Mechanisms of change in urban dialects: the role of class, social network and gender

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This paper begins by noting that the dominance of social class as a speaker variable and interpretative category has led to unsatisfactory interpretations of linguistic variability, and it goes on to investigate the use of the variables *social class*, *social network*, and *gender*. Evidence and arguments are produced to suggest that gender difference is often prior to social class in accounting for sociolinguistic variation. Next, the complex relationship between social class and social network is examined. Finally, the article presents data from the authors' own research to demonstrate how all three variables may be implicated in a complex way in an account of language variation and change. The authors conclude that sociolinguistics needs to develop more sophistication in dealing with these variables.

Introduction

One of the most important contributions of Labov's 'quantitative paradigm' to the study of language in society has been to allow us to examine in a systematic way the relationship between language variation and 'speaker' variables such as age, gender, ethnicity, social network and social class. Language variation in cities has been revealed not as chaotic but as socially regular, and this socially patterned variation has been shown to be crucial in understanding mechanisms of linguistic change. What we want to do in this paper is discuss the way in which these extralinguistic variables are interrelated. We present some data from a number of sources to explore the relationships between the variables of class, gender, and social network in particular.

Systematic scrutiny of the way extralinguistic variables are conceptualized is rather rare in sociolinguistics, and it has been taken for granted by many investigators that socio-economic class should be treated as the most important speaker variable; i.e., it seems to be assumed without comment that social class differentiation offers a routine way of accounting for linguistic variation. We shall be rather critical of these approaches to the variable of social class, for

two reasons. First, class tends to be treated as the primary variable to which other variables (particularly gender) are then related, i.e., differences according to gender are interpreted as being themselves dependent on social class differences. Yet, despite recent advances within this general framework (Labov 1990; Eckert 1989), there is a good deal of detailed evidence from a number of sources to suggest that the effect of gender on patterns of language use cannot always be accounted for primarily in terms of social class. The second objection to the way in which class is generally handled pertains to the kind of social class model which underlies modern sociolinguistic thinking, although the nature of this model is not always made explicit. We shall comment on this second, more general point before examining some data which can illuminate relationships between extralinguistic variables and which are relevant to the way they affect patterns of language variation and change.

We are not the only investigators who have suggested that the social theory implicitly adopted by sociolinguists is in need of explicit formulation and critique. Woulard (1985:738) has commented:

> ...sociolinguists have often borrowed social concepts in an ad hoc and unreflecting fashion, not usually considering critically the implicit theoretical frameworks that are imported wholesale along with such convenient constructs as three-, four-, or nine-sector scalings of socio-economic status.

The problem is that, although social class has been shown in numerous urban dialectological studies to correlate closely with patterns of language variation, a satisfactory theoretical framework within which to interpret these correlations is still lacking, and a number of ideas based on assumptions about stratificational social class have become almost axiomatic. For example, the Labovian speech community is conceived of in terms of stratificational social class and defined in these terms; similarly, patterns of language change are interpreted as driven by class differences, and, as we have noted above, gender differences have also been interpreted as class-based.

In order to make progress towards a more satisfactory theoretical framework within which to interpret the correlations that we find, we need to do two things. First, we need to be able to link these correlations to the interactional level of analysis with some account of the interpersonal mechanisms which give rise to them. Second, we need a suitable theory of class in order to understand what these correlations mean at a broader level of social organization. A number of sociolinguists have remarked that the conception of social class underlying Labov's urban sociolinguistic work in New York City and Philadelphia is not always appropriate (Rickford 1986; Sankoff, Cedergren, Kemp, Thibault & Vincent 1989). Williams (1992) offers an extended critique of this and other issues, from a sociological rather than a sociolinguistic perspective. His general proposals are unfortunately of limited value, as they do not take account of the sociolinguist's primary (and indeed non-negotiable) focus on

language. Thus, Williams sees sociolinguistic method as inherently flawed in that researchers take as a starting point a body of linguistic data where they inductively seek socially sensitive patterns of variation; unlike many sociologists, they do not start with a coherent social (rather than linguistic) theory as the basis for subsequent decisions on data collection, data analysis, and ultimately interpretation. Yet many sociolinguists would now agree that one of their major tasks is to find a convincing social interpretation of the substantial amount of data on variation which has been collected over the last 25 years, rather than starting *ab initio* as Williams seems to recommend. However, many of Williams' criticisms of the Labovian concept of class align with those expressed by sociolinguists.

Labov's key sociolinguistic notion of *speech community* (which is explicated in terms of social class) emphasizes shared values throughout the community, where speakers are said to agree on the evaluation of these very linguistic norms which symbolize the divisions between them. This seems to assume a consensus model of social class whereby the community is envisaged as fundamentally cohesive; yet, the vitality and persistence of non-standard vernacular communities uncovered by many researchers (including Labov) investigating both urban and rural dialects is more readily interpretable as evidence of conflict and sharp divisions in society than as evidence of consensus.

Rickford's work on Guyanese Creole has led him to conclude that conflict models of social class have been unduly neglected by sociolinguists (Rickford 1986), and despite a continuing focus on shared values, support for a conflict model of society is provided by Labov's own recent work in Philadelphia, where, with respect to a number of phonological and morphological variables, he finds progressive segregation and linguistic differentiation between black and white networks (Labov & Harris 1986). A conflict model would allow him explicitly to relate the variables of class and ethnicity to one another, whereas at the moment they have to be treated as independent of one another. Furthermore, a conflict model is essential to account for the phenomenon of linguistic change, with which social conflict is generally associated. Labov himself has acknowledged that "a thorough-going structural-functional approach to language could be applied only if linguistic systems did not undergo internal change and development" (Labov 1986:283). In short, a social class model based on conflict, division and inequality can account better than one based on consensus for many patterns of language variation uncovered by the detailed work of sociolinguists on phonological and morphological variation.

This is particularly true of sociolinguistic studies of communities of the kind carried out in Belfast (reported in L. Milroy 1987a, J. Milroy 1992 etc). The phonological structure of Belfast vernacular can be coherently described only if it is analysed as an internally consistent (but systematically variable) vernacular, rather than as an unsuccessful approximation to educated Belfast or standard English varieties (J. Milroy 1981); yet, the latter is what a consensus model seems to require. Similarly, the new contact varieties emerging as a

result of mass migrations to contemporary cities such as Stockholm, Sweden (Kotsinas 1988) and Christchurch, New Zealand (Gordon 1991) need to be analysed in their own terms rather than as poor approximations to Standard Swedish or 'cultivated' New Zealand English. The overall impression emerging from such studies is of social fragmentation and conflict rather than of cohesion.

Our own approach (which involves a critique of some aspects of Labov's practice) has been based on the perception that what are usually called low-prestige varieties can be maintained over generations as flourishing vernaculars. We have argued for many years now that strong informal social ties within communities provide the mechanisms that enable speakers to maintain non-standard dialects, rural or urban, despite intense pressure from the standard language through routes such as the educational system and the media. We have attempted to quantify these social patterns in terms of *social network*. Our analysis aligns well with the idea that language behaviour is affected by alternative linguistic markets, rather than the single, dominant market proposed by Bourdieu (Bourdieu 1977, 1984; Gal 1988). It seems, therefore, that just as a conflict model has the potential to integrate the variables of class and ethnicity, so also it could integrate the variables of class and network. This argument, to which we return shortly, is developed in some detail by Milroy & Milroy (1992). In the meantime, the relationship between the variables of class and sex, both of which have been shown to affect language behaviour, is discussed in the next section.

Social class and gender as extralinguistic variables

The chief point that we need to make here is that it is not always illuminating to explain patterns of sex differentiation in language primarily with reference to (and as dependent on) social class in the way Labov and many of those following him have tended to do. Aside from our own inner-city Belfast study, which explicitly avoided the variable of social class in the first place, most quantitative sociolinguistic studies in western societies have followed Labov (1966) in initially setting out to examine the relationship between language and class (or to a lesser extent, language and ethnicity). The evidence of linguistic gender-marking that has emerged is therefore a kind of by-product, the surveys not having been designed in the first place with this dimension of variation in mind. The form which linguistic gender-marking has commonly been interpreted as taking is for women to approximate more commonly than men of similar status to the (so-called) prestige norm. But as Coates (1986) has pointed out, no satisfactory explanation has emerged of why women should be more oriented than men to a prestige norm. Moreover, such an interpretation of the very salient and theoretically important gender differences which plainly do exist relies on the analyst's capacity to assign a comparable social class index score to both

males and females. In fact, women are seen as problematic and are classified in a somewhat arbitrary manner, sometimes being assigned the class of their husbands or fathers, while at other times their class is determined by their own occupations.

Horvath's (1985) regraphing of some of Labov's data in accordance with the linguistic groupings into which speakers seem to cluster, rather than initially in terms of social class, suggests quite strongly that the variable (dh) in New York City is more clearly stratified by gender than by class. Fasold's alternative graphic representation, adapted as Figure 1, shows the considerable influence of the sex of the speaker on variation particularly clearly (Fasold 1990:101). The same point emerges even more clearly in Figure 2, where variation between glottalized and non-glottalized realizations of (p) in Newcastle upon Tyne, England are shown in relation to the sex and social class of 16 speakers (Rigg 1987; see L. Milroy 1992 for details). Although realizations of (p) certainly show some effect of class, this effect is dwarfed beside that of sex of speaker. The glottalization which is so characteristic of Tyneside vernacular (see Wells 1982:374) is better described as a male norm than a working class norm.

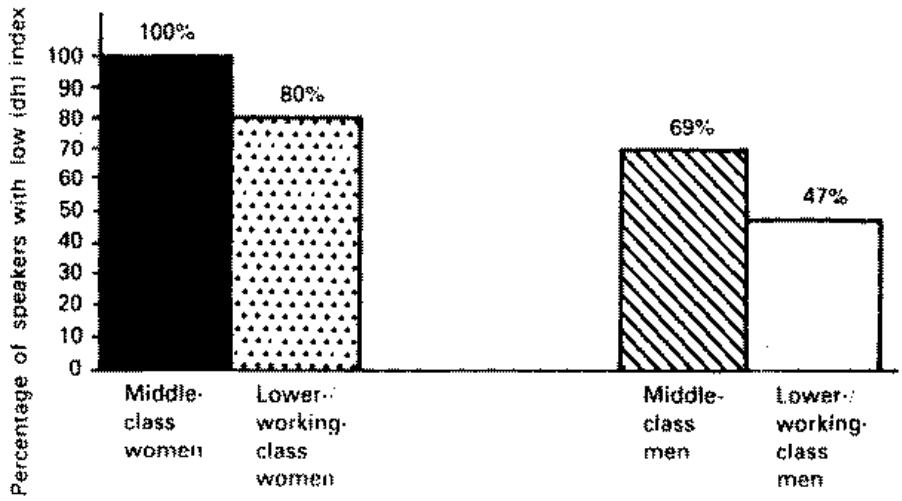


Figure 1: **Percentage of speakers with high (dh) index, by sex and social class**
Source: data from Labov (1966:230) and Horvath (1985:65)

Glottalization is a complex and interesting case, and we return to it below. Here we note also that the examples above are by no means isolated or idiosyncratic. Coates (1986) has regraphed a substantial amount of data from a number of well-known sociolinguistic surveys which shows that sex of speaker

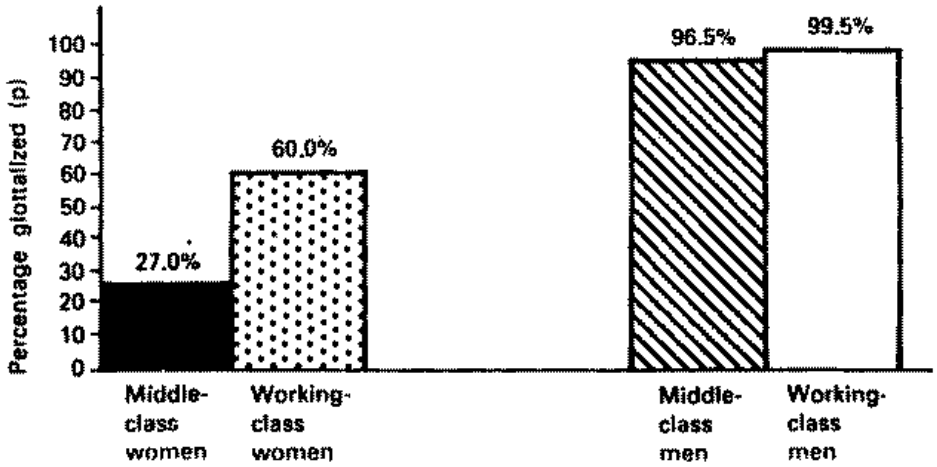
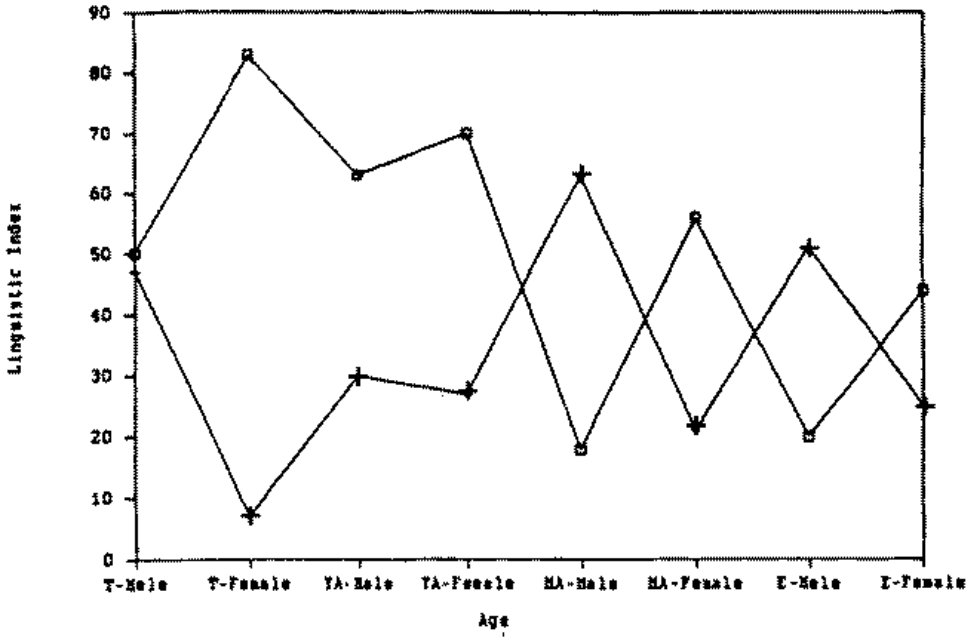


Figure 2: Use of glottalized (p) in Newcastle upon Tyne, by sex and social class
Source: data from Rigg (1987), as presented by Fasold (1990)

quite commonly accounts for patterns of variation at least as well as, and on some cases better than, social class. In a study of the dialect of Amsterdam, Schatz (1986:102) provides a spectacular example of the problems created by the standard practice of conceptualizing sex differences in terms of social class. Sex-related differences in the distribution of variants of the (a) variable emerge in low-status speakers only, rather than the expected pattern of women approximating to the norms of a higher social group. The problem faced by Schatz and others who encounter such 'anomalous' patterns is that current sociolinguistic thinking does not provide a framework for interpreting patterns of this kind. Mees (1990:185 and notes) reports difficulties in interpreting patterns of variation in respect of several phonological variables in Cardiff English which are affected in different ways by the sex and social class of speakers. One of these is glottalization (including the glottal stop), to which we now return.

The glottal stop variant of /t/ in British English (in intervocalic and word-final position) has a male, working-class image and has been traditionally heavily stigmatized (see, for example, Romaine & Reid 1976; Macaulay 1977). Despite this, however, it has recently been observed to be spreading quite rapidly and is now a salient characteristic of the speech of young speakers of the 'prestige' accent, Received Pronunciation (Wells 1982:106). Gender differences appear to be involved in quite a complex way in its spread, and the relation of gender to social class and to prestige patterns is by no means consistent or predictable from the usual assumptions about females preferring higher social-class norms. Mees in Cardiff finds that the glottal stop is most advanced in middle-class, rather than working-class, speech and that the change towards it is being led by young females. So much for the male, working-class image! In

Coleraine, Northern Ireland, as reported by Kingsmore (forthcoming), it is again females who favour the glottal stop. Figure 3 shows a fascinating pattern of alternation between flapped /t/ and the glottal stop (in final position in words of the type *not, what)*, with males favouring the flap and females the glottal stop in several different age-groups. Again, this seems to be contrary to what we might expect.



□ :glottal stop + : flap
T: teenage YA: young adult MA: middle-aged E: elderly

Figure 3: **Variation between glottal stop and flap (for /t/) in word-final position in Coleraine, Northern Ireland, by age and sex.**
Data from Kingsmore (forthcoming)

A recent study of Newcastle upon Tyne school-children by Hartley (1992), which is a pilot study for a more extensive investigation of phonological change, complicates the picture further. Figure 4 shows general agreement with Rigg (1987) in that males make more use of glottalized variants than females. However, when we distinguish glottal replacement (the glottal stop) from glottal reinforcement (a traditional feature of Tyneside English affecting /p, t, k/), we find again that the females are leading in the spread of the glottal stop, whereas the males are favouring glottal reinforcement (see Figures 5 and 6).

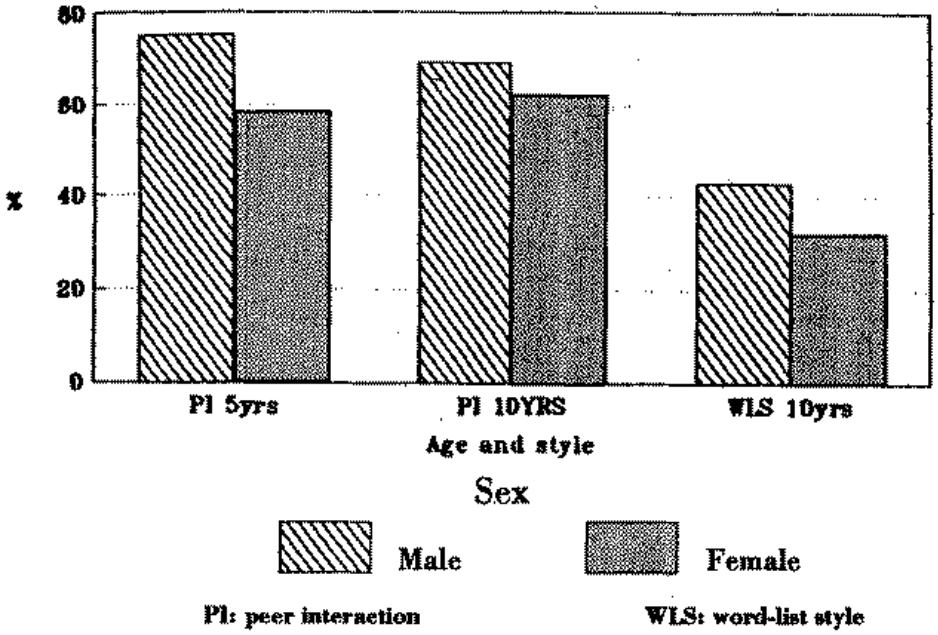


Figure 4: **Percentage of all glottal variants in 5-year-old and 10-year-old children, by age and style, in Newcastle upon Tyne after Hartley (1992)**

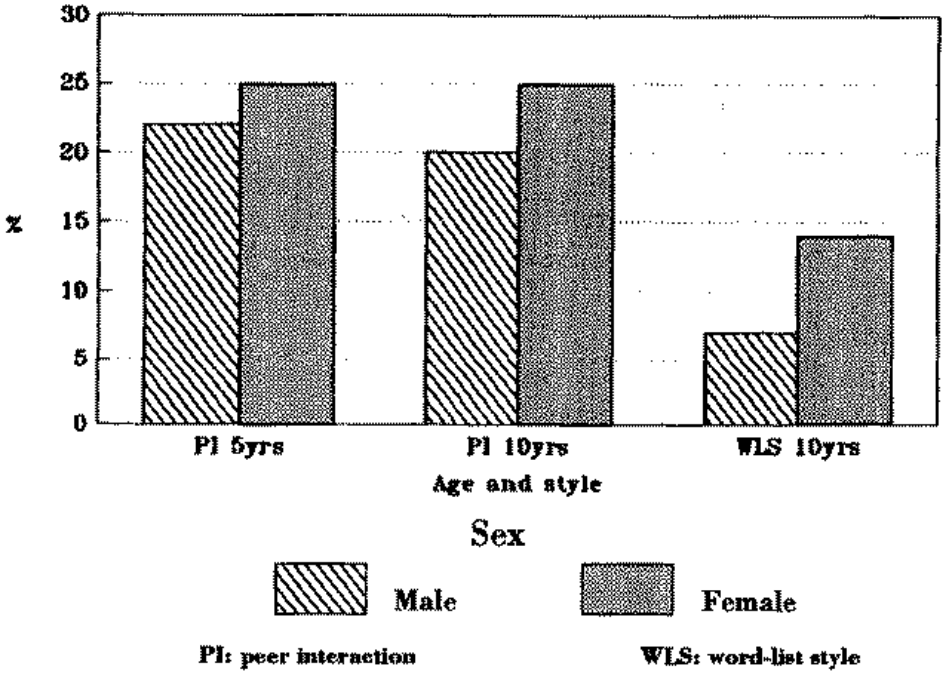


Figure 5: **Percentage use of glottal replacement in 5-year-old and 10-year-old children, by age and style, in Newcastle upon Tyne after Hartley (1992)**

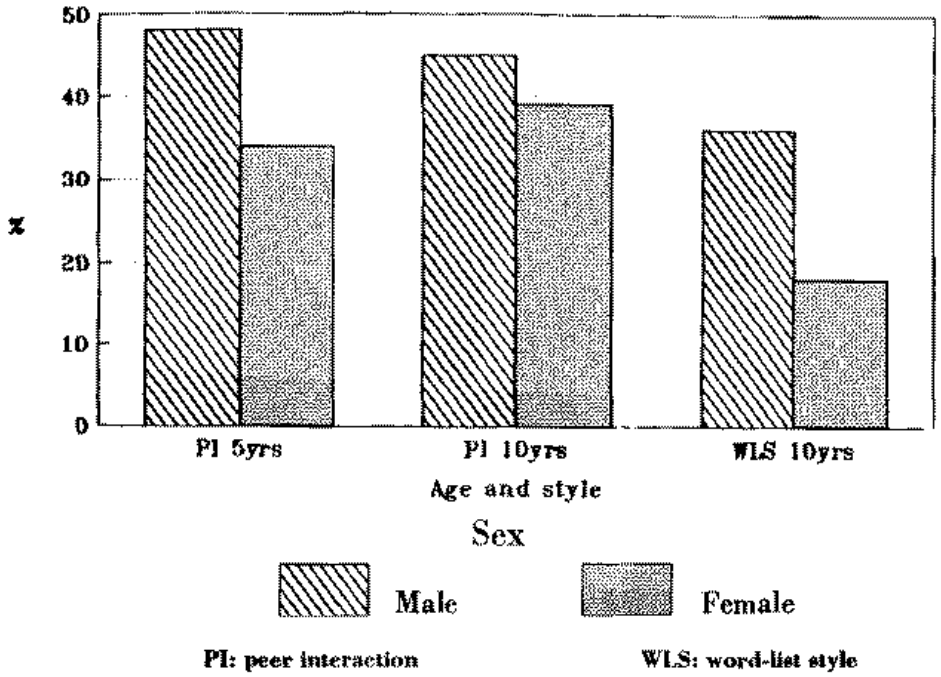


Figure 6: **Percentage use of glottal reinforcement in 5-year-old and 10-year-old children, by age and style, in Newcastle upon Tyne** after Hartley (1992)

The explanations for varying patterns of glottalization (which we have presented here in a simplified form) are extremely complicated and to some extent reflect difficulties in phonetic description and analysis of segments described as 'glottal' or 'glottalized' (see Wells 1982:260-1). Such explanations must also take into account the embedding of the change in the localized speech patterns of the different areas investigated and the historical origins of the patterns. However, these examples suggest quite strongly that gender difference may well override social class as a mechanism whereby linguistic change is implemented. One possible interpretation here is that females lead in the change, and that the establishment of the glottal stop as a middle-class form is dependent on and secondary to the gender pattern. In this interpretation, female usage is instrumental in bringing about a reversal of the traditional low evaluation of the glottal stop. The generalization suggested is not that females favour prestige forms, but that they create them; i.e., if females favour certain forms, they become prestige forms. In these developments, both class and gender are implicated, but gender is prior to class.

Further observations may be made with respect to the patterns evident in Figures 3-6. In both Tyneside and Coleraine, it is strictly localized variants which are most frequently used by males, while the high frequency variant favoured by females – the glottal stop – has become supra-local and apparently quite generalized in its distribution in contemporary British English (cf. the

comments of Wells 1982). This has implications (which we cannot explore here) for theories of linguistic change based on the 'change from above'/ 'change from below' dichotomy, which seek to associate these patterns with different social subgroups and their respective configurations of 'prestige'. A more fruitful future line of enquiry may emerge from the apparently gender-related local/supra-local dichotomy suggested by the data reported here.

Social class and social network as extralinguistic variables

We noted earlier that analysis of the relationship between language variation and personal network structure in three Belfast inner-city communities suggested that a close-knit network functions as a conservative force, resisting pressures for change originating from outside the network. By close-knit we mean relatively dense and multiplex, these two concepts being of critical importance in a comparative analysis of social networks. In a maximally dense and multiplex network, everyone would know everyone else (density), and the actors would know one another in a range of capacities (multiplexity). Close-knit networks, which will of course vary in actual levels of density and multiplexity, are assumed to have the capacity to maintain and even enforce local conventions and norms – including linguistic norms. It is, after all, remarkable that stigmatized linguistic forms and low-status vernaculars can persist over centuries in the face of powerful national policies for diffusing and imposing standard languages, and network analysis gives us a good basis for understanding the mechanisms that underlie this process of language maintenance.

Figure 7 illustrates the link between network strength and high values of the non-standard variant (deletion of the intervocalic fricative) in Ballymacarrett, Belfast. The highest network scores cluster towards the right of the scattergram (high scores for the 'vernacular' variant) and the lowest towards the left (low 'vernacular' scores). There is also a clear effect of gender difference here, with no overlap between male and female linguistic scores; i.e., females are always lower than males in usage of the vernacular variant. Furthermore, where females and males have the same network strength scores (two females and two males all have a score of 3), females are still differentiated from males by lower scores for the vernacular variant. Thus, the difference here is not accounted for by network strength alone: gender difference is also implicated in accounting for the variation.

We have suggested that a close-knit network structure is associated with language maintenance; the corollary to this is that a loose-knit network structure is associated with language change. We have argued in detail elsewhere that where ties are relatively loose-knit, communities will be susceptible to change originating from outside localized networks. These changes are not necessarily in the direction of the standard (see Milroy & Milroy 1985). We have also suggested that linguistic innovators are likely to be individuals who

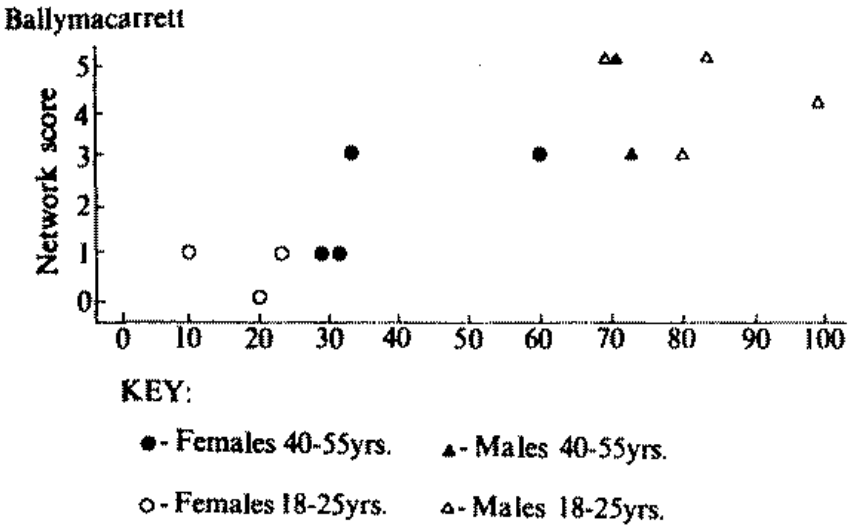


Figure 7: **Scores for deletion of intervocalic voiced dental fricative for Ballymacarret, Belfast, by age, sex and social network strength**
Source: L. Milroy (1987a)

are in a position to contract many weak ties, and that one consequence of successful innovation is the weakening of stable, localized community norms.

Before looking at some evidence from our Northern Ireland research to support this argument, let us consider briefly the implications of this link between loose-knit network ties and linguistic change in terms of the relationship between the variables of social class and social network. It is clear in a general way that the two variables are linked, in that different types of network structure are associated with different social classes: loose-knit structures with socially and geographically mobile middle class speakers, and close-knit ties with lower and upper class speakers. Fischer (1982) and Cochran et al. (1990) offer extensive analyses of the relationship between class and network, chiefly in cities. This relationship is not random or arbitrary, but springs from the operation of large-scale social, political and economic factors. The development of a class structure in small communities has been linked by the anthropologist Mewett (1982) to a decline in multiplex relationships. This is probably because a close-knit localized network of strong ties is a necessary prerequisite for a focused set of distinctive vernacular norms (see Le Page & Tabourct Keller 1985 for a discussion of the notion of 'focusing'). The evidence from such extensive empirical work in the sociological and anthropological literature does not support Guy's (1988) analysis of class as a macro-level concept, unrelated to network, which pertains to the micro-level; specifically, if we consider weak as well as strong ties, we see that the two variables are linked. Furthermore, the network variable, which operates at the level of interpersonal relationships,

has some potential for explaining how the language/class correlations which are such a prominent part of the sociolinguistic literature actually come about (see further Milroy & Milroy 1992).

In view of the norm-enforcing capacities of groups built up mainly of strong ties, it is easy to see why innovators are likely to be persons weakly linked to such a group. Susceptibility to outside influence is likely to increase in inverse proportion to the strength of the tie with the group (measured in the Belfast communities by a network strength scale). Where groups are loose-knit – i.e. linked mainly by weak ties – they are likely to be generally more susceptible to innovation. This is consistent with Labov's principle that innovating groups are located centrally in the social hierarchy, characterized by him as upper-working or lower-middle class (Labov 1980:254; Kroch 1978). For it is likely that in what we used to call 'Western' societies, close-knit networks are located primarily at the highest and lowest strata, with a majority of socially and geographically mobile speakers falling between these two points.

This 'weak tie' model accounts for a number of observations which have been made about patterns of change, and we will discuss just two examples. First, changes have often been observed to skip from city to city, missing out the intervening terrain. The merger apparently adopted from London English between /v/:/ð/ and /f/:/θ/ reported in Norwich teenage speech (Trudgill 1986:54ff) is an example of such a change. It is hard to explain in terms of close contact between London and Norwich speakers, since teenagers tend to contract their close ties near to home. But the change could plausibly be transmitted through a great many weak links, and Trudgill suggests tourists and football supporters as individuals who might contract such links. We must assume, however, that before a change like this stands any chance of becoming established in a network, the links through which it is transmitted are numerous (cf. Granovetter 1973:1367).

Second, such a model illuminates a very puzzling pattern of variation with respect to the alternating phonolexical variable (u) (as in *pull, push, foot*) in inner-city Belfast. There is strong evidence of clear cross-community consensus on the social values associated with two alternative realizations, not (as we might expect) amongst older speakers who had contracted close cross-community ties prior to the current civil disorders, but amongst the younger speakers who had been prevented from contracting such strong cross-community ties. The contrast between the patterns associated with the two generations is clearly shown in Figure 8. However, the paradox is resolved if we assume that innovations are transmitted via the multiple weak ties of everyday urban interaction in the neutral areas outside close-knit community territories (Milroy & Milroy 1985). A 'weak tie' model of change thus seems able to account for some instances of variation and change which are difficult to explain in terms of the usual unqualified assumption that linguistic change is encouraged by frequency of contact and relatively open channels of communication, and discouraged by boundaries of one sort or another, or weaknesses in lines of communication.

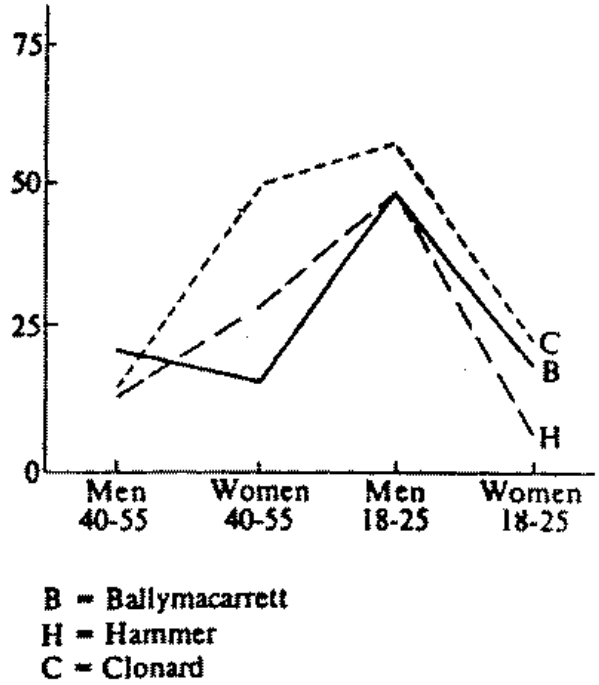


Figure 8: **Percentage use of unrounded variant in words of the type *pull, push, foot* in inner-city Belfast**
Source: J. & L. Milroy (1978) and elsewhere

Interestingly, our argument here aligns well with the traditional assumption of historians of language that the emergent, mobile merchant class were largely responsible for the appearance of Midland and Northern dialectal innovations in late Middle and Early Modern ('Standard') English (see, for example, Strang 1970:214f; Ekwall 1956; Baugh & Cable 1978:194). One of the purposes of undertaking empirical research in Belfast in the first place was to cast light on historical cases of this kind (J. Milroy 1992:viii-x), and it is not surprising, therefore, that there are a number of other patterns in the history of English and in the development of the Indo-European languages which might be usefully restated in terms of strong- and weak-tie patterns rather than solely in terms of geographical splits. Further afield, Grace (1992) has used a network-based argument to explain some puzzling developments among the Austronesian languages, which show widely differing patterns of susceptibility to change that cannot be explained using traditional assumptions (see also Grace 1990).

Relationships between the variables of class, gender and network: some evidence from Northern Ireland

Thus far we have considered two-way relationships between speaker variables: first, class and gender; second, class and network. Here we consider a three-way pattern involving gender, class and network. The manner in which these three variables may interact in either inhibiting or enabling linguistic change can be demonstrated by the history and social distribution of variants of the Belfast variables (a) and (e). These vowels were studied very intensively, both in the inner-city communities of Ballymacarrett, Clonard and Hammer and the slightly higher-status communities of Andersonstown and Braniel (see, for example, Harris 1985; J. Milroy 1992; Milroy & Milroy 1985). Their broad social-class distribution was established by means of a doorstep survey carried out in Belfast (see Milroy 1987b:82 for details). Both variables are strongly affected by the sex, network structure and social class of speakers. Raised, lengthened variants of (e) are associated principally with women and middle-class speakers, and backed variants of (a) with men. Tables 1 and 2 describe the range of realizations associated with the two vowels, together with some complex phonetic constraints, some of which are categorical and some variable.

Table 1: Simplified representation of phonetic range of /a/ in Belfast vernacular, using key words.

[ɛ:]	[æ]	[a]	[ɑ]	[ɔ]
bag	*bat*	*bad*	*bad*	
bang	*back*	*snap*	*grass*	*grass*
		ant	*hand*	*hand*
		back	*snap*	

Front only:	velar environments
Back only:	fricative and voiced consonant environments (excluding velars)
Front/Back:	fricative and voiced consonant environments (excluding velars): back variants attested only among East Belfast youths.

Table 2: Simplified representation of phonetic range of [e] in Belfast vernacular, using key words.

Mid	Low
e.g. [e:]	e.g. [a]
bed, bend, best	wet, went
(fricative and voiced consonant environments)	(voiceless stop) and (sonorant + voiceless stop environments)

From a historical and geographical survey, we can get evidence of the direction of shift in these two variables and the gradual spread of innovatory forms. It is clear from the historical and dialectological data presented by Patterson (1860), Staples (1898), Williams (1903) and Gregg (1972) that /a/-backing and /e/-raising are both relatively recent phenomena in Belfast but are characteristic of modern Scots and originate in the Ulster-Scots speaking dialect area of Down and Antrim (as distinct from the Mid- and West-Ulster non-Scots hinterland). As we have pointed out elsewhere (Milroy & Milroy 1985), East Belfast adjoins the Ulster-Scots region of North Down, whereas West Belfast points south-west down the Lagan Valley, the dialect of which is Mid-Ulster, with less Scots influence. Furthermore, immigration to West Belfast is recent and is largely from a Mid- and West-Ulster hinterland. Present-day sociolinguistic evidence suggests that the incoming variants of (e) and (a) are diffusing from the East to the West of the city; scores for /a/-backing are higher for Ballymacarrett men than for any other group studied, while Ballymacarrett women use the incoming mid variants of (e) more than any other group (see Tables 3 and 4).

Table 3: Incidence of retraction and backing of /a/ by age, sex and conversational style in two Belfast communities, calculated by an index score ranging from 0 (minimum) to 4 (maximum)

styles	men 40-55	women 40-55	men 18-25	women 18-25
	East Belfast (Ballymacarrett)			
interview	3.03	1.75	2.89	1.89
spontaneous	3.58	2.58	3.43	2.10
	West Belfast (Clonard)			
interview	2.79	1.77	2.36	2.36
spontaneous	2.79	1.85	2.33	2.61

Table 4: Percentage of mid realizations of /e/ in typically 'short' phonetic environments in two working-class Belfast communities

	men 40-55	women 40-55	men 18-25	women 18-25
B'macarrett	13	38	11	47
Clonard	11	26	21	31

As might be predicted from this pattern of gender-differentiation in the inner city, the higher-status Andersonstown and Braniel speakers exhibit a similar pattern of gender-differentiation but use the incoming variants of (e) more frequently and the incoming variants of (a) less frequently than Ballymacarrett and Clonard speakers (for details, see J. Milroy 1992, Milroy & Milroy 1985).

In summary, raised variants of (e) are in the inner city associated particularly with women and with slightly more prestigious outer-city speech; data collected by survey methods from a large and more heterogeneous sample of the Belfast population confirms that the higher the status of the speaker, the more likely he or she is to use raised variants. Incoming variants of (a) show an almost perfectly converse pattern of social distribution, being associated with male, vernacular inner- city speech. Taking this evidence together with the historical and geographical data outlined above, we may conclude that although incoming variants of both vowels appear to have originated in the same hinterland Scots dialect, each has assumed a diametrically opposed social value in its new urban setting.

The relationship between speaker choice of variant and individual network structure adds a further complexity to this pattern. Detailed quantitative analysis shows that the choice of variant correlates with network structure amongst some inner-city subgroups, but the social patterns are quite different for each vowel. Although (a) is generally sensitive to network structure, the choice of variant is more closely correlated with network structure for women than for men, despite the fact that on average they use incoming backed variants much less frequently than men. The converse is true of (e); while men use incoming raised variants on average much less than women, the correlation between choice of variant and network structure is higher for men. These results were subjected to confirmatory statistical analyses, details of which are reported in L. Milroy (1987a) and elsewhere. We can thus argue that (e) functions particularly clearly for men and (a) for women as a network marker, and note that in each case *it is the group for whom the vowel has less significance as a network marker which seems to be leading the linguistic change.* This complex relationship between sex of speaker, network structure and language use is summarized in Table 5: and of course, as we have seen, social class is also implicated..

Table 5: Contrasting patterns of distribution of two vowels involved in change, according to sex of speaker, relative frequency of innovatory variants, and level of correlation with network strength

variable	change led by	high correlation with network strength
(a)	men	women
(e)	women	men

Conclusion

Using evidence from a number of places in the sociolinguistic literature, we have argued that contemporary quantitative sociolinguistics needs to develop more sophisticated procedures for dealing with the extralinguistic variables which have been shown in numerous empirical studies to affect patterns of linguistic variation and change in a powerful and systematic fashion. In particular, we need to develop a more reflective approach to the concept of social class. While it is reasonable to suggest that both social conflict and social consensus underlie systematic patterns of variation, the contribution of conflict models of class to our understanding of these patterns has been unduly neglected.

There has sometimes been misunderstanding of the role that a variable such as social network (which attempts to measure closeness of ties within communities) might play in models of linguistic variation and change. Some linguists have apparently assumed that 'social network' is concerned only with strong ties and is roughly synonymous with 'peer-group', whereas we have emphasized the relativity of this intrinsically structural concept, comparing individuals and groups in terms of the relative strength or weakness of the social ties that bind them. Similarly, some linguists have seemed to believe that individuals may or may not possess a 'social network', when in fact all individuals are embedded in networks. However, these differ greatly in structure and content, and some may meaningfully be characterized as 'weaker' than others. Li, Milroy & Pong (1992) outline various procedures for modelling and measuring network 'strength'. The most important misunderstanding, however, is the belief that network and class are opposing variables which cannot be reconciled in a sociolinguistic analysis. We have argued that the form that social networks assume in particular societies is dependent on the broader social and economic structure of the societies in question: they constitute themselves in response to the needs of particular groups – needs that are themselves largely brought about by the position of these groups within the socio-economic structure. In Milroy & Milroy (1992) and in the present paper, we have attempted to clarify the network/class relationship.

We have also attempted to show that the variable of gender is closely implicated in patterns of change and closely related to class and network. However, although the three variables are interrelated, current interpretative frameworks do not help us to understand how they work together in structuring the patterns of linguistic variation which have been repeatedly observed in empirical studies of speech communities. Sociolinguistics urgently requires a more accountable and integrated approach to the social variables which provide a means of understanding patterns of linguistic variation and the mechanisms of linguistic change. We have made some suggestions here as to how we can make progress towards this.

Note

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