A study examined final vowel qualities in the speech of seven English speakers from the urban Tyneside area of England. It focused on variations in the pronunciation of the final "y" (e.g., city, happy, tiny) and their explanation by way of (1) the resonance characteristics associated with the articulatory gesture, (2) the rhythmic-quantity characteristics of the first, accented syllable, and (3) the voicing characteristics immediately following the final vowel. The study points to the importance of three factors in phonological statement: (1) the need to recognize many structures and systems; (2) the need to take systematic account of the resonance characteristics of all articulatory gestures; and (3) the phonological relevance of pieces longer than the segment or syllable. (MSE)
SOME RHYTHM, RESONANCE AND QUALITY VARIATIONS IN URBAN TYNESIDE SPEECH

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Writers on English pronunciation often comment on the different vowel qualities which can be heard, in different accents, in the final syllable of words such as city (e.g. Jones, 1972; Ripman, 1940; Ward, 1950; Wells, 1983). Wells, for instance, writes:

Most RP, and conservative varieties of GenAm have [I] for happy. This quality is also found in the centre of the north of England (Manchester, Leeds) ... Rather opener qualities approaching [E] are found in Nottingham and in certain varieties of RP (particularly that associated with army officers) .... Consistent final [I] is found in much of the south of England, as well as in the peripheral north (Liverpool, Newcastle, Hull, Birmingham). (1983: 165-166)

Recent work on the speech of localised urban Tynesiders has revealed some interesting and, to the best of my knowledge, previously unreported aspects of vowel variation in such final open syllables. This work indicates that the final vowel in city, etc. may not be as 'consistent' as Wells suggests.

Here I report on the speech of seven localised urban Tyneside speakers (three men and four women) however the observations seem to hold for other speakers on urban Tyneside (see Local, in prep). I suspect that some of the variation that I will discuss has sociolinguistic relevance for the Tyneside community but at present this is little more than a hunch. (Jones-Sargent, 1983, gives details of some aspects of sociolinguistic variation in the Tyneside community.) The tape recordings on which the present observations are based were made during the course of research for the Tyneside Linguistic Survey (Pellowe et al, 1972).

For the Tyneside speakers considered here the vowel qualities in the final syllable of words such as city, Geordie, etc. are, as Wells suggests, typically in the close front spread region. However, on careful listening there are several recurrent qualities discernible within this region. The following symbols for these qualities...
appear in my transcriptions: [\( \ell \), \( \hat{\ell} \), \( \breve{\ell} \), \( \check{\ell} \), \( \hat{\check{\ell}} \), \( \hat{\breve{\ell}} \)]. The range of variation which these symbols reflect is not random. It is explicable if we take account of three things: (1) the resonance characteristics associated with the articulatory gesture preceding the final vowel, (2) the rhythmic-quantity characteristics of the first, accented, syllable and (3) the voicing characteristics immediately following the final vowel.

(1) Closer, more peripheral qualities, e.g. [\( \hat{\ell} \), \( \hat{\check{\ell}} \)] are observed where preceding gestures have clear resonance. For the Tyneside speakers under consideration here clear resonance is associated with alveolarity laterality and voice. and with nasality with alveolarity or bilabiality and voice. More retracted or central qualities, e.g. [\( \hat{\ell} \), \( \breve{\ell} \)] are observed where preceding gestures have central-to-back or back resonance. These resonance categories are associated with labiodentality with close approximation or open approximation and voice and with apicality, post-alveolarity and voice. All other preceding articulatory gestures have central resonance associated with them and are associated with the following typical, final, qualities [\( \hat{\check{\ell}} \), \( \hat{\breve{\ell}} \)].

Thus for one speaker (PT) for pally, any, heavy, carry, happy, hacky and coffee we find:

\[
\begin{align*}
\hat{\ell}^h & \quad \hat{\check{\ell}}^i \\
\breve{\ell}^n & \quad \hat{\check{\ell}}^i \\
\hat{\breve{\ell}}^c & \quad \hat{\check{\ell}}^v \\
\hat{\breve{\ell}}^c & \quad \hat{\check{\ell}}^v \\
\hat{\breve{\ell}}^c & \quad \hat{\check{\ell}}^v \\
\end{align*}
\]

(Transcriptions are no narrower than is necessary to give some idea of pronunciation, to indicate resonance characteristics where relevant, and to indicate the quality of the final vowel. Thus \( \hat{\check{\ell}} \) = 'clear' resonance; \( \breve{\ell} \) = central resonance; \( \hat{\check{\ell}} \) = central-to-back or 'dark' resonance. Where S = any symbol.)

(2) The rhythmic-quantity characteristics which have relevance for the quality of these final open syllable vowels are those discussed by Abercrombie (1964). Abercrombie distinguishes, for disyllabic feet, three rhythmic-quantity configurations: short-long, equal-equal, and long-short. The third of these does not concern us here but the first two do. For the seven Tyneside speakers disyllables of the kind busy, city and very have first syllables which are noticeably shorter than their final syllables. In words such as country, handy, easy and tiny
these speakers produce syllables of roughly equal length. The configuration of events which give rise to these two syllable quantity patterns are those which Abercrombie describes. Short-long quantities are found in disyllables where the first, accented, syllable has a short vowel followed by no more than one consonant. Equal-equal syllable quantities are found where the first, accented, syllable has a short vowel followed by more than one consonant, or a long vowel followed by any number of consonants. For all seven speakers words with short-long quantities have (as a set) less peripheral, less close vowels in their final unaccented open syllable. Words with equal-equal quantities have more peripheral, closer vowels in their final syllables. Thus for one speaker (PT) we find for silly, sunny, sorry, happy, touchy, coffee, (short-long), and ghastly, tiny, country, auntie, lumpy, poky, leafy (equal-equal) we find:

silly: /sɪli/ short-long
sunny: /ˈsʌni/ short-long
sorry: /ˈsɔri/ short-long
happy: /ˈhæpi/ short-long
touchy: /ˈtʌki/ short-long
coffee: /ˈkʌfi/ short-long
ghastly: /ˈgæstli/ equal-equal
tiny: /ˈtɪni/ equal-equal
country: /ˈkʌntri/ equal-equal
auntie: /ˈænti/ equal-equal
lumpy: /ˈlʌmpi/ equal-equal
poky: /ˈpoʊki/ equal-equal
leafy: /ˈliːfi/ equal-equal

(It is interesting to note that for this speaker, and I think for many other Tyneside speakers tf, as in touchy, functions, for rhythmic purposes, as one consonant. Compare this with Abercrombie who remarks 'for me tf functions as CC and not as C'. (1964: 33)

For another speaker (IW) for smelly, worry, city, body, busy, (short-long), and Lobley, hungry, forty, eighty, Clarkies, nosey (equal-equal) we find:

smelly: /ˈsmɛli/ short-long
worry: /ˈwʌri/ short-long
city: /ˈsɪti/ short-long
body: /ˈbɒdi/ short-long
busy: /ˈbʌsi/ short-long
Lobley: /ˈlʌbl/ short-long
hungry: /ˈhʌŋgi/ short-long
forty: /ˈfɔrti/ short-long
eighty: /ˈeɪti/ short-long
Clarkies: /ˈklɑrkiz/ short-long
nosey: /ˈnəsti/ equal-equal

short-long: /tʃ/
For another speaker (FTB) for canny, every, netty, kiddie, mucky (short-long), and tiny, Mary, forty, boodie, bookies (equal-equal) we find:

\[
\begin{align*}
\text{k\text{\textbar}n\text{\textbar}n\text{\textbar}i} & \quad \text{ov\text{\textbar}n\text{\textbar} me\text{\textbar}2\text{\textbar}i} \\
\text{th\text{\textbar}n\text{\textbar}i} & \quad \text{m\text{\textbar}2k\text{\textbar}i}
\end{align*}
\]

(3) The quality of some of the final syllable vowels under discussion here also varies depending on where there is following silent pause or a voiceless articulatory gesture on one hand, or following voice on the other (cf. Jones, 1972: para 260ff; Wells, 1983: 165-166). For words with short-long quantity the final vowel is relatively closer if there is following voice. Thus words with short-long quantity are maximally differentiated, other things being equal, from those with equal-equal quantity, in respect of their final vowels when pre-pausal or when the following articulation is voiceless. Thus for instance (for FTB) we find:

very poor... ve\text{\textbar}xi

very good ... ve\text{\textbar}xi

rake in the money m\text{\textbar}ni

such a lot of money when they went on holiday m\text{\textbar}ni

money to spend ... m\text{\textbar}ni

(for PT):

very happy ha\text{\textbar}2p\text{\textbar}i

happy living down here ha\text{\textbar}2p\text{\textbar}i

get touchy th\text{\textbar}z\text{\textbar}fi

touchy about ages th\text{\textbar}z\text{\textbar}fi

I could maybe me\text{\textbar}b\text{\textbar}i

maybe when both the children ... me\text{\textbar}b\text{\textbar}i

(for MJF):

find any e\text{\textbar}ni

got any e\text{\textbar}ni
any time \( e_{\text{n}} i \)
any money \( e_{\text{i}} \tilde{\text{i}} \)
any day \( e_{\text{n}} i \)
(for JH):
money \( m_{\text{i}} n_{\text{i}} \)
money now \( m_{\text{i}} n_{\text{i}} \)

In particular pre-voice positions, where the voiced element is a hesitation noise (typically [\( \text{E}: \text{E}: \text{E}: \text{E} \)]), diphthongs with close and long second elements sometimes occur. Such diphthongs for these final unaccented vowels only ever occur here and when speakers can be said to be doing 'turn holding' in conversation (cf. Local, Kelly and Wells, 1983).

In summary then we find the following typical pre-pausal qualities for the final open syllable vowel under discussion (using superscript \( y \) for clear resonance, \( \delta \) for central resonance and \( \omega \) for central-to-back or back resonance).

Words with 'short-long' patterns:

\[
\begin{align*}
\text{CV CV} & \quad \text{i} \quad \text{e.g. silly} \\
\text{CV CV} & \quad \text{i} \quad \text{city} \\
\text{CV CV} & \quad \text{i} \quad \text{very}
\end{align*}
\]

Words with 'equal-equal' patterns:

\[
\begin{align*}
\text{CV CV} & \quad \text{i} \quad \text{e.g. tiny} \\
\text{CV CV} & \quad \text{i} \quad \text{lumpy} \\
\text{CV CV} & \quad \text{i} \quad \text{nervy}
\end{align*}
\]

Closer and front qualities occur for 'short-long' pieces where there is following voice.

The data I have discussed briefly here has, I think,
three main implications for phonological statement. First, it highlights the need to recognise, in analysis and statement, many structures and systems. Here, for instance, unless those words with 'short-long' patterns are dealt with separately from those with 'equal-equal' patterns and treated as different structures having different properties, we would have no principled way of sorting out variation of the kind I have discussed. We could not, for instance, give a coherent description of the vowel quality variation and overlap in

\[ \text{sænt-ɪ} \] \[ \text{tɪm-2p-ɪ} \] \[ \text{lɪfi} \] \[ \text{thi:ǐni} \]
\[ \text{gasli} \] \[ \text{soni} \] \[ \text{smēli} \]

on one hand and that in

\[ \text{smēli} \] \[ \text{ stil} \]
\[ \text{soni} \] \[ \text{sɔni} \]

on the other. In the first group the overlap-variation results from the interaction of resonance categories and rhythmic patterning. In the second group the variation results from the same rhythmic patterning and resonance category ('short-long', clear) but with the presence or absence of following voice. If the corpus was extended to include other unaccented final open-syllable vowels the need for polysystemic treatment would become even more obvious. In the case of words such as latter, laughter, widow and window the rhythmic characteristics discussed above have no consequence for final vowel quality. Rather, in these cases, any quality variation which may occur seem to have to do with systems of vowel harmony focused on the first, accented, syllable (see Local, in prep).

Second, the data here draws attention to the need to take systematic account of the resonance characteristics of all articulatory gestures (see Kelly and Local, in prep.). If such characteristics had been ignored here there would have been no way of accounting for the similarities of effect of \[ \text{tə} \] \[ \text{mə} \] \[ \text{na} \] on one hand and \[ \text{tə} \] \[ \text{mə} \] on the other and the difference of effect of both of these sets from all the other consonants standing before the final vowel.

Third, the importance of the rhythmic piece as prime mover in the determination of vowel quality here emphasises
the phonological relevance of pieces longer than the segment or syllable. The relevance of such pieces is all too often overlooked in treatments of English phonology.

The type of vowel variation that I have discussed here may not be restricted solely to urban Tyneside. I have heard quality variations which seem to go around with the same rhythmic patternings from a West Yorkshire speaker. Moreover, it is interesting to speculate that such rhythm and vowel quality variations may not be restricted to present-day English. For example, Abercrombie, while discussing the anomalousness of 'a syllable which is stressed and yet short, followed by an unstressed one which is long' (1964:30), notes that Sweet was interested in the phonological relevance of this rhythmic pattern for language change. Abercrombie writes:

Sweet considered ... that this relation of quantity goes back a long way in English and accounts for the retention of the final u in OE scipu as compared with its loss in hus or word. (1964:30)

The present data tantalizingly suggest that the OE quantity relationships Sweet was concerned with may well have had quality implications and that these might have contributed to the language change and non-change.

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