The takīyah, *a falsetto or yodeling ornament, is one of the most characteristic and essential aspects of vocal style in Persian music. Due to its short duration, from one-twentieth to one-tenth of a second, the nature of the takīyah itself is little known. In this study, the Melograph has indicated specificness of pitch, loudness, and tone quality. A comparison of these qualities is an initial stage in the clarification and classification of takīyah in various styles of Persian music.*

The author is a graduate student at UCLA, working toward a Master of Arts degree in music.

The Vocal Ornament Takīyah in Persian Music

Margaret Caton

TAKĪYAH* (literally, "leaning"), the Persian vocal ornament, resembles greatly Swiss yodeling, specifically the abrupt breaking or cracking heard between the higher falsetto tone and the lower tone. The intention is a "sobbing" on a note with the singer concentrating on the emotional impact rather than on specific pitches in themselves. The pitch of takīyah, then, is not important and is left to the singer, whereas the pitch of the principal note to which it is attached is of melodic importance. In a slow tempo takīyah will be more definite in pitch—ideally a pitch of the mode being sung—while in a fast tempo they tend to be indefinite or vague. Instrumental music has developed the takīyah using definite pitches. A takīyah is written ⌣ and performed ♪ or ♪ .

Takīyah sung in a continuous chain make up a *tahrīr*. The functions of a tahrīr include embellishment, phrase conclusion, melismatic virtuosity, and emotional enhancement. Caron and Safvate (1966:160-161) give a few general rules for tahrīr performance: it should be sung on long syllables that are not in the middle of a word, only on words that can still be clearly expressed, and preferably at the end of each hemistich. Tsuge (1970: 205-207) states that in a *gūshah,* or short piece, the tahrīr melisma occurs at the end of the poem and before the closing cadence, or *furūd*.
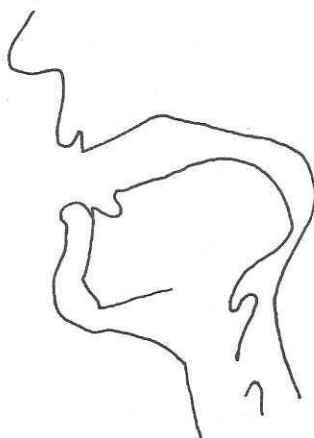

Fig. 1 (after Vennard 1967). Tongue position as used in the sound "oo" (as in "boot") but with the lips remaining open so that it is a simple back vowel, phonetically represented by the symbol ω and pronounced "uh." This position, with variations, is typical of the takīyah (1967: 112).

---

*The transliteration of Persian words follows the system presented in "Persian Romanization," Cataloging Service, Library of Congress Processing Department, Washington, D.C., Bulletin 42, 1970.

M. Sadeghi (1971) has stated that the short tahrīr is started on the last vowel of a word, such as the more open vowels *A, O, and E*. The falsetto[1] or simpler tone quality of the takīyah results from the raising of the tongue (fig. 1) to produce the closed vowels observed in the takīyah of both art music and folk music. This raising of the tongue causes a shift among the cartilages in the larynx and thereby a tautening of the vocal cords which results in vibration only at the inner edges (fig. 2). In the takīyah of art music, the sudden gust of air produced by the "h" sharpens the attack of the takīyah and also the contrast with the principal note. The moment the "h" or air is expelled, the sudden relaxation that follows assists the drop of the tongue needed for execution of the principal note. Although the main device is the raising of the tongue, which is heard as a closed vowel, the "h" assists this device so that the singer can perform more rapidly, as well as efficiently.
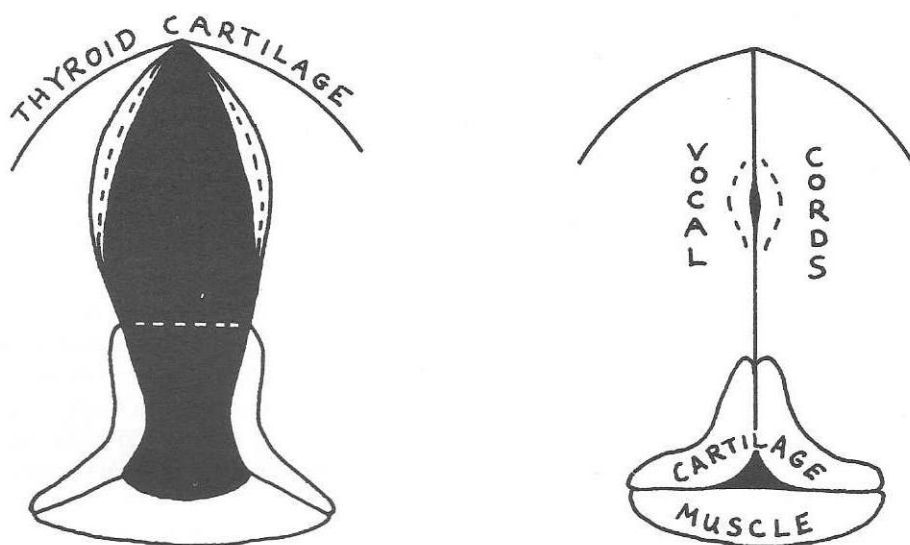

Fig. 2 (after Vennard 1967). The vocal cords are embedded in the middle of the larynx and are stretched on a horizontal plane mostly from front to back. Diagram A shows vocal cord opening and vibration during one of the open vowels, while diagram B shows a typical mode of vibration during the takīyah (1967: 64-65).

In considering the specific characteristics of the takīyah itself, there are many styles to choose from, including regional styles found in Azerbaijan and Kurdistan. Discussed here are single representatives of male vocal style from traditional chant,[2] art music,[3] and folk music[4]— the best selections of the recorded music available to the author. Melogram graphs and other notation appear at the end of the article: I, chant; II, art music; III, folk music (a graph legend explains special notational signs used).

Graph I_2 illustrates accented takīyah with the loudness line reading 12 db higher for the takīyah than for the melody notes. All notes between G and F are part of the ornamental phrase, but the takīyah itself is distinct from the more melodic connecting notes. The spectral display is rich, emphasizing the 4th and 5th partials in these melodic notes, while the takīyah appears in its fundamental only. Thus, the takīyah is simpler in comparison. In examining the graph for these characteristics, the spectral display showed melody notes before the tahrīr as having from 6 to 8 partials. The first B♭'s show emphasis on the 4th and 5th partials, although the fundamental is also strong. The takīyah notes contain only the fundamental, while the connecting notes again have 6 partials, with less emphasis on the fundamental, however. Many other examples, such as I_1, have no fundamental for the principal notes. In working with this melogram, problems of discontinuity of pitch line and overlapping of the spectral bands must

be taken into consideration. Usually by correlating the two, the correct partial number can be ascertained. With the B♭, for example, the strongest band in the overlapping group at the bottom of the display is band 4, which corresponds to 400-500 Hz. The pitch itself appears to be slightly lower than B♭, around 455-600 Hz. Bands that are prominent are numbers 4, 9, 13, 18, 22, and 27, which have correspondence with the partials for that pitch. To illustrate:

Partial no.	Hz	Band no.
6	2736	27
5	2280	22
4	1824	18
3	1368	13
2	912	9
1	456	4

I_3 illustrates the more usual unaccented takīyah, with the takīyah softer than the melody line (connecting notes are included in the line of melody) by 12 to 24 db. This tahrīr, a virtuosic melismatic display in the high register, uses, as an essential part of its style, takīyah repeated at short intervals, the takīyah itself lasting only one-twentieth of a second. The pitch range of this passage is a tetrachord with initial and final notes on G. The takīyah itself varies from a whole step to an augmented fourth above the principal note. The initial G displays the 2nd and 3rd partials, while the principal notes of the passage emphasize the 2nd and 5th or the 2nd and 3rd partials. The takīyah itself has fundamental and 2nd and 3rd partials, illustrating the relative absence of fundamental for the principal note and its presence in the takīyah note. The takīyah in I_1 are distinct from the melody in pitch and loudness, the pitches being in two instances as much as a diminished 5th higher than those of the melody. As the principal note changes, the takīyah interval becomes wider, narrowing when the direction is reversed or the principal note repeated. This tendency prevails in all three types of vocal style presented here.

II_2 is a brief examplè of a connecting phrase from higher to lower pitch. Here the spectral display shows a strong fundamental and 2nd partial for takīyah and a strong 2nd partial for the principal note. The loudness scale shows little differentiation between ornament and principal note. II_1 exemplifies a melismatic passage with the range of a 3rd. The 2nd partial of the melody is displayed spectrally, while the fundamental and the 2nd and 3rd partials of the takīyah appear. Overall, the melody in II is simpler in quality than that in I, but the takīyah remains essentially the same, although the interval formed by the takīyah with the principal note is much narrower, ranging from a microtone to a major 3rd higher. II_3 is similar to II_2, with the spectral display showing a strong octave overtone (2nd partial) for the melody and a strong fundamental for the takīyah.

In III_1, the section of tahrīr is shorter and more melodic. That is, the individual takīyah, one-tenth of a second long, are twice as long as those in the art music and chant examples and the pitch production is smoother and more regular. The accented takīyah in III_3 and I_2 employ wider intervals than the unaccented takīyah. The other takīyah in III generally are at an interval of a minor 3rd, with a few variations. III_3 shows takīyah as being more integrated with the melody pitches than those in III_1 and III_2. In III_2, there is little differentiation between takīyah and melody line. The spectral display is similar, showing fundamental and 2nd partial emphasis for takīyah and 2nd partial emphasis for principal notes.

The syllabification in chant and art music shows melismatic passages (I_3 and II_1) beginning and ending with a vowel, while all but one of the others begin on a consonant. The takīyah

is propelled by the sound "h" regardless of the vowel sound attached. The vowel is sounded with the principal note, although the two sounds seem to the ear to be one ("hee"). In the example from the folk tradition, the takīyah and principal notes are slower. The folk style does not often use the "h" to propel the takīyah, although III₁ does show takīyah with "h" at the interval of a fifth. III₂ shows a "w," a sound often used for sustaining tones in an alternate "wai-yai" pattern. Here the "w" is sounded on the principal note with the vowel: "wah."

In summary, the melograms enable us to draw the following conclusions:

1. The takīyah is distinctly simpler in tone quality than the melody notes. II₃ is a typical example of this, with strong octave overtones for the melody and strong fundamental for the takīyah. This appears to be the essential difference between principal note and takīyah in the examples in this study.

2. There is a distinct drop in loudness for unaccented takīyah; loudness rises above that of the melody line for accented takīyah.

3. In folk tradition, the takīyah is not so distinct from the melody line as it is in the traditions of chanting and of art music.

NOTES

1. Personal communication, May 1971, from Mrs. Flora Baker (Institute of Ethnomusicology, UCLA), who has made a special study of yodel phenomena.

2. *A Musical Anthology of the Orient: Iran II.* "Mystic Poem of Arāqî," *in* Bayāt-i Zind, sung by Zabīhī. Bärenreiter Musicaphon. BM30 L2005, band 4.

3. *Classical Music of Iran: Dastgah Systems, II,* ed. Ella Zonis. Folkways FW8832. "Dastgāh of Segah," sung by Husayn Fakhtāī, band 1.

4. Folk *āvāz* from a traditional folk singer recorded by the author in Masulee, Gilan, July 1970.

LITERATURE CITED

Caron, Nelly, and Dariouche Safvate
    1966 *Les Traditions Musicales: Iran.* Paris: Buchet/Chastel.

Sadeghi, Manoochehr
    1971 *Improvisation in Nonrhythmic Solo Instrumental Contemporary Persian Art Music.* M.A. thesis, California State College at Los Angeles.

Tsuge, Gen'ichi
    1970 "Rhythmic Aspects of the *Āvāz* in Persian Music," in *Ethnomusicology* 14: 2 (May).

Vennard, William
    1967 *Singing: The Mechanism and the Technic.* New York: Carl Fischer. Pp. 64-65, diagrams B and E; 112, diagram B.

MELOGRAMS

Signs Used in the Notation

P   half flat, *kurun*
♯   half sharp, *surī*

Pitch line
    takīyah
    principal note

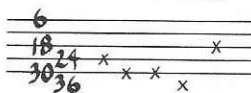*Loudness line*
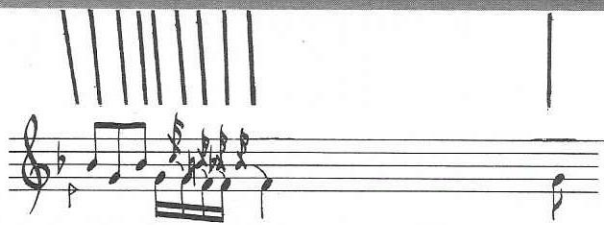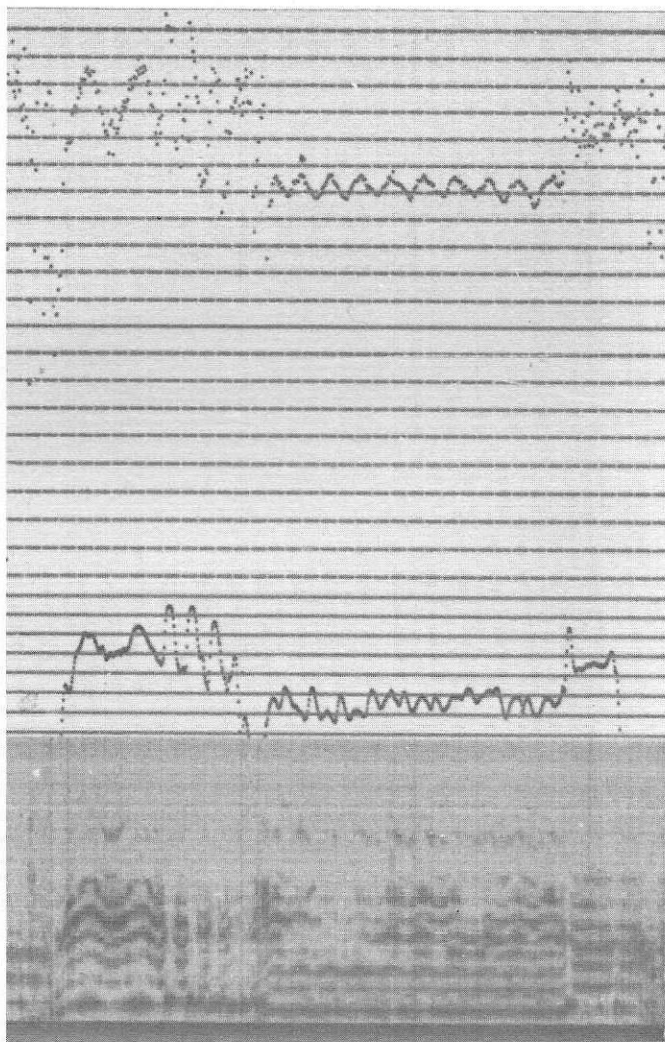✗   takīyah db level
—   principal note db level

Spectral display

1   takīyah or principal note partial
——— principal note partial strong
- - - - principal note partial weak
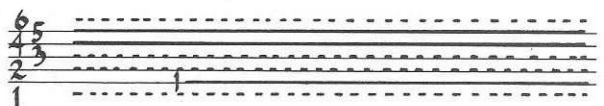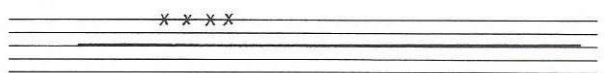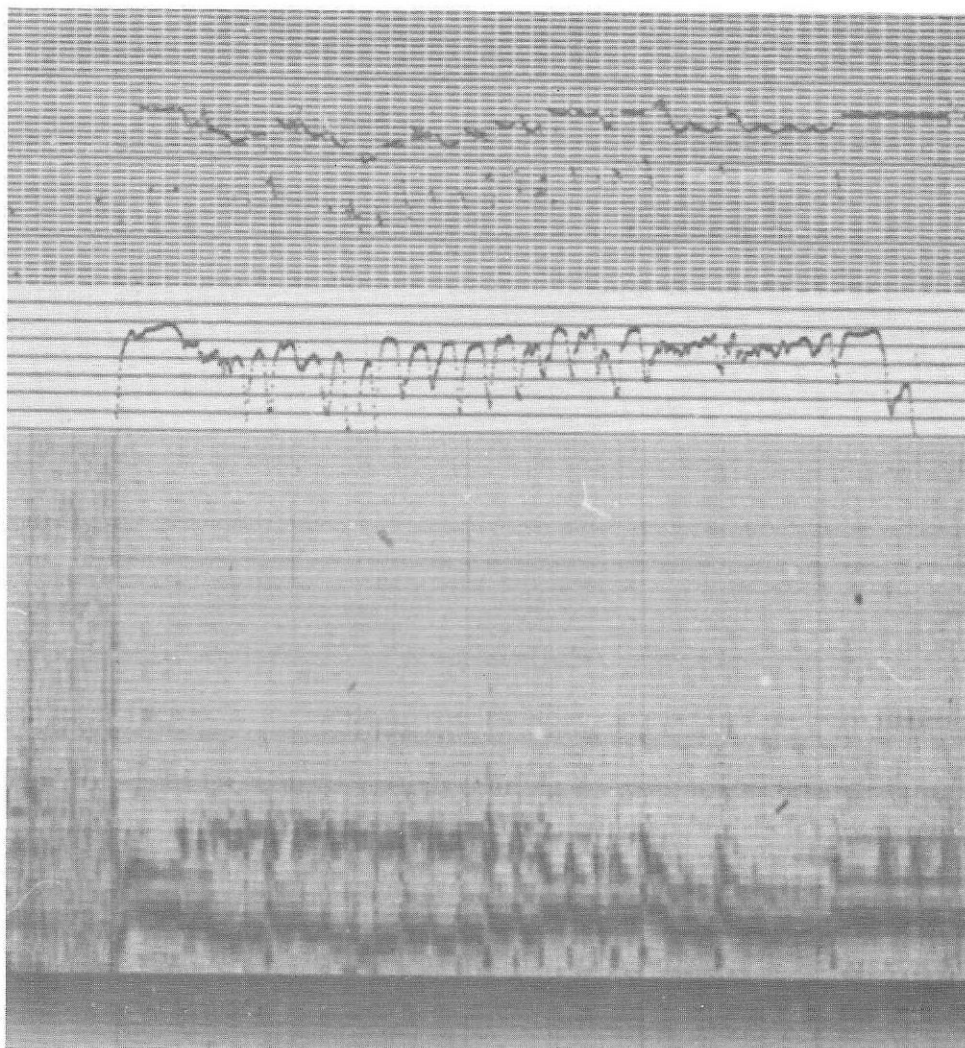· · · · · · takīyah partial strong

Example I₁.

Example I₂.

Example I₃.

AH-A   AH-A   AH-HAH-HAH   HAH   ETC.   AH — AH
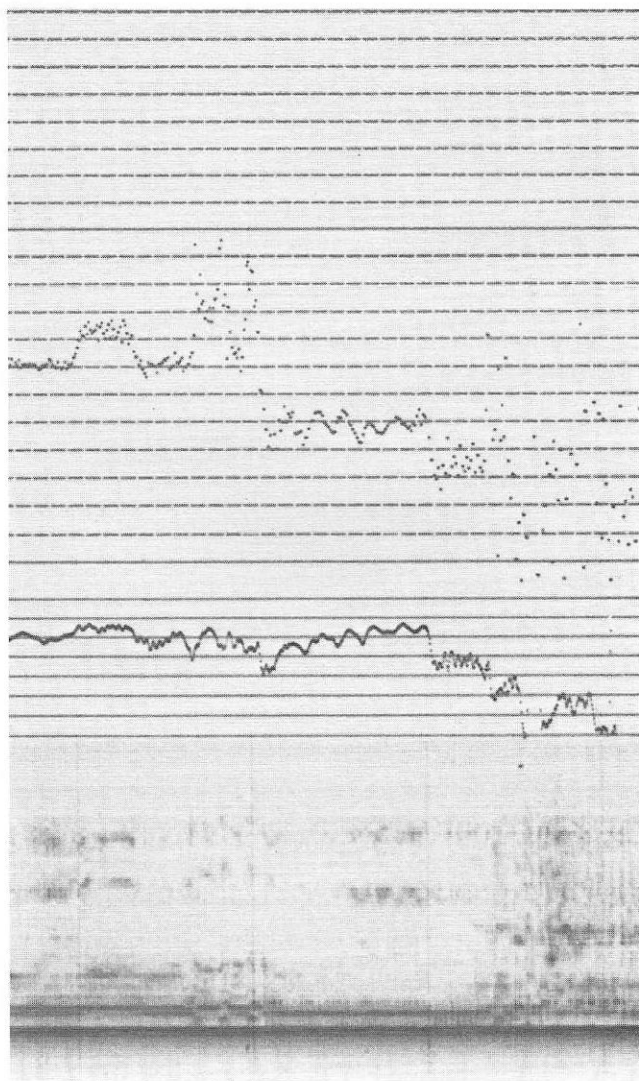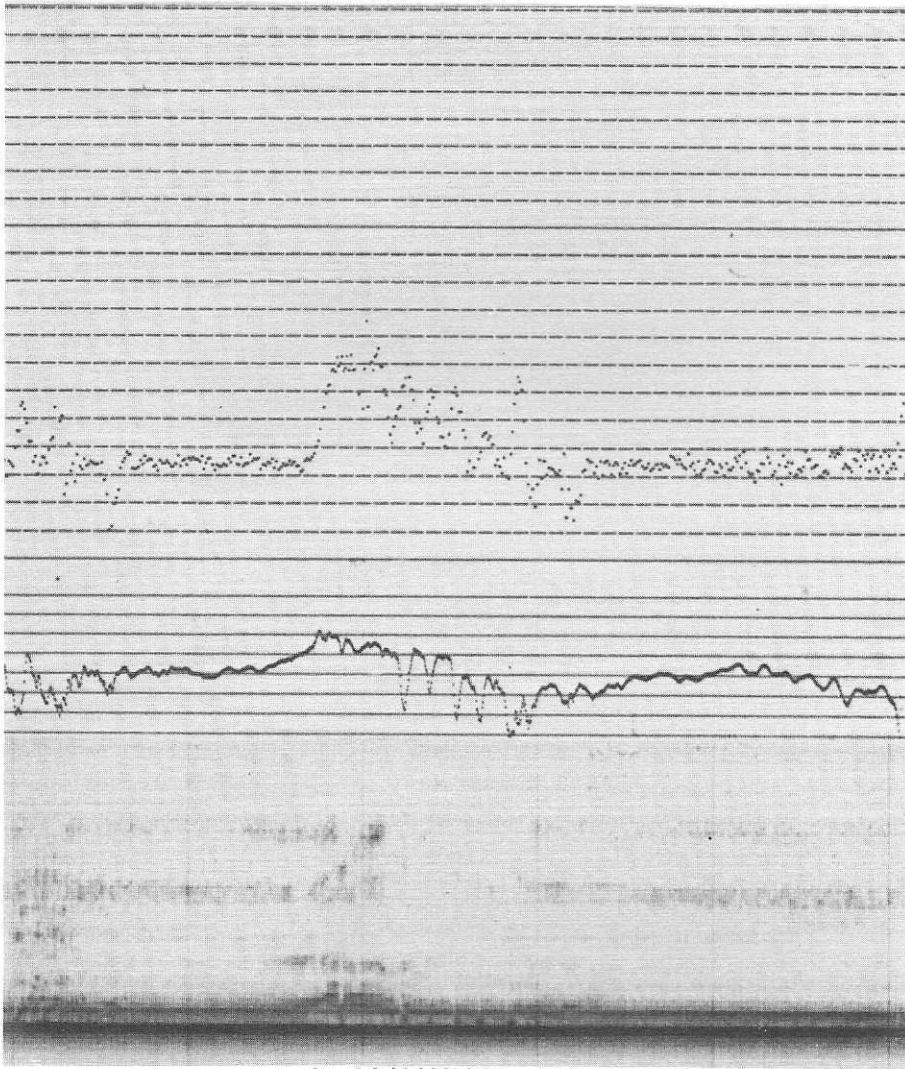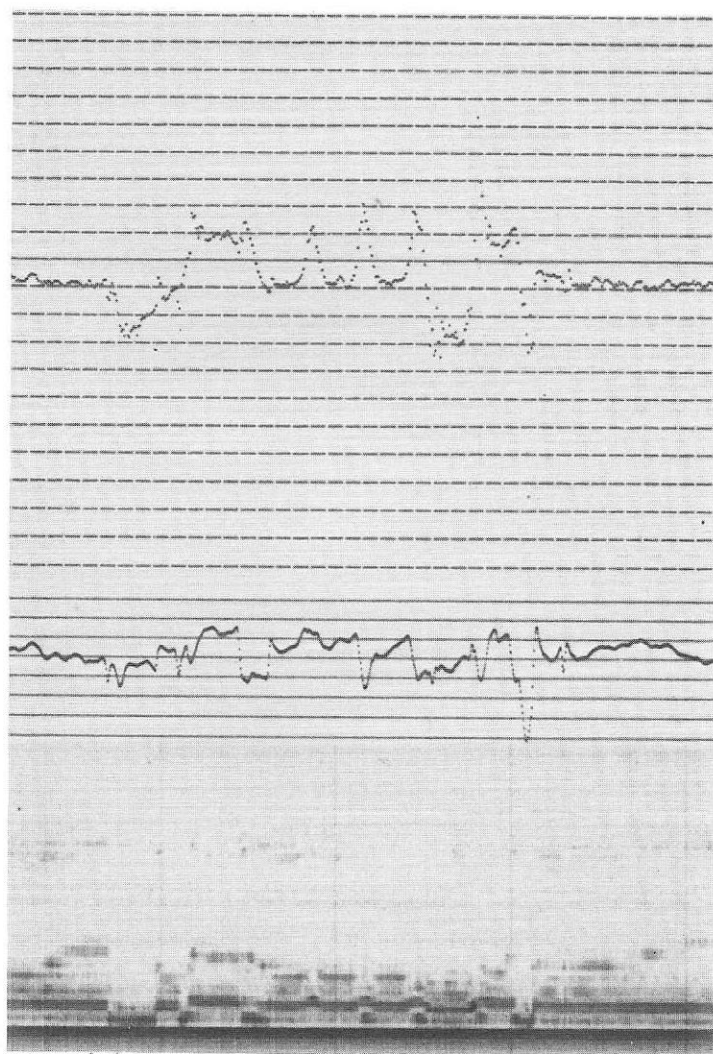
Example II₁.

Example II₂.

Example II₃.
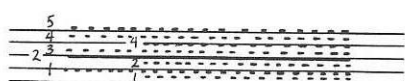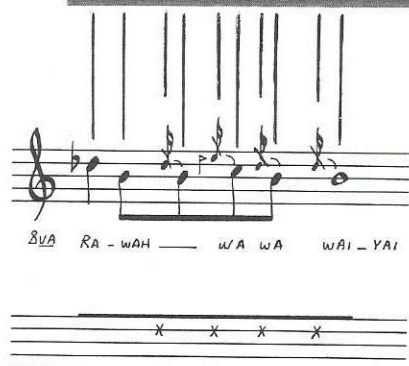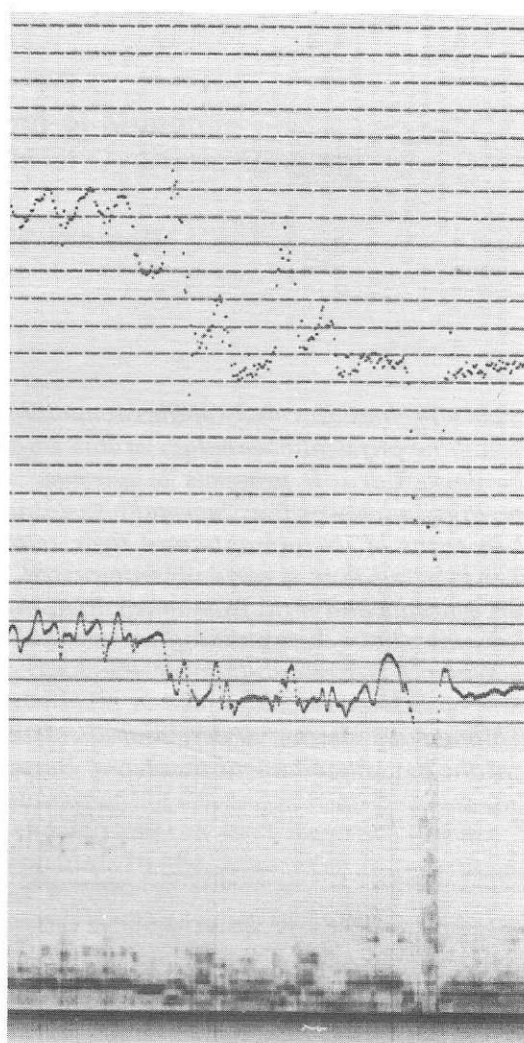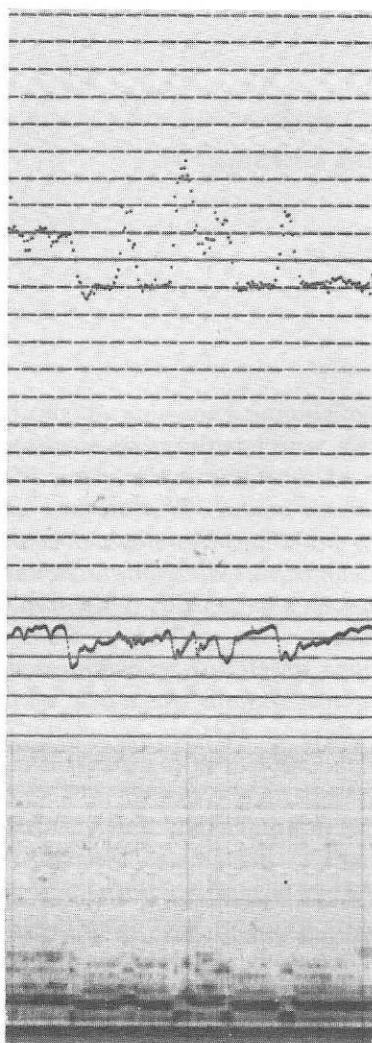
Example III₁.

Example III₂.

Example III₃.