-clauses in the verse. The fifth degree concerns the '*šîrah* tune' (No. 3c) which consists of all of the five movements, 'X', 'Y', 'X₁', 'H', and 'F'. The sixth degree of enrichment concerns tunes 4, 5 and 6, which do not have a special movement ('X₁') for the realization of the *mafsig* preceding 'H'[25], but, on the other hand, include, in addition to the four basic movements 'Y', 'H', 'F', and 'X', two new movements, 'P' and 'P₁'. 'P' is the realization of the symbol *t̥ifh̥à* which precedes the '*atnàh̥à*, and 'P₁' is the realization of the same symbol, *t̥ifh̥à*, which precedes the *sôf pàsug*. Tunes 4, 5 and 6, then, distinguish between three kinds of sub-clauses: the penultimate ('P') of the first part of the verse, the penultimate ('P₁') of the second part of the verse, and all the other sub-clauses of the verse ('X').

According to the Yemenite concept, then, a "revered" tune consists of different movements which are greater in number than those of a "simple" tune, and which express syntactical parts much smaller than those expressed by a "simple" tune. This musical realization is a process of splitting large units, both musical and syntactical ones, into smaller parts; the 'direction' of this process is 'backwards' toward the beginning of each such unit.

(c) Considering the function of the musical movements in the organization of the entire musical phrase, we can point out two degrees of enrich-

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25.   Our sample-verse (Numbers 1, 1) does not include a symbol of the *mafsig* type preceding 'H'. But in other verses which do include such a symbol, it is chanted also as 'X'.

ment. The first one concerns tunes 1, 2, and 3, each of which is divided into two parts: (1) the closing part, sung on the two final clauses of the verse and consisting of the "heralding" movement 'H' followed by the final movement 'F'; and (2) the opening part, sung on the rest of the preceding clauses and consisting of a group of similar movements, 'Y', the number of which depends on the number of clauses. In other words, the performer builds the musical phrase on two groups of movements; the closing group 'HF' (or 'X-HXF'), and the opening one, 'Y' (or 'XY'). Sometimes, as in the *šîrah* tune' (No. 2a), this 'binary' form is further emphasized by the movement 'X_1', which functions as a kind of additional "heralding" movement preparing the closing group of movements. The accomplishment of the performer's aim to express the entire verse as a complete musical unit, depends on his ability to count, at one glance, during his recitation, the number of symbols of the *maᶜămiḏ* type preceding the last two *maᶜămiḏim* in that verse. Thus he can plan ahead the chanting of the first part of the verse according to the opening group of movements ('Y') and the closing part of the verse, i.e. the last two *maᶜămiḏim* according to the closing group of movements.

The second degree of enrichment concerns tunes 4, 5, and 6, whose musical phrase is built on three groups of movements: the closing group 'HP_1F' (or 'XHP_1F'), the opening one 'Y' (or 'XY'), and the movements of the intermediate group 'PF' (or 'XPF'). The performer usually divides each one of these two tunes into four parts: (a) the closing part, which consists of the closing group of movements, and which is sung on the two final clauses of the verse; (b) the intermediate part which consists of the intermediate group of movements and which is sung on the clauses whose *ṭaᶜam* is *'atnâḥâ*; (c) the part which is sung on the clause (or clauses) preceding the intermediate part; and (d) the one which is sung on the clause (or clauses) preceding the closing part. The higher degree of this stage is expressed, then, not only through a richer repertory of movements, but also through the new formal organization of the musical phrase. The first three parts of tunes 4, 5, and 6 are organized in a new hierarchical order in which the symbol *'atnâḥâ* receives its new meaning as a first-degree disjunctive, whereas in tunes 1, 2, and 3, *'atnâḥâ* is a regular *maᶜămiḏ*, i.e. a second-degree disjunctive.

Chanting the *'tôrah* tunes', the performer has to express the verse as a complete musical unit which, in most cases, consists of two sub-units. This expression depends on his ability to foresee, while chanting the first sub-unit (up to the *'atnâḥâ*), whether there is at least one *maᶜămiḏ* preceding

the *söf påsug*. If there is one, it is sung as 'H', and the *'atnåḥå* is sung as 'F' (or as 'M'). Thus we get a musical phrase of two sub-units (Ex. 1 and 2), the first of which ends on 'PF', and the second one ends on 'H', 'P', and 'F'.

If there is no additional *maʿǎmid* between the *'atnåḥå* and the *söf påsug*, the performer chants the *'atnåḥå* according to movement 'H'; thus we get a musical phrase of a single unit, as in Ex. 3. In order to cope with this formal flexibility, the performer, before chanting a verse, examines carefully and quickly each part of it in order to decide which musical form to adopt. In comparison with tunes 1, 2, and 3, the performance of tunes 4, 5 and 6 requires a higher degree of both intellectual ability and musical skill on the part of the *tôrah* reader. This requirement is a result of the fact that the Yemenites consider these *'tôrah* tunes' "more revered and important" than the other three. A performance of the "revered" tunes requires greater attention to be focused on smaller parts of the verse and this implies the creation of a new hierarchical system within the larger hierarchy of the entire verse. The direction of this process is, again, "backwards" toward the beginning of the tune.

In conclusion, the musical effort of the *tôrah* reader is directed not only at remembering the right melodies, but also to maintaining the right proportions of the movements included in the various tunes. Thus, the musical realization of the *ṭeʿamîm* can be considered as a vehicle through which three Yemenite traditional aims are achieved: (a) the accurate accentuation of the words and the correct demonstration of the syntax of the verses; both features are the main contribution toward a better understanding of the meaning of the verses; (b) the distinction between the different textual sections as well as the various social contexts; (c) the distinction between simple and elaborate renditions of the tunes, a feature which expresses the cohesion of a congregation, indicates the status of boys versus that of adults, and, finally, symbolizes the differentiation between simple and esteemed social as well as liturgical events.

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STUDIES OF
THE JEWISH MUSIC RESEARCH CENTRE

Edited by

ISRAEL ADLER and BATHJA BAYER

in collaboration with Lea Shalem

VOLUME IV

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ABBREVIATIONS

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

Adler, *HWCM*	I. Adler, Hebrew Writings Concerning Music in Manuscripts and Printed Books, from Geonic Times up to 1800, München, 1975
Cat. Margoliouth	Margoliouth, G., Catalogue of the Hebrew and Samaritan Manuscripts in the British Museum
Cat. Neubauer	Neubauer, A. Catalogue of the Hebrew Manuscripts in the Bodleian Library
Cu	Cambridge University Library
EI²	The Encyclopaedia of Islam, new ed. Leiden, 1960-
EJ²	Encyclopaedia Judaica, Jerusalem, 1971-72
Erlanger	Erlanger, R. d', La musique arabe, Paris, 1930-1939
HUCA	Hebrew Union College Annual
IMHM	Institute of Microfilms of Hebrew Manuscripts, Jewish National and University Library, Jerusalem
JA	Journal asiatique
JJS	Journal of Jewish Studies
JMRS	Jewish Medieval and Renaissance Studies, ed. A. Altmann, Cambridge, Mass., 1967
JNUL	The Jewish National and University Library, Jerusalem
JQR	Jewish Quarterly Review
JRAS	Journal of the Royal Asiatic Society
KS	Kiryat Sefer; Bibliographical Quarterly of the JNUL
Lbm	London, The British Library

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