Phonological Variation and Change in Contemporary English: Evidence from Newcastle upon Tyne and Derby

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ABSTRACT

This pnper gives an overview of the principal findings of a recent project carried out on phonological variation and change in contemporary spoken English. We examined patterns of phonological variation and change in contemporary urban dialects. using quantitative sociolinguistic methods, instrumental phonetic, nnd phonological analysis. Conversational and word-list data were systematically collected from 32 Tyneside and 32 Derby speakers, each sample being stratified to include equal numbers of men and women, two age-groups and two social class groups. This sample design allowed us to assess the impact of age, class, and gender on patterns of language variation and change, as well as the geographical domains of specific changrs. The principal results are described and their theoretical implications are discussed. (Keywords: Phonological variation and change. sociolinguistic methods. instrumental phonetics).

RESUMEN:

Este trabajo ofrece un resumen de un proyecto de investigación centrado en la variación y el cambio fonológicos en inglés oral contemporáneo. Se han estudiado tendencias de variación y cambio fonológico en distintos dialectos urbanos del inglés contemporáneo aplicando métodos de sociolingüística cuantitativa, de fonética acústica e instrumetal y de análisis fonológico. Los datos proceden de 32 informantes de Tyneside y 32 de Derby: cada uno de estos dos grupos incluía el mismo número de hombres y mujeres y distinguía dos grupos de edades y dos clases sociales. Los datos se obtuvieron. en ambos casos, a partir de la lectura de listas de palabras o de conversaciones con los informantes. Esta muestra nos ha permitido evaluar la influencia que factores como la edad. la clase social y el sexo han tenido en los distintas tendencias de

*variación y cambio lingüístico que se analizan, además de ofrecernos información sobre los ámbitos geográficos de algunos cambios concretos. Tanto los resultados de este proyecto, como sus implicaciones teóricas se describen en **el** artículo.* (Palabras clave: Variación fonológica, cambio fonológico, metodología sociolingüística, fonética acústica e instrumental).

I. BACKGROUND

This paper gives a concise outline of the principal findings of a recent project carried out on phonological variation and change in contemporary spoken English (funded by the UK Economic & Social Research Council: R000234892, 1994-1997). The project set out to integrate work from three separate traditions of linguistic and phonetic research:

> i) quantitative variationist analysis, supplemented by relevant dialectological and historical information:
> **ii)** acoustic phonetics;
> **iii)** current theoretical phonology.

The major objective of quantitative research is to develop a socially sensitive account of language change. The speaker sample in this as in other variationist studies was designed on the assumption that regular patterns of language variation and change are most easily located in non-standard varieties and in casual styles. Ongoing changes can be identified by a comparative analysis of the stylistically differentiated speech of different social and gender groups and generation cohorts, and are most evident in the casual speech of individuals who belong to neither the highest nor the lowest social classes. Males and females adopt innovations at different rates. Relevant historical and dialectological information enables the direction and rate of change to be more reliably inferred. Acoustic analysis in conjunction with variationist analysis was used to provide detailed descriptions of variants and to corroborate auditory judgements. Instrumental analysis offsets the limitations of conventional auditory categorisation and permits new insights into the dynamics of variation and change. Phonological theories make predictions about possible and impossible patterns of variation, but seldom take account of variationist work. There is evidence that variationists for their part are increasingly currently seeking phonological frameworks which can accommodate their findings (e.g. Nagy & Reynolds, 1997), although this has had relatively limited impact to date.

Mees (1987) provided an important background to this project in demonstrating the advantages for sociolinguistic analysis of a phonetically detailed description of the variants of /t/ (in Cardiff English), the phonological element which we analysed in particular detail. Also relevant was the pilot work carried out by Hartley on voiceless stop realisations in the speech of 16 Tyneside children, eight boys and eight girls (Hartley, 1992: Milroy et al. 1994a: 1994b). It was shown that girls preferred glottal variants whereas boys used more glottalised variants. As work proceeded, the relevance of concurrent variationist research by Kerswill & Williams in Milton Keynes became apparent (Kerswill, 1996: Williams & Kerswill, forthcoming). The dialect levelling framework used by those researchers has been adopted in the present study to describe changes in vowel systems.

The key objectives of the project were:

a) to analyse quantitatively a set of phonological variables apparently undergoing change in several non-standard varieties of current British English;

b) to evaluate and refine current theories of linguistic change:

c) to investigate social trajectories of linguistic change. with particular reference to the spread of localised change to supra-local domains:

d) within the general frarnework of laboratory-based phonology to (1) carry out a detailed acoustic study of the phonetic characteristics of glottal variants of stops with a view to addressing iniportant sociolinguistic and phonological issues (2) investigate the input of an accountable empirical analysis of speech production to current phonological theories and (3) to examine the contrihution of instrumental phonetic analysis to sociolinguistic rnethod and theory.

e) to examine the interface between current sociolinguistic and phonological frameworks and theories.

II. THE DATA

We analysed newly collected data in two urban locations, Newcastle and Derby. and existing recorded data from Glasgow and Milton Keynes. In Newcastle and Derby, two neighbourhoods were identified which were socially differentiated in a comparable way. The rnain requirement was that while linpuistically rnarked social class contrasts between the two areas would. it was hoped. emerge. speakers should retain some localised features in their speech. In simplified terrns. we sought to contrast working class and lower middle class neighhourhoods. The neighbourhoods selected were Newbiggin Hall (WC) and Chapel House (MC) in Newcastle and Chaddesden (WC) and Spondon (MC) in Derby. In each neiphbourhood a judgement sample of 16 speakers was drawn (total = 64) to include equal numbers of rnen and women. Half of the speakers were aged between 16 and 25, and half between 45 and 65. This design allowed the effects of age. gender. class and area on patterns of linguistic variation and change to emerge. Speakers were contacted by means of a social network procedure: the fieldworkers rnade initial local contacts through 'friends of friends' and were passed on to others in the neighbourhood until the quotas were filled.

To obtain sufficient speech in a reasonably casual style, speakers were recorded conversing in self-selected pairs for about 50 minutes with minimum fieldworker intervention. This technique. developed from procedures originally used by Milroy and Milroy in Belfast. proved to he an extremely successful and innovative method of eliciting naturalistic speech samples. A carefully structured 150-itern word-list was also recorded (slightly longer for Derby). This corpus, the basis for our core sociolinguistic and phonetic analysis. totalled around 60 hours of spontaneous speech plus one word list per speaker. All recordings were rnade using portable digital audio tape equipment. The fieldworker positioned the rnicrophone carefully and elirninated as niuch arnbient noise as possible to ensure that recordings were of sufficiently high quality for relevant acoustic rneasures.

To supplernent the Newcastle and Derby analysis, two existing corpora (the HCRC corpus from Glasgow |Anderson et al. 1991] and Kerswill and Williams' Milton Keynes corpus [Kerswill. 1996]) were examined. chiefly to compare patterns of phonological variation with those which emerged in Newcastle and Derby. Thus. we were also able to assess the regional distribution of particular phonological patterns.

III. THE PHONOLOGICAL VARIABLES

The following consonantal and vowel variables were examined:

> 1.- (p) (t) (k) (r): the complete Derby and Newcastle corpus of: medial and final /t/; medial /p k/; linking and intrusive /r/.
>
> 2.-(TH): in Derby. the merger. following rapid language change. of voiced and voiceless interdental fricatives witli voiced and voiceless labiodental fricatives: the development of labialised forms of /r/.
>
> 3.-An analysis of four vowel variables. those of the key words FACE. LOAD, MEET. and SIDE.

IV. METHODS

Phonological variables were analysed both auditorily and acoustically. The chief methodological approach. the auditory analysis. was initially to identify as many variants of each variable as possible, the hypothesis being that a fine grained phonetic analysis would illuminate systematic patterns of phonological variation and change. Following generally accepted variationist procedures, we aimed at coding a minimum of thirty tokens per speaker and only occasionally fell short of this target. In some cases ((p). (t). (k). (r)) substantially more than thirty tokens per speaker were analysed. Coding decisions were subject to cross checking by a second analyst and to instrumental corroboration. Contrary to much variationist analysis, no assumption was made of a parallel phonetic/social continuum of most to least standard. Lexical tokens of each variant were noted. as were proportions used by each speaker of each variant. The sociolinguistic patterns which emerged were then inspected to assess trajectories and directions of change. In an attempt to examine the possible communicative function of variants. the utterance context as well as the phonological context of variants of (t) was examined.

     Acoustic analysis was based on spectrographic representations of the tokens of interest. For each variable investigated an acoustic profile was generated describing the principal acoustic correlates observed. The profiles were subsequently compared to the results of the auditory analysis of the same tokens. For example. in analysing the glottal variants of /t/, the profile focused on the following acoustic parameters: any interruption of voicing during the stop interval, presence of any laryngealisation, presence of a silent stop gap. presence of a release burst. evidence of formant transitions in adjacent vowels corresponding to a following or preceding /t/. The profile for each token was then compared to the corresponding auditory analysis to evaluate its reliability (further details of the acoustic analysis can be found in Docherty & Foulkes. 1995; forthcoming).

     All quantitative data were dealt with by means of appropriate statistical procedures. In most cases the aim was to relate patterns of usage in phonological variables at each location to age, gender and class. Where appropriate. the data from more than one city were analysed simultaneously. with area being incorporated as an additional explanatory variable. Analysis involved making inferences based on higli-dimensional contingency tables. where the variation in phonological variables with social factors often involved complex interactions. Log-linear models were used to identify the significant relationships. The significant variation observed

between speakers. even after all social factors have been incorporated into models. was accounted for using appropriate modifications for overdispersion.

V. RESULTS

We look in turn below at salient issues emerging from auditory and acoustic analyses of both consonant and vowel variables. Readers are referred to the sources listed below for full accounts of the quantitative findings of this study which space did not permit to be included in this outline.

V.1 Consonant Variables

V.1.1 Auditory Analysis

Variants of ltl were analysed in considerable detail in both Tyneside and Derby. with supplementary analysis of the Glasgow and Milton Keynes corpora. Several important findings depended upon a careful and acoustically corrohorated distinction between glottal and glottalised variants of /t/ (the former being where the alveolar articulation is apparently replaced by a glottal stop. the latter occurring when the alveolar articulation is reinforced by a glottal articulation). However. with the exception of Mees' (1987) work, this distinction is seldom drawn in either the sociolinguistic or the phonological literature. Glottalised variants of /t/ (and also /p/ and /k/) are characteristic of Tyneside speech. especially that of older working class men and are common in intervocalic contexts. Glottal stops on the other hand. occur relatively rarely in intervocalic contexts and when they do so are characteristic of the speech of young women, particularly young middle class women. This converse pattern of distrihution supports the argument that while glottalised variants are characteristic of the traditional dialect, glottal stops are not. Rather. the increase in glottal stops retlects a robust supra-local change reported in a number of locations around Britain where. like Tyneside, glottal stops are not characteristic of the traditional dialect. ln other locations. like Derby. Norwich or Milton Keynes. where glottal stops are established as a rural and urban working class dialect feature. they are reported to be spreading into the speech of higher status speakers or into more formal styles in an ordered set of phonological contexts. The distribution of these relatively infrequent glottal tokens in Newcastle suggests that young middle class women are the early adopters of this supra-local change. while men are more inclined to retain the glottalised variants of the traditional dialect.

    The early results of this analysis are reported in Milroy et al (1994a; 1994b) and more fully in Docherty et al (1997) and Docherty & Foulkes (forthcoming). Notably, and contrary to generally accepted sociolinguistic wisdom. this change can not arise from women's orientation to a prestige norm. Rather, males and females focused characteristically on different variants of /t/. the women preferring the supra-local glottal variant which is advancing rapidly in a number of other British urban dialects. and the men preferring the localised (glottalised) variant. However, women also use the non-glottalised variant of ltl very much more frequently than men.

    A characteristic and striking constraint in Tyneside English on the occurrence of both glottal and glottalised variants in pre-pausal contexts was also examined: pre-pausal contexts

were found to operate very differently from those reported elsewhere. for example in Milton Keynes, where this context strongly favours glottal variants. Despite the high frequency of glottal realisations in the Tyneside sarnple overall. in pre-pausal position stops were alrnost categorically non-plottallglottalised. being produced instead as a fairly canonical released stop. or with some form of spirantisation or. in some cases. even pre-aspiration (Docherty & Foulkes. 1996 – see further comments in V.1.2 below). The few glottal tokens that did occur in this context were produced mainly by young wornen. the group already identified by quantitative analysis as early adopters of the innovatory glottal variant. Since the turn-final contexts where the rare glottal realisations occurred could be specified pragmatically (overwhelmingly they were found on utterance final tags such as 'isn't it?'). we suggest that there may be a relationship between the trajectory of an ongoing change and the communicative function of specific phonetic variants. This view of variation as a pragrnatic resource has implications for a multilevel. integrated account of language variation and change which draws on phonetic, phonological, pragrnatic and sociolinguistic frarneworks. It is also of relevance to the manner in which linguistic changes are transmitted from speaker to speaker in casual interaction. (see Docherty et al. 1997: L. Milroy. 1997 for further discussion of this point).

The social trajectories of the innovatory labial variant of (r) (as in *red*) and of the labiodental variants of (TH) (a variable which covers the merger with /v/ and /f/ of both voiced and voiceless dental fricatives as in *both, mother*) is quite different froni that of the glottal stop. Both are London-based changes recently reported in Sheffield. Milton Keynes and Norwich (Stoddart. Upton & Widdowson, forthcoming; Williams & Kerswill. forthconiing: Trudgill. forthcoming). Both are more advanced in Derby than in Newcastle and are characteristic of young working class speakers. In Newcastle labial variants of /r/ are furtherrnore more advanced than the *fin/thin* merger. Although the social distribution of these innovatory variants is different from that of the glottal stop. all three of these consonantal changes are similar in that they appear to move from one urban centre to another. apparently skipping over the intervening rural areas.

A detailed quantitative study of intrusive and linking /r/ allowed us to evaluate the claims of alternative phonological accounts of the phenornenon of intrusive /r/ (see Foulkes. 1997a; 1997b, for full details). In Newcastle. linking and intrusive /r/ are relatively rare in comparison with other accents in England. and both display significant sociolinguistic paiterning. Linking /r/ is used in around 80% of cases by older MC speakers. but drops to c. 40% for the young WC. Intrusive R occurs at a rate of around 20% in WC speech. and is virtually absent in unrnonitored MC speech. However. there are signs that MC speakers in particular display a wholly unexpected style-shifting. using significantly more intrusive R in word-list readings. In Derby. linking /r/ occurs virtually categorically: intrusive /r/ is the norni for all groups. appearing on average in 55% of tokens in the corpus. with no significant sociolinguistic patterning.

V.1.2 *Acoustic analysis*

Our acoustic analysis focused heavily on (t) and less intensively on (r). Our chief finding was that while glottalised and non glottalised articulations in the corpus seldom match 'canonical' descriptions of these variants presented in the literature. salient acoustic features correlate with age and particularly sex of speakers (Docherty & Foulkes. 1996: Docherty & Foulkes. forthcoming). The phonetic symbols [ʔ] and [p͡ʔ, t͡ʔ, k͡ʔ] only occasionally (rarely in the case

of [ʔ]) capture what was observed in our acoustic analysis. In Tyneside it is not the case that voiceless stops perceived as glottalised or glottaled are typically produced with a glottal stop as this is conventionally defined. Rather. the perception of glottal articulation seems often to be based on the presence of laryngealised voice quality throughout the target sepment. A further finding from the acoustic analysis is that in glottalised stops in Tyneside English. the lai-yngeal gesture (if present) tends to lag behind the oral gesture. This latter. very subtle. difference between Tyneside dialects and those in other regions of the UK. including Derhy. has a very significant auditory effect of masking of any stop release which is formed (in accordance with Wells 1982).

A further important finding was that the patterns of variation revealed by both acoustic and auditory analysis were entirely congruent, in that the auditorily distinct categories mapped consistently onto distinct acoustic profiles (as we reponed ahove, these profiles did not always conform to expectations). Since the patterns of variation yielded by an auditory analysis provide evidence for suhstantive claims ahout chanpe in progress. this congruence between auditory and acoustic results enhances our understanding of the diffusion of change and confirms the validity of a careful auditory analysis.

Acoustic analysis also led to one surprising finding in relation to the phonetic characteristics on non-glottal (or 'released') variants of /t/ in pre-pausal position (Docherty and Foulkes. 1996: Docherty & Foulkes. forthcoming). Much as was the case with the glottal variants. the released voiceless stops frequently failed to match 'canonical' descriptions. revealing instead some previously undocumented patterns. including a double burst of frication straddling the stop 'slot'. continuous voicing thiough all or most of the stop, and in many cases a continuation of formant energies up to the point at which the stop release was observed. Furthermore. these acoustic features were found to correlate with non-linguistic factors, especially gender. and further age-based correlations suggested change in apparent time. It was also noteworthy that whilst some of these correlations are found equally in hoth Newcastle and Derhy (e.g. continuation of formants is a male trait. presence of silent stop gap is female) other correlations differ across the two sites (e.g. silent stop gap is a feature of older Newcastle but younger Derby inforniants). These results are evidence of extremtily subtle variation which cannot be reliably identified using even well-trained ears. and which correlates with non-linguistic factors in a way which entirely parallels quantitative sociolinguistic findings.

V.1.3 Theoreticnl implications

Taken together. these innovative findings on sociolinguistically and phonetically structured consonantal variation have important implications. First they demonstrate the important insights into phonological variation and chanpe granted by instrumental phonetic investigation. which could not have been achieved by auditory analysis alone.

Second they challenge the conventional position that change is necessarily transmitted through variation expressed in terms of phonemes or features. The complex variation reponed here requires a more subtle manipulation of articulatory parameters within a phonetically richer representational framework - possibly along the lines suggested by proponents of Articulatory Phonology (Browman & Goldstein. 1992). Furthermore. if these findings are indeed evidence of change in progress. then it is clear that the variation which is the harhinger of this change is multidirectional and multidimensional rather than linear. This suggests that the space within which this change is happening is not a simple phonetic continuum (as is claimed by Labov

[1994] for other Neogrammarian-type vowel shifts).

Third. the findings regarding 'released' /t/ relate to the issue of distinctions which are consistently produced by speakers. even though the same speakers are shown not to he able to perceive them (one example is the famous *line-loin* near-merger in Essex: see further Lahov, 1994). If it is the case that the subtle variants which we have noted in the released /t/ tokens are not auditorily distinguishable (we have no evidence that they are and are currently seeking to resolve this issue experimentally) we would seem to have evidence here for a 'near-split' where novel patterns of realisation are employed at a subconscious level. If this is so. this finding opens up the question of how such novel patterns develop and are acquired (see further below).

Further discussion of the general implications of our findings is presented in Section 6.

V.2 Vowel variables

An extremely significant broad finding is that the social trajectories of changes in vowel variables seems to operate rather differently from changes in consonant variables. Specifically. consonantal changes such as the *fin/thin* merger and the innovatory glottal stop move across very large areas. while vowel changes seem to he territorially much more limited. We examined in detail the part of the vowel system of Newcastle upon Tyne represented in the key words FACE. BOAT. LINE. MEET, SIDE. While the completely different system evident in the Derby corpus was in this study used chiefly as a comparator. the SIDE vowel was studied in hoth Newcastle and Derby. Full details of the analysis of the Newcastle vowel variables can he found in Watt (1998) and Watt & Milroy (forthcoming).

V.2.1 Parrerns *of variation*

The FACE and BOAT vowels are patterned in a similar way. hoth being socially and regionally very variahle. An isogloss divides northern froni southern England. running just north of Manchester to south of Grimshy. curving south at Sheffield. Broadly speaking monophthongal variants are found north and closing diphthongs south of this line. where Derby is located. Since Derby seems to he affected hy London based changes such as fronting of the diphthongised BOAT vowel. we focused most attention on Tyneside vowels: recall that southern vowels. unlike southern consonants. have little effect on patterns of change in progress in Tyneside. In fact only very small numhers of the diphthongised mainstream variants characteristic of the Midlands and South were evident in the Tyneside corpus.

The change affecting these socially variahle vowels can hest he described as a levelling out of extremely locally marked variants. The women are ahead in this process preferring overwhelmingly to focus on what we might describe as the default or unmarked northern variants [o:] and [e:], while men alternated hetween those and a limited numher of more localised variants. some of which seem to be disappearing. This gender contrast is quite dramatic and took us by surprise: for example our analysis of the BOAT vowel revealed that the Tyneside women focused almost exclusively on the geographically widespread monophthongal northern variant. None of them used the characteristic and very localised centralised variant *[e]*.while 15 of the 16 men used it. some of them extensively. Thus. the form the change took was a general reduction in variahility. with a log-linear analysis revealing

gender as more important than class in driving the change.

The Tyneside MEET vowel is also undergoing a focus on one variant, the monophthong. A heavily phonologically conditioned diphthongal variant [ei] is used much more extensively by older speakers and working class speakers. This variation is best modelled in terms of age and class, gender being much less prominent.

The SIDE vowel was analysed in both Newcastle and Derby. and confirms the general conclusion that change within vowel systeins operates within a relatively localised geographical domain. In Newcastle there are strong indications that this vowel varies allophonically in accordance with the Scottish Vowel Length Rule (the vowels of *sight, side, size* being progressively longer). This localised pattern is retained and patterns of change involve the retention of regional rather than the adoption of southern variants. Auditory judgements of vowel length were corroborated by instrumental measures of duration. In Derby we found no trace of the allophonic difference associated with SVLR but there is considerable social variation. Characteristically Yorkshire variants (fronted realisations, sometinies monophthongal) are competing with Midland variants in the speech of the younger informants. Overwhelmingly women prefer the former. particularly [a::]. and men the latter. particularly [DI]. A significant finding here is that the mainstream variant [ai] which has the widest geographical and social distribution is not displacing localised variants. This corresponds to the position of the mainstream variants of the FACE and BOAT vowels.

In global terms we can draw some extremely interesting conclusions about patterns of variation and change in contemporary England. which are congruent with some of the findings of Kerswill and Williams' somewhat differently focused work in Milton Keynes English (Kerswill. 1996: Williams & Kerswill, forthcoming). In Tyneside progressive levelling involves the deletion of some socially and regionally marked variants from the system while localised variants which are retained are used chietly by males. It may well be that. as a consequence of population movements which have been particularly marked in the last 25 years or so. a numher of regional levelled forms such as Estuary English are emerging, focused on expanding population centres. Consonants on the other hand appear to be involved in a remarkable pattern of change across England. The glottal stop has reached Newcastle. as has the incoming labial variant of /r/; however. another London based change. the *fin/thin* merger. has reached Derby but is only sparsely observed in Newcastle (J. Milroy. 1996).

VI. DISCUSSION

Two types of interrelated implication emerge from our analyses of both consonants and vowels: for phonological theory and for a theory of sound change. We have highlighted the need for phonological theory to be based on accountable description of language use in conversational contexts. rather than on decontextualized citation forms. In Docherty et al (1997) we show that Government Phonology and Lexical Phonology do not fully provide the framework for coping directly with some of our data and findings with respect to variants of /t/. The lexical phonology distinction between lexical and post-lexical rules is also at issue in so far as it has been projected on to the theory of sound change (Kiparsky. 1988: McMahon. 1994). In the case of the Scottish Vowel Length Rule. for example. the idea that a post-lexical rule can become a lexical rule (McMahon, 1995) does not seem to account for phonological distribution of variants. Thus. these theoretical bases seem to be in need of modification.

Other issues which arise include the application of a language maintenance/change model to the implementation of change (especially in the case of the prepausal constraint on the distribution of glottal and glottalised variants) and the general distinction between speaker-based implementation and language-based interpretation. The latter appeals for example to 'natural' phenomena such as lenition and focuses strongly on the role of phonetic processes and the nianner in which these processes may lead to change. The findings with regard to the majority of variables offer some empirical support to sudden replacement as opposed to the role of processes such as lenition: e.g. our evidence in respect of the spread glottal variants into intervocalic contexts suggests that sound change is abrupt, not gradual and that it tends to originate outside the group and not internally. Phonological processes thus lead to variability, but not directly to change. Our findings also contribute to clarifying the traditional historical linguistic distinction between regular 'sound change' and 'borrowing'. In general. close sociolinguistic and instrumental phonetic analysis has raised a number of such questions that need to be further addressed by current theory.

A dialect levelling model emerged as accounting best for current changes in vowel systems. Integrating our findings with those of concurrent work in Milton Keynes. we suggest that a levelled regional variety analogous to 'Estuary English' in the South East is emerging. focused on the Tyneside urban centre. We may reasonably infer that a numher of such varieties are enierging in other regions of Britain. Such levelling involves the progressive eradication of extremely localised features from the dialect. with women implementing this process more rapidly than men. We suggest therefore that gender differences in the implementation of change are best modelled in terms of wonien favouring supralocal norms, which may include. but are not identical with, prestige norms. Men on the other hand are oriented to localised norms. Although change in vowel systenis is apparently more geographically restricted thaii consonantal changes. this generalisation holds for those vowel and also those consonant changes where gender is the most relevant extralinguistic factor. It accommodates the available information more readily than the traditional and much disputed generalisation that women orient more readily to prestige norms than men.

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