Markedness in the prosody of contact varieties of South African English

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Abstract

It has been widely observed in the literature that not only learner varieties but also contact varieties differ in their prosody from the standard variety. The article aims at providing a unified account to the linguistic variation in prosodic focus marking found across learner and contact varieties of the same language, South African English. The notion of markedness allows singling out prosodic focus marking as a likely target of linguistic change given its cross-linguistic complexity in sentence accent systems.

Index Terms: sentence accent, markedness, focus, givenness

1. Introduction

It has been widely observed in the literature that not only learner varieties but also contact varieties differ in their prosody from the standard variety of the language under consideration. Prosody refers to duration, intensity and/or pitch which are not inherent to specific segments but are determined by higher-order structure such as the word, e.g. stress, or syntax, e.g. phrasal stress, or discourse, e.g. sentence accent.

For foreign language acquisition, theories have been developed that aim at accounting for differences between learner variety and standard variety, e.g. [1]. For the linguistic aspects of foreign language acquisition, they often make reference to the learner's first language and explain the observed differences between learner variety and standard variety with respect to transfer from the first language (L1). Although these theories have been developed to account for segmental characteristics, they can be conceptualized to also account for suprasegmental characteristics: Prosodic features of a learner variety are determined by the learner's L1.

For contact varieties, the relevance and usefulness of the concept of an "L1" which is comparable to the scenario in foreign language acquisition is debatable. Contact varieties can be native languages to the speakers, or acquired in simultaneous or consecutive early or late bilingualism. Thus, contact languages are not a homogenous group and do not necessarily differ from the standard variety in every phonological aspect; see [2]-[5] where differences in prosody have been reported.

The current work discusses differences in prosodic marking of narrow focus in learner and contact varieties of South African English with the aim of investigating the concept of markedness as an explanation of linguistic change in language contact. The next section reviews the differences in prosodic marking of narrow focus in one learner and two contact varieties of South African English, as they have been reported in the literature. Section 3 addresses the concept of markedness and its application to sentence accent. Section 4 outlines the predictions made by the markedness scale of sentence accents for contact prosody. Section 5 concludes and outlines questions for further research.

2. Narrow focus marking in varieties of South African English

Research has shown that learner and contact varieties of South African English show a complex pattern of variation in the prosodic realization of narrow focus in modified noun phrases of the type *blue star* (cf. [6]). The following varieties have been investigated:

- the *upper mesolect* of Black South African English (BSAE), which shows strong linguistic influences of the substrate South African Bantu languages. Typical phonological features are found both in the segmental and suprasegmental domain (cf. [7]). It shows all characteristics of a learner variety but given the role of English as the language of teaching and learning in South Africa, it should more generally be referred to as a contact variety (cf. [8]).
- the *postacrolect* of South African English, which is a contact variety spoken natively by speakers who come predominantly from the urban, emerging, black middle class of South Africa (called elite cross-over accent in [9]). Phonological characteristics include rhoticity ([10]) and evidence of slight *u*-fronting ([9]), features that might be in the course of development into linguistic features of class rather than of ethnicity. These features are not associated with South African Bantu languages which these speakers also have command over.
- the control group of speakers of *General South African English*, the standard variety whose speakers are prototypically monolingual and white. (Note that General South African English can be classified as a contact variety itself, cf. [11]).

A semi-spontaneous elicited-production task was carried out (cf. [6]), replicating the picture description task in [12]. Participants had to name pictures depicting coloured objects. In a first condition five pictures were presented in a row: either an identical object in different colours (e.g. *yellow star, red star, green star, grey star, blue star*) or differing objects in the same colour (e.g. *red house, red dog, red tree, red candle, red cow*). The participants had to name the pictures from left to right. The last item on the list was the target phrase. The preceding context would determine the focus structure of the target item as either having narrow focus on the adjective or the noun.

In a second condition, participants were presented with one single picture, preceded by a yes/no-question that they had to answer. E.g. the slide would show a yellow ruler, and the preceding question would ask "Is the object that you see on the following slide a pink ruler?" Participants had to answer the question and correct it if necessary. From both

conditions, one target item was selected for further investigation, namely *yellow ruler*. It occurred twice in adjective focus (condition 1 and 2) and twice in noun focus (condition 1 and 2). Thus, four target items per speaker were subjected to further analysis. As participants were drawn from a convenience sample the numbers in each group were unequal: upper mesolect 13 speakers, postacrolect 5 speakers, General South African English 8 speakers.

For the acoustic data analysis, the stressed vowels of the adjective and the noun were delineated, and mean fundamental frequency (F0) and mean intensity on these vowels were measured. It is well-known that in English these measures are increased under focus. By means of a linear mixed model the target phrases were tested for significant differences in the frequency and intensity of the stressed vowel of the adjective and the stressed vowel of the noun in conditions of adjective focus and noun focus. Speaker was treated as a random factor to take individual differences in F0 and intensity into account (cf. [6]).

The results of a controlled elicited-production experiment revealed differences in the acoustic realization of narrow focus in modified noun phrases. The three well-known correlates of stress were measured, namely duration, intensity and F0. As the duration measures were inconclusive also for the standard variety, the current study only reports on intensity and F0.

When the adjective is in focus, F0 is increased on the stressed vowel of the adjective as compared to the stressed vowel of the noun in all varieties under investigation. A similar effect is observed for intensity. As expected, there is a highly significant difference in the intensity between the stressed vowels of the adjective and noun in adjective focus. The stressed vowel of the adjective is produced with a higher intensity than the stressed vowel of the noun in all varieties.

If the noun is in focus, no significant difference between intensity and F0 on the two constituents can be observed in speakers of General South African English. Although the lack of an increased intensity and/or F0 on the noun might be somewhat surprising, it can be attributed to declination, i.e. the gradual decrease of F0 (and potentially intensity) over the course of a phrase (see [26] for definition). The noun might still be perceived as prosodically prominent because it is not as low as it might be under broad focus.

Speakers of contact varieties of South African English manipulate the acoustic parameters used in noun focus differently. When the noun is in focus, speakers of the upper mesolect show the same significant difference in F0 as in the condition of adjective focus: F0 is higher on the stressed vowel on the adjective as compared to the stressed vowel of the noun. However, here this direction of the difference is contrary to expectation as the stressed syllable of the focused noun would have been expected to show a higher F0. In the postacrolect no significant difference exists between F0 on the stressed vowels of the adjective and the noun when the noun is in focus (just as in GenSAE). We might have expected that F0 is higher on the stressed vowel of the noun than on the adjective in the noun focus condition. This is not the case. However, we interpret this as being due to declination.

When the noun is focused, there is also a significant difference in the intensity between the stressed vowels of adjective and noun. Interestingly, however, the difference is (a) significant for both contact varieties of South African English and (b) it is significant in an unexpected direction, namely, that just as in adjective focus the stressed syllable of the adjective is produced with a higher intensity than the stressed syllable of the noun.

In sum, at the functional level of intonation, speakers of the learner-like variety upper mesolect realize intensity and F0, two of the acoustic parameters of focus prosody, independent of focus. Speakers of the postacrolect manipulate at least one of the parameters of focus prosody dependent on focus, namely F0. Intensity, the other parameter, is realized independent of focus by these speakers. Thus, only native speakers of the contact variety postacrolect, express the same function through intonation, albeit with different phonetic parameter settings. For the learners' realization, the functional aspect of intonation does not seem to be implemented.

At the phonetic level, it is interesting to note that the native contact variety does not match the phonetic implementation of the monolingual standard variety but that only one parameter is adapted in a way comparable to the standard variety. Only F0 but not intensity is manipulated dependent on focus.

The differences in or lack of the acoustic realization of prosodic prominence used in narrow focus marking also have perceptual relevance in these varieties of South African English [12].

Prosodic focus marking thus emerges as a linguistic phenomenon which leads to divergences from the standard variety in both learner and contact varieties. Whereas for the learner varieties such a divergence has in some way or another been attributed to the influence of the L1 in most theories of foreign or second language acquisition, the question emerges if the two observations in contact and learner varieties are related and if yes, how they can be consolidated in one framework. The suggestion that the current paper would like to bring forward is that both observations are connected through markedness. Therefore, the next section introduces the notion of markedness and its application to sentence accent systems.

3. Markedness in contact phonology

3.1. The notion of markedness

Markedness is a well-known notion in linguistics since at least [13]. In phonology, markedness is used in the discussion of sounds and structures which occur less frequently than their unmarked counterpart, that are acquired later than unmarked sounds, that are more complex, unnatural or difficult to produce than unmarked sounds, and/or that are diachronically instable. Thus, evidence for markedness comes from typology, language acquisition, phonetics, and historical linguistics. Additionally, markedness can be determined by means of typological implications [27]: A phenomenon A in some language is more marked than B if the presence of A implies the presence of B; but the presence of B does *not* imply the presence of A.

Markedness has remained a relevant concept in linguistic theory in a diverse array of subfields. For contact linguistics [14] is skeptical in attributing markedness a decisive role and states that "markedness rests on a basis, however ill defined, of relative productive and perceptual ease".

Most work has been done on markedness aspects of phones, phonemes or phonological systems with respect to segmental features. Hardly any work has been carried out on markedness aspects of suprasegmental features, neither at the word- nor at the sentence-level.

3.2. Typology of sentence accent

[15] notices that "serious justification of [predictions concerning the acquisition of discourse features], however, will depend upon a clearer notion of how markedness applies to higher levels of language organization, and specifically discourse".

Based on their study of French-Dutch foreign language acquisition, [16] propose the typology of sentence accent systems in (1).

(1)

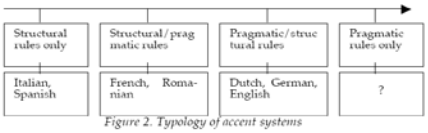


Figure 2. Typology of accent systems

The typology directly translates into a markedness scale, motivated by typological implications. [16] argue that many languages have structural constraints on sentence accent, whereas pragmatic factors (such as focus) are not necessarily involved, e.g. Spanish and Italian. Other languages, e.g. French and Dutch, rely on both structural and pragmatic information in their sentence accent pattern, but in a different order of preference. E.g. the Westgermanic languages are well-known to be highly sensitive to pragmatic information in their sentence accent distribution. But there seems to be no language where structural constraints are totally absent in sentence accent. Thus, there is a systematic gap concerning purely pragmatically-determined sentence accent, also mirrored by the observation that all languages display a default prosody associated with all-new sentences. Thus, pragmatically-determined sentence accent implies presence of structurally-determined sentence accent but not vice versa. Pragmatically-determined sentence accent is hence more marked than structurally-determined sentence accent.

In addition, [16] suggest a typology of accent *patterns*. In this they assume that accent patterns resulting from the application of structural rules (such as rhythmic accent in Dutch or final accent in French) are less marked than accent distributions that are motivated pragmatically (such as extended bridge accent in French). They cite deaccentuation as in Dutch and French as a further example of a pragmatically-motivated accent pattern.

3.3. Markedness scale of sentence accent

While adopting the general principle and reasoning of the sentence accent typology suggested by [16], the current paper would like to suggest two modifications.

3.3.1. Sentence accent and word prosody

First, sentence stress systems are independent from word-prosodic systems, such as tone, stress or pitch-accent (cf. [17]). Research has shown that prosodic focus marking is not restricted to stress languages but can also occur in tone languages [18]. Thus, whereas [16] include the word-prosodic systems of stress and phrasal accent in their typology of accent patterns, the current paper would like to propose that word-prosodic aspects should not feature in the markedness scale of sentence accent systems. This allows for its application to typologically different word-prosodic systems.

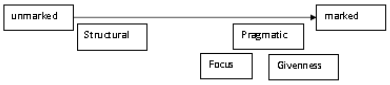
3.3.2. Givenness marking

Second, deaccentuation is the pragmatically-determined prosodic marking of givenness. [16] list deaccentuation as a pragmatically-determined accent pattern, thereby giving it equal status to prosodic focus marking. The Westgermanic languages English, German and Dutch are well-known for their deaccentuation of given information. But deaccentuation, just as prosodic focus marking, is not a language universal. It has been shown that some languages do not deaccent given information [19, 28]. The distributional patterns of focus accent and deaccentuation suggest that those languages which have deaccentuation also have focus accent. But the reverse is not true. I am not aware of any language that only has deaccentuation of given information but no prosodic marking of focus. Thus, there seems to be a cross-linguistic implication with respect to focus and givenness marking which is lost when prosodic givenness marking is considered on a par with focus marking. The implication can be translated into a markedness relation: Pragmatically-determined prosody for givenness is more marked than pragmatically-determined prosody for focus.

3.3.3. The proposal

The current paper thus suggests one single markedness scale of sentence accent systems which incorporates the above two modifications, namely independence of word-prosodic systems and givenness as a pragmatic factor on sentence accent independent of focus. The proposed markedness scale of sentence accent systems is given in (2).

(2) Markedness scale of sentence accent



4. Predictions for contact prosody

The markedness scale of sentence accent in (2) provides a unified basis to derive predictions concerning sentence accent in learner and contact varieties.

4.1.1. Language acquisition

Unmarked structures are acquired earlier in first language acquisition. Studies on the production of prosody suggest that contrastive stress is acquíred in English, namely from the age of around 3 onwards [20], thereby giving support to the markedness scale with structural sentence accent is the default in early speech production.

In second and foreign language acquisition, Eckman's Markedness Differential Hypothesis [21] states that "the relative degree of difficulty of the areas of the target language which are more marked than the native language will correspond to the relative degree of markedness". In their study on the L2 acquisition of French learners of Dutch and Dutch learners of French, [16] showed that Dutch learners of French acquire the French intonation system earlier than French learners of Dutch. The difference has been attributed to the relative markedness of the sentence accent system of the target language.

As shown in section 2, speakers of the upper mesolect of Black South African English diverge in their acoustic realization of prosodic focus in the case of noun focus

in both intensity and F0 from the standard variety, thereby raising the question if the pragmatic function of intonation is implemented at all in this variety.

Referring to the markedness scale in (2), the divergences in the prosodic marking of focus in this learner-like contact variety of South African English can be accounted for not only because prosodic focus marking is not a linguistic feature in the substrate South African Bantu languages (which do not mark focus prosodically; [22], [12]). But additionally, prosodic focus marking is a marked feature according to the markedness scale of sentence accent systems in (1) and (2), and marked features are difficult to acquire according to Eckman's Differential Markedness Hypothesis.

4.1.2. Language contact

Marked features are diachronically instable and prone to change. Consequently, the markedness scale predicts marked features of sentence accent systems such as prosodic focus and givenness marking to be targeted in contact-induced language change.

As shown in section 2, the native contact variety of South African English, the postacrolect, shows a manipulation of F0 on the basis of focus, thereby giving evidence of a pragmatically-determined sentence accent system. However, intensity is not aligned with the pragmatic function, but is independent of focus. The prosodic realization of focus marking is thus the target for language change when compared to the standard variety General South African English. In the case of the postacrolect of South African English one acoustic component of the pattern has been changed in isolation (cf. [23] for diverging phonetic cues to focus in Cameroon English). A more general absence of prosodic focus marking has also been reported for contact varieties (cf. [24: 232]). Within the approach taken here, the instability in the domain of focus marking is not surprising and is predicted due to its markedness and the long-standing cross-linguistic observation that marked features are subject to language change.

5. Conclusion and further research

The research has aimed at providing a unified account to the linguistic variation in prosodic focus marking found across learner and contact varieties of the same language. The notion of markedness allows singling out prosodic focus marking as a likely target of linguistic change given its cross-linguistic complexity in sentence accent systems.

The markedness scale of sentence accents in (2) makes further predictions for which no data from varieties of South African English are available yet, but which determine the way for further research in this area. It predicts that prosodic givenness marking is (even more) subject to language change. And indeed, according to [25] so far there is only evidence for the loss of givenness marking through language contact.

6. Acknowledgements

This research has been funded by the DFG, grant to the SFB 632 'Informationsstruktur'.

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