

Singing in Tashlhiyt Berber, a language that allows vowel-less syllables

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Tashlhiyt (henceforth TB) is a Berber language of western Morocco spoken by around five million people. TB allows long consonant clusters, but syllable structure is rather simple. As a result, some syllables contain only consonants, with even voiceless stops acting as syllable nuclei; see Dell and Elmedlaoui (2002).

Not all speech sounds are equally good for bearing pitch in singing. Vowels are better than consonants, and among the latter, sonorants are better than obstruents. TB singing presents us with an interesting natural experiment: How are syllables with consonantal nuclei set to music?

This presentation is based on work done with Mohamed Elmedlaoui (Institut Universitaire de la Recherche Scientifique, Rabat) for a book in press. The data comes from commercial recordings by professional artists. The discussion will show that the alignment of a text with a melody must be represented at two levels of abstraction. In the underlying representation, the objects that are put into correspondence are structural units: notes and syllables. In the surface representation, on the other hand, text-to-tune alignment is a correspondence between *points* in the melody and *points* in the speech chain. The points in the melody are the attacks of notes; those in the speech chain are the beginnings of pitch spans. 'Pitch spans' are not structural units; they are continuous portions of the speech chain that are coextensive with the realizations of notes.

At the underlying level, singing in TB is like singing in French, in that the linguistic units that are linked to the notes of the music are syllables. The two languages differ at the surface level. In a French song, (A) every syllable projects its own pitch span and (B) the beginning of every pitch span coincides with that of a syllable nucleus. In TB, on the other hand, (A) some syllables do not project any pitch span and (B) the beginning of a pitch span does not always coincide with that of a nucleus. Let us illustrate (A) and (B) in turn.

Syllable 6 in (1b) is an instance of a syllable which does not project a pitch span. (1) gives the syllabic parses of two lines of verse which are sung to the same melody and shows their underlying alignment with the notes of that melody. In (1a), which is given as a baseline, the surface alignment directly reflects the underlying one. In (1b), on the other hand, syllable 6, which is pronounced [xk], cannot bear pitch on account of its voicelessness. In the surface alignment, the timing of the attack of note 6 remains unchanged, but the production of the voiceless syllable is delayed, and the vowel of the preceding syllable is prolonged to compensate for the delay. As a result, note 6, which should be borne by [xk], is borne instead by the final part of the preceding syllable [na], which is drawn out over notes 5 and 6.

We now illustrate phenomenon (B). TB only has three underlying vowels /a, i, u/, but in consonant sequences one often hears a vowel-like sound (schwa). As shown by Dell and Elmedlaoui, the schwas of TB do not play any role in the phonology of the language nor in versification. They do however play a role in singing: when a syllable with a consonantal nucleus is pronounced with a schwa (not all are), that schwa acts as a carrier for the pitch of the associated note. Table (2) illustrates the fact that schwa does not play any role in syllable structure. The table gives the scansion of four lines of verse with the same meter. Each line is given twice. In the upper half of the table, only the phonological information that is metrically relevant is represented. In the lower half the lines are repeated in a narrower transcription that notates all the schwas that play a role in text-to-tune alignment. The upper half of (2) illustrates the following generalizations. In TB, if two lines of verse are built on the same meter, they have the same number of syllables, with heavy (H) and light (L) syllables arranged in the same order (Jouad 1983). In a TB syllable the onset, the nucleus and the coda each contain at most one segment. Onsets are obligatory except at the beginning of lines. Clearly, if schwas were construed as syllable nuclei, these generalizations would be impossible to state.

As can be seen in the boxed syllables, schwa precedes the consonantal nucleus in some syllables and follows it in others. Under certain metrical and musical conditions, a heavy syllable projects two pitch spans, due to the occurrence of a schwa after its coda (v. the underlined schwas in column 11 in (2)). (3a) shows the underlying text-to-tune alignment of another line from the same song, and (3b) shows its actual pronunciation. In text-to-tune alignment at the surface level, the schwas in (3b) serve as carriers for the notes, even though they are irrelevant metrically as well as phonologically.

(1)

1 2 3 4 5 6 7 8 9 10 11 12

a yan mu ta ka ta ri sa wal sl žih _ tn nu<n

b ix ku ri ni na xk ni niz ra yad _ ra sn<t

(2)

1 2 3 4 5 6 7 8 9 10 11 12 13

L H L L L L L H L H L L <i

1a a daʁ su lu ri ri na ra ʁitt mu nad wa ya d<i

2a ha- nur da sg ga su la si nad la- ʔlx ba rn k<∅

3a n šrk di wn ma du ra- tu nar ki ʁngg za ka l<i

4a a- lah ta md dn ma yz dr naʁ di mlɔd wa- na ʁ<i

1b a daʁ su lu ri ri na ra ʁitt mu nadə wa ya d<i

2b ha- nur da səg ga su la si nad la- ʔlxə ba rnə k<∅

3b nə šrək di wnə ma du ra- tu nar ki ʁnəggə za ka l<i

4b a- lah ta məd dnə ma yəz drə naʁ di mləddə wa- na ʁ<i

(3)

a i- qan da- ka si ʁn sb ri- saʃ tn knzz ri tn<t

b i- qan da- ka si ʁnə _ səb ri- saʃ tnə kənz ə ri tn<t

1 2 3 4 5 6 7 8 9 10 11 12 13

Dell, F. and M. Elmedlaoui, 2002: *Syllable structure in Tashlhiyt Berber and in Moroccan Arabic*. Dordrecht: Kluwer.

Dell, F. and M. Elmedlaoui, in press: *Poetic meter and musical form in Tashlhiyt Berber songs*. Cologne: Rüdiger Köppe.

Jouad, H., 1983: *Les éléments de la versification en berbère marocain tamazight et tachelhit*. Université de Paris 8: Doctorat de Troisième Cycle.