BEDOUIN ARABIC INTONATION PATTERNS IN SUPPORT OF THE SUPERPOSITIONAL APPROACH TO INTONATION

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ABSTRACT

This paper describes an approach to the system of intonation in an Arabic-bedouin dialect group in the north of Israel. The study is based on spontaneous narrative material as recorded "in the field". The material used here represents 2 male and 2 female speakers' intonation patterns. The analysis reveals basic intonation elements, comprising rises, falls and their combinations. The combinations appear in complex utterances (syntactically as well as intonation-wise) and seem to support the superpositional approach to intonation.

Background

One of the languages whose intonation has been little studied is Arabic. In part, this fact is due to the structure of Arabic which comprises a dichotomy into a literary register and many colloquial dialects, or even languages, according to some scholars. This means that the intonation of a certain dialect is not necessarily valid for another or all Arabic dialects, or for the literary variety. The study of Arabic itonation also uffers rom the need for computerized facilities as found in many other languages.

This paper brings the results of a new study of the intonation of a Bedouin Arabic dialect group from the point of view of basic and more complex structures. The data are of a hitherto uninvestigated language variety, and within it of a little-studied text type, i.e. stories.

Material and Method

Our study relies on spontaneous stories narrated by 4 speakers, 2 men and 2 women, from 3 tribes in the Galilee, in the North of Israel (cf. Rosenhouse, 1984). Although these Bedouin groups have been sedentary in the present century, they still preserve their traditional speech habits, including intonation which even now differs from that of sedentary populations. This follows fron the fact that intonation is part of the sociolinguistic differences between Arabic dialects.

The material was uninterrupted narrative monologues with plot, heroes, problems, climax and solution, as in any artistic story, though the contents were not of one and the same "kind".

The speakers' ages were 45, 55 (the women) and about 70 (the men). Each story includes between 300-500 words and supplies reliable dialectal, intonationally rich authentic material, by each speaker.

The work began with pitch analysis (by spectrograph) of the stories which were recorded in the "field". We then continued the study by analyzing various sentence parts in different sizes, structures and intonation patterns using especially written computer programs by I. Rosenhouse. This process has yielded some interesting results (in Hz. and Semitones) part of which are presented here. (More details see Rosenhouse, 1995.)

Results

The detailed inspection of the material yielded basic tonal elements - rises and falls. The roles of the rises and falls are similar to those in other languages, i.e., falls seem to indicate the end of an utterance, while rises indicate continuity. There seem to be 4 pitch levels in this dialect group, from lowest to highest. The range of each level is 4-6 semitones. In an utterance the rise/fall may be for 1,2,3 levels. Falls from the highest to level 3 or 2 seem to create an indefinite air, or at least non-finality of the utterance. Thus, a fall not always indicates the end of an utterance in this dialect. This may also depend on the slope of the fall, i.e., on the time element, besides pitch changes.

A difference was found between men's and women's intonation patterns - not in the range (about 10.5-11 STs for both sexes), which rather depends on human physiology, but rather in the modifications indicated by standard deviations of men's vs. women's utterances.

Starting with the smallest relevant units, i.e. syllables, we now focus on intonation units and their combinations.

Colloquial Arabic words consist of syllables of the patterns CV, CVV, CVC, CVVC, CVCC, CCVC, CCVCC, CCVVC. Most of the words are bisyllabic, many are monosyllabic or trisyllabic, and fewer have four or five syllables. Since the peak of each syllable is the vowel at its center, where most of the energy is concentrated, its inherent pitch is usually higher than that of the adjacent consonant(s). Thus, a syllable's pitch has a "natural" rise-peak-fall energy shape. In bisyllabic words this pattern is repeated, usually with more energy and high pitch on the accented syllable. This can be considered the basic intonation structure. Intonation contours span, however, both on single word uterances, as well as longer utterances, up to complex sentences.

The basic elements appear to be repeated in more complex structures, i.e. such that include both rises and falls. These structures can be syntactically or semantically complex, since Arabic has a synthetic and morphologically rich structure, so that

one word (2 or 3 syllables) may be a complete (S:V:O) sentence.

But semantics does not stop at the syntactic level. Thus, a word (e.g. a noun) with a complex syllabic structure may get internal intonation curves according to the speaker's intent, in addition to the word-stress, placed according to definite rules.

In utterances longer than a word, the intonation contour may appear both more detailed and clearer, similar to a picture whose features get clearer the larger it is. In such cases intonation contours can be analyzed into separate rises or falls that do not form part of one and the same linguistic sub-element.

The system in our Bedouin samples seems thus to be nearer to a hierarchical superposition of intonation patterns than to a "linear" description: The complex patterns appear in these texts both in short (and simple) and long (and complex) linguistic units (i.e., phrases, clauses and sentences).

This approach is similar to the one presented already 20 years ago by R. Nash (1973) for Turkish intonation (cf. Fig. 1). Our examples demonstrate this approach from the bedouin Arabic texts we have analyzed (see below).

Discussion and Conclusions

Arabic intonation is complicated to study due to basic inherent linguistic features of the language: it includes numerous dialects which make the study of a certain dialect sometimes irrelevant for any other dialect; the difference between

the colloquial and literary registers make it impossible to predict the intonation of a certain dialect (sedentary or bedouin). Moreover, Arabic has a rich synthetic morphological structure, so that though most words include 2 syllables, many others have more than 2 syllables due to various afffixed elements. Words such as nouns or verbs that carry word-stress in an utterance usually have basic intonation structures, i.e., rises or falls. But they may also have combinations of these elements in, e.g., rise-fall patterns. Longer words, with more syllables, as well as longer syntactic utterances, combine these elements once per word/utterance or more times per word/utterance. Thus, such longer-than-monosyllabic speech-units support the theory of superposition of intonation. The Figures below seem to corroborate this viewpoint.

References

Nash, R. (1973) Turkish Intonation, The Hague: Mouton

Rosenhouse, J. (1984) The Bedouin Arabic Dialects, General Problems and a Close Analysis of North Israel Bedouin Dialects, Wiesbaden: Harrassowitz.

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Fig. 1 - Fig. 9 in Nash, 1973:87

Fig. 1 - "he said to him"
Fig. 2 - "you bring"
Fig. 3 - "I slept"
Fig. 4 - "This one will eat me"
Fig. 5 - "There was no money among people as today"
Fig. 6 - "that is, there is nothing between them"