



Uptalk variation in three varieties of Northern Irish English

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Abstract

Uptalk is subject to study across varieties and dialects of English but few studies have examined the phenomenon within the same variety. Uptalk or high rising terminal on declaratives is considered the norm in Northern Irish English. The goal of the study is to have a broader understanding of uptalk differences within this variety. The paper provides a preliminary account of rising pitch movement at the end of declarative phrases in three dialects spoken in Northern Ireland (NI): Ulster Scots, Mid Ulster English and South Ulster English. The investigation was based on the analysis of recordings taken from the “*Dialects of English*” corpus: *Northern and Insular Scots*. Assuming differences in the phonetic realization of uptalk within the three varieties, our experimental investigation was concentrated on phrase-final measurements: duration of the rise and pitch excursion of the rising phrase boundary. Regional differences in uptalk phonetic realization emerged between the three varieties: South Ulster English is noticeably different from Ulster Scots and Mid Ulster English, the two first dialects display a typical final high rising contour though with differences in duration and F0 values whereas falls were more frequently used than rises in South Ulster English.

Index Terms: Intonation, Uptalk, high rising terminal, IP-final rise, Northern Irish English, dialect varieties.

1. Introduction

The “Urban Northern British” (UNB) rises [1], [2] represent a typical declarative tune in many northern varieties of British English [3], [4]. The rising configuration in UNB is referred to as *uptalk/upspeak* or *high rising terminal (HRT)*. It is characterized by a finale rise at the end of declarative phrases. If the use of rising pitch is common across UNB varieties, final rises or high rising terminals vary in forms and pragmatic functions from one variety to another. Researchers who investigated rising intonation over declarative statements in UNB varieties analyzed Belfast English [5, 6, 7, 8], Glasgow English, [9], [10], Birmingham English and Liverpoolian English [1], [3]. This study focuses on uptalk in Northern Ireland varieties and examines its phonetic realization. What is remarkable about the intonational system in Northern Irish English (henceforth NIE) is the fact that it is described as strikingly different from RP and Southern Irish English [2]. The uptalk phenomenon in NIE is considered different from the uptalk of Australian, New Zealand and American English [1]. In these varieties declarative rising tunes convey semantic information which involves differences in intonational meaning whereas rising tunes in NIE are referred to as *systemic* which implies differences in intonational categories [3]. Rising tunes in NIE are actually deemed to be the normal neutral one [2], [11]. But differences in forms and pragmatic

functions within NIE do exist. The geography of NI highlights geological and topographical features that show distinct dialect zones: Ulster Scots, South Ulster English and Mid Ulster English [12], [13]. The three major dialects are spoken in the region covering six of the nine counties which was once known as the province of Ulster: Derry, Antrim, Down, Armagh, Fermanagh and Tyrone [12], [13].

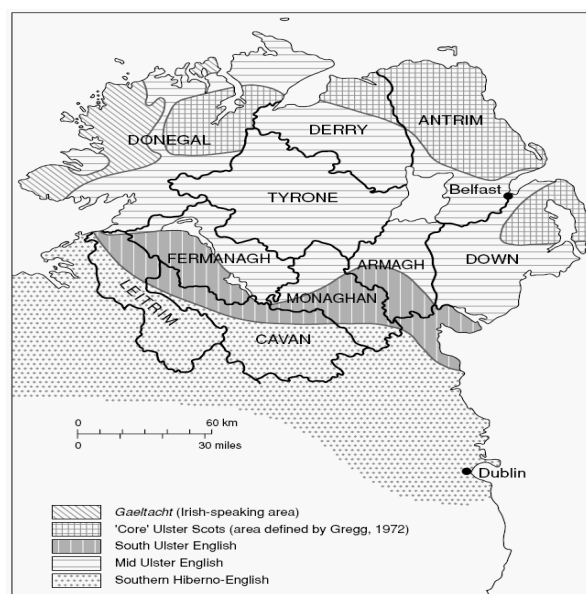


Figure 1: Location of the major dialect zones of Northern Ireland [12]

Northern Ireland has a complex linguistic landscape where each variety was influenced by other neighboring English dialects during the different immigration periods. For instance Ulster Scots dialect is derived from the Lowland Scots settlers in the seventeenth century during the plantation period, Mid-Ulster English is influenced by English settlers in central parts of Ulster etc. [12]. Each immigration period brought its load of segmental and suprasegmental changes to these dialects. The main distinction between the three dialects has been conventionally drawn from phonological criteria mainly based on vowel quantity or duration of the vowel otherwise known as The Scottish Vowel length Rule (SVLR) or Aitken’s Law [12], [13], where stressed vowels are lengthened before a morpheme boundary, voiced fricatives, rhotics, hiatus or inflectional suffixes. Thus SVLR allows [brʊd] <brood> and [brɑːd] for <brewed> to become a minimal pair in Ulster Scots while they are homophonous in SUE [12]. Every monophthong is subject to this lengthening variation except

the vowel /ɪ/ and /ʌ/ which are realized short in all environments in all dialects. However some vowel-length irregularities have been noticed in some Shetland dialects. Vowel quality does not change with SVLR. The Ulster Scots variety (henceforth US) spoken in the north east incorporates the SVLR brought from Scotland unlike South Ulster English (henceforth SUE) which retains the West Germanic type vowel length system. Mid Ulster Scots (henceforth MUS) integrates a mixed vowel system depending on the neighboring dialect zone be it US or SUE. [14], [13]. If this segmental feature allows the distinction between the three varieties: MUE, SUE and US, there is little coverage on prosodic features among these three dialects and not much on how the Scottish Vowel length Rule had influenced their intonational system. Investigations on NI prosody often ignore inter-dialectal and intra-dialectal variations. However [14], [15] define rises in NI intonation as having peak delay as a particular characteristic, which considered to play a significant role in NI high rising terminals on statements. However the study does not specify if this is a common feature among the three varieties. Many studies have looked at the differences of phonetic realizations of uptalk in several English varieties, although comparative studies on degrees of difference in phonetic realization between the three varieties have been of a limited focus in existing research on uptalk. This qualitative study attempts to give an account of the following: firstly it captures whether similar or different features in the phonetic realization of uptalk occur between the three varieties; secondly the paper examines the hypothesis that uptalk in the three dialects can be distinguished in terms of the alignment of the melodic peak to the segmental string [15] and to differences in pitch excursion due to the incorporation or lack of The Scottish Vowel length Rule. (SVLR). The small sample size of the study at this stage of investigation does not allow us to conduct statistical analyses.

2. Method

2.1. Materials

Speech data for this study is taken from the *Dialects of English: Northern and Insular Scots, Irish English: Northern Ireland* [16]. This is a corpus of audio files recordings from three urban dialects spoken in Northern Ireland US, SUE and MUE, [13]. The recordings were made around Northern Ireland in 2008. The corpus contains three speaking styles: interviews, a read text and sentence reading of isolated statements. The sentences are described as declaratives as their sole purpose is to give information. Only data from the read statements are reported in this paper.

2.2. Speakers

The study is based on data of nine native speakers from Northern Ireland. Three speakers are selected from each variety all of them were male speakers as the recordings for Ulster Scots and South Ulster contain only male speakers. Six sentences were analyzed for each speaker. The speakers represent the young, middle-aged and old generations from diverse educational backgrounds. The corpus also provides detailed information about each participant: dialect zone, province, sex, age, educational level, and religion. Recent research has proved that accents and intonational patterns appear to strongly correlate with extralinguistic factors such as

gender, age, educational background, social class etc. Within the scope of this study these factors are not taken into account.

2.3. Analysis and Measurements

The analysis is being carried out using Praat [17] and applying the Autosegmental-Metrical (AM) approach to intonation, including two distinguished phonetic parameters: alignment and scaling. Alignment refers to the speaker's High H and Low L targets with reference to segmental and syllabic landmarks. Scaling relates to the relative height of H and L targets in the speaker's pitch range at that target point. [3, 18, 19, 20]. The data was annotated according to an adapted version of acoustic transcription conventions measuring the speaker's mean pitch in Hz, the highest and lowest F0 values observed in IP-final rises starting from the last stressed vowel [21], [22]. In addition to the annotation of the final contour shape, pitch variations of IP-final rises were measured to investigate pitch changes for instance a sudden increase over the duration of IP-final rise [22]. Pitch excursion of IP-final rises was measured from the nucleus accent to the end of the IP-rise final. As we speculate on the influence of SVLR on uptalk in the three varieties, vowel duration and trajectory were measured from the vowel onset (P1) to the vowel offset (P3), providing at the same time values at the middle of the vowel (P2), each part being around 33% of the total length of the vowel. The duration of the final rise is measured from the beginning of the rise until the final peak [22].

3. Results

3.1. Alignment of the Final Rise

To ensure reliability and validity of the data, all initial measurements were examined by a second experienced evaluator. Preliminary results in all of the samples collected and analyzed (fifty-four in total), show striking differences between the three dialects but not at the same level, see figure 2. South Ulster English is noticeably different from Ulster Scots and Mid Ulster English at both alignment and scaling levels. Mid Ulster English and Ulster Scots display a high rising terminal in declaratives which is not the case of South Ulster dialect. South Ulster English presents consistent differences with the two other dialects. Alignment results of SUE surprisingly reveal the absence of uptalk in this variety; there were more frequent falls than rises. IP-finals are either falling contours (80%) or flat ones (20%). Vowel trajectory in SUE indicates a slight rise at the vowel onset followed by regular small falls until the vowel offset whereas the vowel trajectory in US dialect shows a steady rise starting from the vowel onset till the offset. In MUE, rises take the form of pitch "elbows" transition [21] which starts at the vowel onset and then changes direction, showing a drop before a final rise which is slightly lower than in US dialect. SUE presents the lowest P2 values, around 87 Hz compared to US and MUE being at 150 Hz and 131 Hz respectively.

3.2. Scaling of the Final Rise

Preliminary results show that uptalk is significantly frequent in declaratives in US and MUE. Pitch excursions associated with uptalk reveal major differences between US and MUE on the one hand and SUE on the other. US and MUE dialects display visible different pitch excursions in relation to the speaker's pitch range, exhibiting very steep rises with a greater

excursion in MUS in spite of the fact that peak values are notably higher in US than in MUE. The sudden rise after the vowel onset at P2 level might have an important influence on MUE excursion values. Mean values in Hz between the three varieties are shown in figure 3.

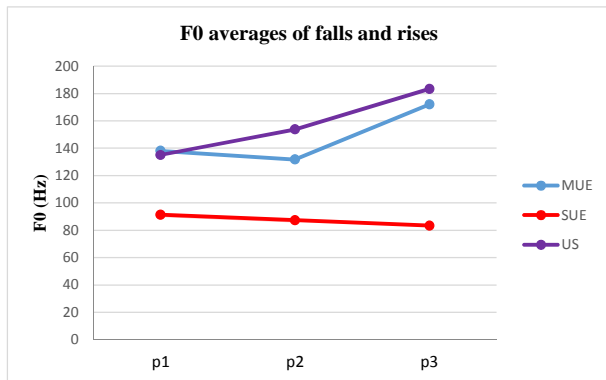


Figure 2: Mean rise alignment in the three dialect zones: Mid Ulster English, South Ulster English and Ulster Scots.

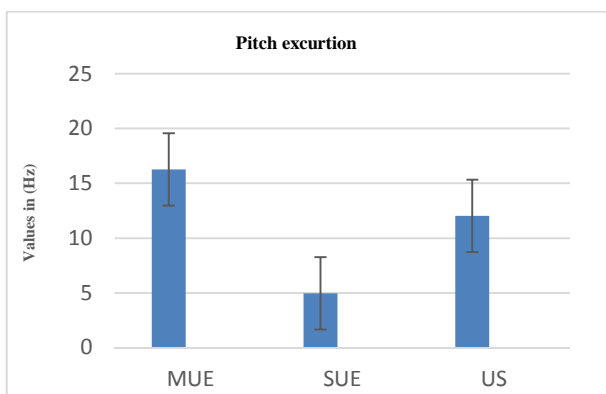


Figure 3: Pitch excursion in Mid Ulster English, South Ulster English and Ulster Scots.

3.3. Scottish Vowel length Rule (SVLR)

The legitimate aim of duration measurements of the last stressed vowel in this study is supported by the assumption that the phonological criteria of vowel quantity known, as The Scottish Vowel length Rule, which traditionally distinguishes the three varieties might have a significant impact on uptalk. MUE is proved to be the most influenced dialect by SVLR [23]. Duration mean in Figure 4 is a striking example which provides evidence of the difference in vowel duration between the three dialects. Once again, SUE does not seem to apply this rule, with an average of vowel duration around 99 ms. US and MUE apply the SVLR with a slight difference in duration values, MUE having an average of 152 ms and US an average of 125 ms. Significant disparities concerning the SVLR seem to be obvious in distinguishing the three dialects. We make the assumption that lengthening of vowels in MUE and US due to SVLR leads to a larger pitch excursion and the rising pitch

pattern is positively correlated to the lengthening of vowel duration in IPs. The hypothesis came about due to the fact that a rising pitch movement takes longer than a falling pitch movement. Nevertheless this is subject to confirmation or rejection by empirical tests. The limited scope of this study does not yet allow us to confirm the real influence of SVLR on IPs final rising in uptalk.

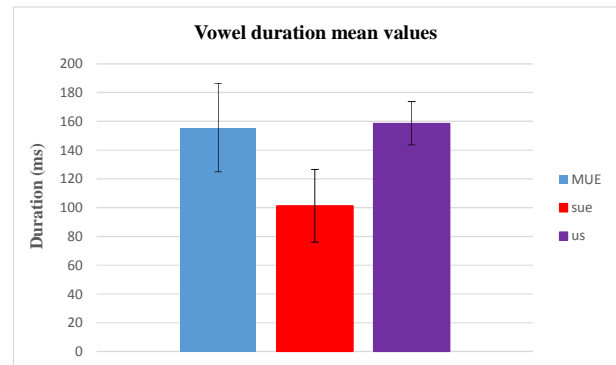


Figure 4: Vowel duration mean values in "coat" in the three Northern Irish varieties.

4. Discussion and Conclusions

The present study provides preliminary results on the phonetic realization of uptalk in three varieties of English spoken in Northern Ireland. The findings suggest interesting observations with regard to the phonetic realization of the uptalk contour in Northern Irish English. Firstly the results show significant variation between the three dialects, especially between the dialects spoken in the northern zones and the southern one as described above. Findings reveal that uptalk in declaratives is not present in all geographical zones of Northern Ireland. South Ulster English seems to have a regular declarative utterance as it has a falling contour which is more RP-like in this particular respect. Though uptalk is strongly present in the two other dialect zones: Ulster Scots in the North East and the North West of NI and in MUE in the middle area, uptalk in these two dialects is characterized by a high final rise in both varieties but with a difference in the shape of the final contour. US variety seems to occupy the highest range of F0 values with a steep rise in IP-final. MUE seems to have a greater F0- excursion, which might be attributed to the sudden change in vowel trajectory. The findings of this study have also drawn attention on the interaction of SVLR and the intonational phenomena in each variety. The relevance of SVLR in uptalk will be the subject of a further study. The results given in this paper are far too preliminary to be able to draw any conclusive results. Therefore follow-up researches on the basis of more token and statistical analysis will allow investigating the exact role of SVLR on IPs final rising in uptalk.

5. References

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