Social dimensions of language change

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1 Introduction

Language change results from the differential propagation of linguistic variants distributed among the linguistic repertoires of communicatively interacting individuals in a given community. From this it follows that language change is socially-mediated in two important ways. First, since language change is a social-epidemiological process that takes place by propagating some aspect of communicative practice across a socially-structured network, the organization of the social group in question can affect how a variant propagates. It is known, for example, that densely connected social networks tend to be resistant to innovations, where as more sparsely connected ones are more open to them. Second, social and cultural factors, such as language ideologies, can encourage the propagation of particular variants at the expense of others in particular contexts, likewise contributing to language change. The purpose of this chapter is to survey our current understanding of the social factors that affect the emergence and propagation of linguistic variants, and thus language change, by bringing together insights from variationist sociolinguistics, sociohistorical linguistics, linguistic anthropology, social psychology, and evolutionary approaches to language change. It is important to note that there are, as discussed in Chapter 1, important factors beyond the social ones discussed in this chapter that affect variant propaga-

tion and language change, including factors related to linguistic production and perception, and cognitive factors attributable to the human language faculty (see Chapter 1).

1.1 Theorizing variation and language change

As Weinreich, Labov, and Herzog (1968) originally observed, theories of language that assume linguistic variation to be noise or meaningless divergence from some ideal synchronically homogeneous linguistic state – to be eliminated by 'averaging' or 'abstraction' – encounter profound difficulties in accounting for language change. In response to structuralist and generative theories that make problematic assumptions of this sort, Weinreich et al. argued that languages are not essentially homogeneous entities that are encumbered by an uninteresting overlay of random variation, but are rather dynamically organized by an 'orderly heterogeneity', in which variants are distributed throughout a speech community in socially-patterned ways (e.g. with respect to age and socio-economic class). Language change, they argued, emerges from this orderly heterogeneity as increasing numbers of individuals in a speech community employ a particular competing variant within this organized linguistic heterogeneity, and after a period in which two or more variants are in use, cease using the former variant.

In recent years, further theorization of this basic picture has taken up by evolutionary approaches to language change (e.g. Croft 2000, Keller 1994, Mufwene 2001, Ritt 2004), based on generalized accounts of evolutionary processes that abstract from the particulars of biological evolution so that processes of cultural change, including linguistic change, can be analyzed in evolutionary terms (Hull 1988: 408-409, Hull et al. 2001, Price 1995). These approaches see language change as arising from the differential replication of linguistic variants, where variants are best understood as the socially-

situated communicative competence (Hymes 1972) related to use of a particular linguistic element (but compare, for example, Croft (2000) and Ritt (2004) for differences regarding the characterization of the entities replicated in linguistic evolution). Such competence combines knowledge of the structural characteristics of a linguistic element with its social-indexical properties (Thomas 2011), be elements phonetic (e.g. Foulkes and Docherty 2006) or morphosyntactic (e.g. Plug 2010) in nature.[1]

Evolutionary approaches to language change consider the replication of linguistic competences to be critically mediated by their actual use to produce the linguistic elements they generate (or their use to interpret the elements produced by others). Significantly, competence use is implicated in two quite different type of replication. In the first type of replication, their use forestalls the decay of competences in the speakers themselves (see, e.g. Ecke (2004), Schmid and Dusseldorp (2010), and Badstübner (2011) on the loss of L1 competence), resulting in replication of the speakers' own competence. In the second type of replication, the competence is acquired by a new speaker as a result of being exposed to it, such that the competence is now found both in the original host and a new host.[2] The differential propagation of a variant, leading to language change ultimately depends on both types of replication.

The replication of a given competence through its acquisition by new speakers thus requires exposure to its use, so that cross-speaker replication depends on the potential acquirers' positions in the social network relative to those who already possess it, and on access to the social contexts in which it is

[1]Cross-linguistic work in language socialization theory supports this characterization of competence, showing that children simultaneously acquire grammatical knowledge and knowledge of its socially appropriate and effective use (Ochs 1979, Ochs and Schieffelin 1984, 2012, Schieffelin and Ochs 1986, 1987).

[2]Note that outside of contexts of initial acquisition (e.g. by children) the newly acquired variant will typically co-exist with the older variant, at least initially.

used. Cross-speaker replication is also affected by the social-indexical properties of the linguistic elements generated by the competence, since these properties play a crucial role in the frequency with, and circumstances in which, they are used, as mediated by the perceived social efficacy of the element in question. Language change emerges, then, as the result of individual choices (at varying degrees of consciousness) of variants, motivated by individual interactional goals that, by invisible hand processes, lead to large scale changes in the distribution of variants in a speech community (Keller 1994: 90-107).

The final general factor to consider, implicated in the efficacy of connections in social networks as transmitters of variants, is age and its effects on how likely a speaker is to acquire a given competence. Age, in this respect, is perhaps not a 'social' phenomenon as such, but nevertheless has an indirect social effect in introducing acquisition asymmetries into social networks.

2 Social and cultural factors in the selection of variants

On the view sketched in the preceding section, language change arises from the differential propagation of linguistic variants in a population, a process that ultimately reduces to a process of individual speaker selection of variants in particular communicative events. The full set of factors affecting selection of course extend far beyond social ones, but the very existence of 'orderly heterogeneity' indicates that social factors play a significant role in selection. Efforts to theorize the role of social factors in selection have produced two general types of accounts: 1) accounts based on the social valuation[3] of vari-

[3]i.e ideological or cultural valuation. 'Ideology' is understood in a variety of ways in humanistic and social scientific disciplines (Woolard 1998), but to the degree that 'culture' and 'ideology' can be usefully distinguished, the former is understood to be comparatively

ants; and 2) accounts based on relatively unconscious processes of linguistic accommodation to interlocutors in interaction.

2.1 Variant selection and ideological valuation

Accounts of variant selection based on the social valuation of variants have relied on a number of different conceptualizations of valuation, including 'prestige', 'covert prestige', 'group identity', and 'individual identity'. Such explanations attribute selection of a particular variant to a speaker's desire to lay claim to a particular social status, group membership, or individual trait, by virtue of employing a variant with particular prestige or identity qualities. In Labov's (1966) classic study of the use of [r] $\sim$ [∅] variants of /r/ by New York speakers of English, for example, speakers' preferential use of the [r] variant in particular interactional settings was attributed to the prestige associated with this variant. In his study of variation on Martha's Vineyard, in contrast, he attributed the use of [əw] and [əj] variants of /aw/ and /aj/, respectively, to speakers' identification with the island and positive evaluation of island life, in comparison to the off-island world (Labov 1972: 1-42). And in her discussion of the stylistic use of hypercorrect forms by a community of self-identified Californian adolescent nerds, Bucholtz (2001) does not argue that these elements are prestigious or associated with some recognizable regional identity as such, but rather that these variants index a particular 'uncool' social stance in opposition to common youth culture.

It has become increasingly clear that these different ways of conceptualizing motives for variant selection can be theorized more coherently by recourse to the notions of indexicality and language ideology (Eckert 2008,

shared or presupposed by members of a social group, while the latter is comparatively socially-positioned and contested. Practice theory makes a similar distinction between the relatively presupposed and shared *doxa* and the meta-discursively available and contested *orthodoxy* and *heterodoxy* (Bourdieu 1977).

Johnstone and Kiesling 2008). It is useful to introduce the concept of *indexical order*, which distinguishes first order indexicals from higher order ('n+1') ones. With respect to the sociolinguistic phenomena of interest, say the [∅] rhotic variant, the first order indexical function of a variant simply 'points' to the user of the variant having the competence to use that variant, while the second order indexical function associated with that variant indexes the membership of that individual in a recognizable social category by virtue of salient ideologies. Yet higher-order indexical functions manifests as a variant's indexing of socially salient attributes that can be predicated of individuals (Silverstein 1976, 2003), which arise through the interaction of second order indexicality and ideologies regarding those groups, which predicate of them particular social attributes. Returning to non-rhoticity in New York, for example, Bonfiglio (2002) presents a historically-informed account that relates non-rhoticity to early 20th century xenophobic ideologies (as discussed in L. Milroy (2004)), which can be usefully recast in terms of these indexical orders. Briefly, non-rhoticity was an second order index of major east coast metropolitan populations, while rhoticity was an index of populations further west. At the same time, the immigrant populations of these cities, and by extension, the populations of these cities as a whole, came to be understood in the prevalent racist ideology of the era as miscegenated and degenerate, in contrast to the pure American population of the rhotic heartland. By means of this ideological mediation, rhoticity became a higher order index of racial purity and an idealized America, with the concomittant devaluation of non-rhotic varieties.

From this perspective, the notions of 'prestige' and its somewhat problematic counterpart 'covert prestige' are understood as deriving from the indexical properties of variants. In the case of /r/ variants in the New York speech community, for example, [r] and [∅] may index membership in upper and lower social classes, respectively; and via ideological identifications of

membership in these classes with particular social and individual dispositions, index personal traits of, say, relative sophistication, intelligence, and the like. 'Covert prestige' can likewise be understood as arising from a variant's second order indexation of a socio-economically subordinate group and the higher-order indexation of socially evaluated traits associated with that group. The explanation, for example, of men's selection of phonological variants associated with lower classes in Norwich English (Trudgill 1972) lies not in the so-called 'covert prestige' of these variants, but rather in their higher-order indexation of masculinity, on the basis of ideologies linking gender identities and class (Gal 1995: 172-173). 'Prestige' and 'covert prestige' are thus forms of higher-order indexicality that are readily recognizable in terms of local hierarchies of social valuation, mediated, in most cases, by the hierarchical social relations among the groups for which the variants function as second-order indices.

The indexicality-based account of social valuation is also applicable to 'stylistic' selection of variants, such as the use of hypercorrect forms by adolescent Californian nerds, mentioned above. Such stylistic uses of variants trade principally on higher-order indexical properties of elements such as 'intelligence' or 'formality', whose lower-order indexical roots may be quite obscure at this point.

Although the indices discussed so far have been phonological in nature, it is important to note that lexical and grammatical indices are common also. As an example of the latter, consider *Kun-dangwok*, a set of patriclan lects found among the Bininj Kun-Wok of Arnhemland. The *Kun-dangwok* are distinguished by suffixes or interjections unique to each patriclan, which function as pure indexicals (i.e. carry no semantico-referential meaning), indicating membership in the associated patriclan. The Djordi clan *Kun-dangwok* prefix *njarra-*, exemplified in (2.1), adds no referential meaning to the utterance, but indicates that the speaker is a member of the Djordi clan.

(1) *Yi-kinje-men!*
2sg-cook-IMP
'You cook it!'

(2) *Yi-njarra-kinjemen*
2sg-Djordi.clan.prefix-kinjemen
'You *njarra* cook it!' (adapated from Garde (2008: 150))

Social-indexical properties have also been argued to have been crucial in the loss of the English T/V contrast, formerly instantiated in the contrast between *thou* and *you* (in the singular). According to Silverstein (1985), the loss of *thou* occurred in three stages. In the first stage, English Puritan sects, and Quakers in particular, interpreted use of *you* as indexical of asymmetric social relations, to which they were strongly opposed. In reaction, they adopted *thou/thee* as their preferred form of second person address, among other things indexing their commitment to social equality. In the second stage, the use of *thou* came to be indexical of Quaker-hood itself, rendering it problematic for non-Quakers to use, since Quakers were generally held in low esteem. In the third stage, non-Quakers abandoned the use of *thou* in order to avoid indexing Quaker-hood, leading to such extensive de-selection of the form that it ceased to form part of the repertoire of most English speakers.

2.2 Cultural factors in the selection of variants

Although variationist sociolinguistics has tended to focus on selectional pressures lying towards the ideological end of the culture-ideology spectrum, ethnographically- and typologically-influenced work has also argued for the role of cultural norms in language change, such as lexical avoidance behaviors and culture-driven grammaticalization.

Llexical avoidance behaviors (sometimes called 'language taboos'), involve the deliberate avoidance of specific lexical items, based on cultural beliefs about the inappropriateness or harmfulness of their use (Allan and Burridge 2006; Fleming and Lempert 2011, Frayzingier and Jirsa 2006). Postmortem name avoidance is a geographically widespread form of lexical avoidance, where forms identical to or similar to the name of a recently deceased individual are avoided. Frazer (1922) provides an early discussion of this phenomenon in numerous cultures, and more recent discussions tie this practice explicitly to language change. Fleck and Voss (2006), for example, argue that the profusion of synonyms for game animals in the Mayoruna languages (Panoan) of western Amazonia has its origin in postmortem name avoidance, while Elmendorf (1959) cites this practice as the reason for the elimination of particular lexical items among Coast Salishan groups. Simons (1982), in a wide-ranging discussion of the effects of lexical avoidance behavior on the lexicons of Austronesian languages, likewise mentions postmortem name avoidance, but also discusses avoidance behavior linked to the names of chiefs and individuals in certain kinship categories (see Tuite and Schulze (1998) for a similar phenomenon in Caucasian languages). Simons proposed that a number of strategies were employed in avoidance practices, including phonological modification of lexical items, borrowing from neighboring languages or varieties, and lexical innovation. Another avoidance practice, animal name avoidance, has been documented for species of particular spiritual significance among Indo-European (Emeneau 1948, Smal-Stocki 1950), Australian (Frazer 1911: 418), and Californian (Bright 2004) societies, among others, resulting in their replacement with innovated forms.

It is worth noting that in some cases, there is controversy surrounding the long-term consequences of lexical avoidance behaviors on language behavior. Dixon (2002), for example, claims that lexical avoidance behavior in Australian languages (among other things) is responsible for such mas-

sive borrowing among Australian languages that the Comparative Method cannot be usefully applied to them. However, Alpher and Nash (1999) and Bowern et al. (2011) argue that borrowing rates are in fact not, in general, particularly high in Australian languages, casting doubt on the importance of lexical avoidance in understanding change in these languages.

Allan and Burridge (2006) argue that lexical avoidance behaviors often result in a recursive process by which euphemistic replacements for avoided forms come to be stigmatized themselves, sometimes resulting in the vast accumulation of dysphemic synonyms in semantic domains in which lexical avoidance is prevalent. Allan and Burridge (2006: 242-243) report on such a case in English, finding that the language has "accumulated more than 1,000 expressions for 'penis', 1,200 for 'vulva/vagina', 800 for 'copulation' and ... 2,000 expressions for 'wanton woman'."

Cultural factors have also been argued to promote morphological and syntactic change, through indirect processes in which social norms or practices increase the discourse frequency of particular words or structures, thereby contributing to their grammaticalization (Simpson 2002). Culture-driven grammaticalization may involve fairly broad cultural norms, such as those prioritizing indirectness and the avoidance of face threatening acts (Wheeler 2009), which may lead to the conventionalization and grammaticalization of expressions indicating smallness, approximation, and demurral, in face-threatening constructions like those involved in requests or directives (Beeching 2005, 2007). Similarly, cultural preferences for communicative indirectness in personal reference may drive processes like preferences for pronoun replacement in illocutionarily-loaded constructions (e.g. those involving deontic or assertoric force), and the development of vacuous hearsay constructions (Frayzingier and Jirsa 2006).

Culture-driven grammaticalization has also been argued to be responsible for the development of 'kintax' systems (which indicate kinship relationships

by grammatical means) in some Australian languages, due to the central role of kinship relations in ritual life of the societies in which these languages are spoken (Evans 2003), and the grammaticalization of quotative evidentials in Nanti. Michael (to appear) argues that Nanti cultural norms regarding respectful behavior towards others militate against direct reference to others' mental states, leading to the extensive use of speech report verbs to quote utterances that (indirectly) index mental states instead. The resulting high frequency of these verbs contributes, on this account, to their grammaticalization into quotative evidential particles.

2.3 Interaction and accommodation

Whereas the accounts in the previous section explain variant selection (and its relation to language change) in terms of ideas or practices attributable to social groups of various sizes, the accomodation-theoretic approaches discussed in this section instead rely on psychological tendencies inhering in individuals. The most prominent of these approaches, Communication Accommodation Theory (CAT), argues that interlocutors tend to converge linguistically over the course of an interaction (Giles 1973), due to "a speaker's or a group's need (often unconscious) for social integration or identification with another" (Giles et al 1991). Conversely, interlocutors may diverge (just as unconsciously), if they are antagonistic or socially disaligned with one other (Bourhis and Giles 1977, Bourhis et al. 1979). Although CAT as such sprang from social social psychology, similar explanations for the social basis of language change can be found in linguistics, as in the work of Hermann Paul (Weinreich et al. 1968: 107-108), Bloomfield (1933: 476), and in certain respects, Labov (2001: 19-20). More recently, Trudgill (1986, 2004), has developed an influential account of dialect-contact driven language change that couples accommodation to social network-based reasoning regarding fre-

quency (see §3).

One of the chief attractions of accommodation-based accounts of variant selection for sociolinguists like Trudgill (2008) is that they avoid recourse to notions like 'identity', which may be desirable in cases in which it is not clear that any such ideological construct was relevant to linguistic change in question. Since, according to Trudgill (2008: 252) "linguistic accommodation is not driven by social factors such as identity at all but is an automatic consequence of interaction," accomodation seems to be a powerful alternative to indexical-ideological selection mechanisms.

However, while proponents of CAT-based theories of language change like Pickering and Garrod (2004) and Trudgill (2008), correctly consider accommodation processes to be automatic and unconscious processes, their conclusion that accommodation processes are uninfluenced by social considerations like those that inform ideological-indexical selection is somewhat at odds with work in CAT by social psychologists. Apart from the fact that work in CAT has found that speakers converge or diverge with interlocutors partly on the basis of whether they identify with their interlocutors or not (see also Shepard et al. 2001), Auer and Hinskins (2005: 342-343) note that speakers tend to converge not to actual interlocutors, but to stereotypes of social categories in which they place their interlocutors, an ideological process *par excellence*.

Recent experimental work confirms that while convergence is automatic and unconscious, it is nevertheless sensitive to social categories in a variety of complex ways. Pardo (2006, 2010), for example, found that in experimental instruction-giving and -receiving tasks, female givers converged to female receivers, but in contrast, that male receivers converged to male givers. Gender of interlocutors and the social roles they occupy in an interaction thus appear to be important considerations for the direction that speakers accommodate. Babel (2012) similarly found that speakers' accommodation to

recorded speech depended significantly on images of the speakers to which the recording was attributed, finding significant differences based on gender, race, and perceived attractiveness. In other experimental work, Dimov et al. (2012) found that individuals who rate low on social-psychological empowerment measures were more likely to compensate for auditory feedback, suggesting that a speaker's inclination to accommodate may be in part a function of their social position. Dimov et al. (2012) commented that "[if] traditionally powerless segments of the society ... are systematically inclined to alter their speech when exposed to novel phonetic variants, then they may be the locus of sound change actuation."

The picture that emerges from this body of work allows that processes of accommodation operate differently from indexical-ideological ones (e.g. in being more unconscious and automatic), but that accommodation processes are nevertheless sensitive to interactional roles and social categories. This work is consonant with research that shows, for example, that perception of speech sounds is affected by speakers' perceived social characteristics such as gender, age, and regional identity (e.g. Drager 2010, Hay, Warren, and Drager 2006). In short, it is far from clear that selection by accommodation is insensitive to social categories, roles, and positions; it rather appears to be a process that is informed in different ways than indexical-ideological processes by the social milieu in which it takes place.

2.4 Competing explanations for selection

The indexical-ideological and accommodation-network accounts of variant selection discussed above present two quite different explanations for why variants may be selected. Labov (2001: 20) suggests that indexical-ideological effects are, in general, quite weak, and that language change can be largely explained in terms of accommodation and frequency effects stemming from

an individual's social network position. Trudgill (2004) elaborates this stance into a 'deterministic' theory of new dialect formation in *tabula rasa* situations (e.g. during the settling of New Zealand), which relies solely on frequencies of interaction among speakers of different dialects in the dialect contact situation, observing that he does not "find it at all necessary ... to call on the social factor of 'prestige' or related factors such as 'status' or 'stigma' as explanatory factors" (p. 149). Trudgill (2008: 251) even goes so far as to turn the common assumption about the role of identity in variant selection on its head, arguing that varieties only become emblems of identity subsequent to the processes of accommodation that lead to the formation of new varieties.

Evaluate the relative contributions of indexical-ideological and accommodation-network processes to language change (and of course perceptual and production factors no doubt also play an important role) is not an easy, however. Wolfram and Schilling-Estes (1996, 2003), for example, argue that although deterministic accounts of dialect contact like the gravity model (see below) have explanatory value, there appear to be cases where recourse must be make to indexical-ideological explanations. They observe, that is essential to know that the pronunciation of /ay/ as [ɔy] in Ocracoke English is a marker of Ocracoke island identity in order to understand why this pronunciation has resisted the incursion of non-Southern [aɪ].

In recent years, exploration of deterministic theories have been aided by recourse to computational models, which have sought to evaluate whether accommodation effects in a network of communicatively-interacting individuals can by themselves produce language change outcomes resembling those observed in the real world. Both Baxter et al. (2009) and Fagyal et al. (2010), for example, developed evolutionary models of language change (§1.1) that explicitly modeled variant selection through time among groups of interacting individuals in social networks. Fagyal et al. (2010) found that variant distributions in networks from which asymmetric influence has been excluded

failed to converge to a single dominant variant (i.e. failed to exhibit language change) and that convergence only occurred when asymmetric influence was introduced into the network, and more specifically, when relatively highly influential individuals were also hubs in the social network. This result not only suggests that social factors are relevant, but that social factors and network structure in fact interact in determining language change.

Baxter et al. (2009) is an explicit evaluation of Trudgill's (2004) deterministic model of New Zealand English formation and focuses on determining the time that would be necessary for convergence to a new dialect to take place, assuming that only frequency of exposure due to position within the social network is relevant, and not factors like differential influence of individuals within the network. They likewise reject this model, on the basis that convergence time exceeds the actual time in which New Zealand English actually developed. These results suggest that social factors may be intrinsic to language change, and purely accommodation-network theories may be inadequate.

Complementary results emerge from historical sociolingustic work by Nevalainen and Raumolin-Brumberg (1996: 55), who find that indexical-ideological ('social') factors are significant in the early rising portion of the sigmoid curve (see §3, below) and somewhat less so in the main rising portion of the sigmoid curve, but relatively insignificant in the incipient stage and in the phase where the change approaches completion. This work suggests that accommodation and indexical-ideological factors both affect variant selection, but to different degrees at different stages of spread of a variant within a speech community. Note that this result is consistent with Labov's (2001: 320) generalization regarding 'change from below', discussed below, that such change tends to begin as a relatively unconscious process, but can then come to be an object of explicit social evaluation.

3 Dynamics of differential propagation

Individual variant selection leads to language change when it forms part of larger-scale processes of differential variant propagation within the speech community. In this section I summarize the contribution of variationist sociolinguistics to understanding these larger scale processes, focusing on research that clarifies the social position of early adopters and leaders of change, and on how social organization plays a role in facilitating or inhibiting propagation. I first discuss work that adopts a relatively coarse-grained model of the social world as constituted of groups like 'classes' and 'genders' (see Rickford 1986 for an early critique of the unreflective use of such categories), and then turn to the more fine-grained social models found in network theory approaches.

Any account of the differential propagation of variants in a given speech community depends on an understanding of how repertoires of linguistic competences are formed (see Sanford (this volume) for a detailed discussion of language acquisition). A useful starting point in this discussion is to distinguish processes of repertoire formation in terms of the two major types of language change in which they are involved: 'change from below' and 'change from above'. The former type of acquisition consists of 'natural', community-internal types of change, while the latter consists of acquisition from 'external' sources, especially due to language/dialect contact, the influence of learned registers, or changes in the social evaluation of linguistic forms.

Natural change from below is typically divided three major phases: 1) transmission, which consists of normal child language acquisition, by which children acquire their role models' linguistic competences; 2) incrementation, through which older children and adolescents advance change (i.e. increasing the frequency of particular variants), beyond that of their role models'

competences (Labov 2007); and 3) stabilization, which involves the relative consolidation of the repertoire, where, as Labov (2001: 418) observes, full sociolinguistic competence may not be achieved until late adolescence. It should be emphasized that transmission includes the acquisition of variation (Kerswill 1996, Labov 2001: 417-418) and associated social-indexical features (see §1.1), and that the sources for transmission are not necessarily only caretakers, but may also include other members of the speech community, including other adults and peers (Kerswill and Trudgill 2005). As a result, the repertoires that children acquire during transmission are shaped by the patterns of variant selection among a potentially broad set of linguistic role models.

The other major process in repertoire formation involves acquisition of competences later in life. As Kerswill (1996) observed, while certain competences are acquired in childhood or early adolescence as part of transmission, such as those associated with phonological oppositions and 'grammatical parameters', other competences can be acquired over the lifespan of an individual, including lexically diffused phonological changes (see also, e.g. Sankoff and Blondeau 2007, Harrington et al. 2000), 'Neogrammarian changes', mergers, and reassignment of words to new morphosyntactic classes (see e.g. Tagliamonte and D'Arcy). These latter types of acquisition are centrally involved in the 'diffusion' of competences in adult repertoire change, the most significant type of 'change from above'.

The substantial body of work on linguistic change from below has yielded a number of empirical generalizations regarding the social location of leaders of change in such processes, chief among them the 'curvilinear principle' (Labov 2001: 31-33, 460) and the role of women in leading change (Labov 2001: 188). The curvilinear principle identifies the central sections of the socioeconomic hierarchy (for Labov, the 'upper working class') as the social position of leaders of sound changes in progress, and in situations in which

there is gender-based differentiation, it is women who typically lead changes from below. As Labov (2001: 447) and Tagliamonte and D'Arcy (2007) observe, while both boys and girls acquire the phonological systems of their linguistic role models, older girls and adolescent women tend to increment at considerably higher rates than their male counterparts, with the result that women tend to lead linguistic change. The curvilinear principle and the role of women interact in a subtle manner, which Labov (2001: 320) argues is dependent on speakers' consciousness regarding the change in progress. Briefly, in the early stages of a change (from below), sex and social class are relatively independent of one another, and the pattern of change exhibits the class-based curvilinear pattern. As awareness of the relevant variation increases however, and variants come to be indexically imbued, the role of gender becomes significant, with women typically leading men.

In the case of both 'curvilinear change' and women-led change, the major mechanism driving the change is understood to be incrementation, which in the latter case, is coupled with intergenerational transmission in differential propagation of variants in the speech community. Although the frequency of incremented changes tends to drop during stabilization, women's use of the relevant innovative variant tends to remain comparatively high, with this higher frequency tending to be acquired by their children through transmission. As Tagliamonte and D'Arcy (2007) and (Labov 2001: 457) demonstrate, a model that couples a treatment of incrementation by females as a logistic function of time (rather than a linear function) with transmission of the stabilized increment to their offspring, accounts for both observed gender-based variation in apparent time and the generational pattern by which women lead men.

A complementary understanding of leaders of linguistic change emerges when society is conceived not in terms of class strata, but as a network of social relations, which are commonly represented schematically as graphs,

with individuals as nodes in the graph (see e.g. L. Milroy 2008: 551). From this perspective, the distinction that emerges as important is not large-scale groupings such as class, but rather whether individuals are nodes in highly dense and multiplex networks (i.e. are involved in 'dense ties') or are connected to relatively few other individuals ('weak ties'). The study of variation in social networks suggests that individuals situated in dense networks are relatively unlikely to adopt novel variants, while individuals who contract numerous weak ties are more likely to adopt novel variants (J. Milroy and L. Milroy 1985). This body of work suggests that relatively peripheral members with weak ties to the group are the source of innovative variants, and that these variants only spread rapidly in the group when taken up by 'leaders' involved in dense portions of the network (Trudgill 1986: 54; see also Fagyal 2010: 2073).

Milroy and Milroy (1992) argue that network-based accounts and class-based accounts are in fact compatible, with the class-based effects derivable from social network accounts by considering the nature of social networks in different classes. Based on Hørup's (1983) theory of 'life modes' in different social classes, Milroy and Milroy argue that individuals in relatively affluent groups tend to participate in more weak tie relationships than less affluent members of the same society, making them more likely to adopt variants, and hence produce the characteristic curvilinear pattern.

Labov (2001: 363-365) likewise reconciles class- and gender-based accounts of change with a network-analytic vision of society, in his analysis of the leaders of linguistic change in Philadelphia, whom he identifies as upper working class women. Labov's argues that these leaders exhibit distinctive patterns of social interaction that result in them having the kind of network position that might lead us to expect of leaders of change. That is, Labov's leaders are individuals with a large number of social connections that both make them central members of dense social networks with numerous strong

ties *within* their local communities, and also connect them to numerous individuals outside their immediate social networks. These leaders are thus exposed to influence through extra-local ties, and are then in a position to propagate those changes due to their own central position their local network.

In the shift to conceiving of language change as crucially involving links outside a leader's social network, we likewise shift our attention from processes of transmission and incrementation to those of diffusion in understanding the differential propagation of variants (see Stanford, this volume). Diffusion is an extra-generational process that favors non-structural aspects of language and tends to introduce simplification and irregularity (Kerswill 1996, Labov 2007), and as one of the major kinds of change from above, is a type of change that speakers tend to be more aware of than change from below. This characteristic of change from above processes is especially evident in cases which are significantly motivated by changes in ideological evaluation of linguistic variation, as in the case of rhoticity in New York, as discussed above. As in the case of language change from below, women also tend to lead in cases of language change from above (Labov 2001: 274).

3.1 The socio-cultural and historical scope of variationist generalizations about langauge change

The fact that the study of social determinants in language change is so firmly rooted in the variationist sociolinguistic tradition has implications for the sociocultural and historical scope of our understanding of the social factors in language change. In this section I discuss two critical issues: the uniformitarian assumption and the apparent time construct.

Variationist sociolinguistics has overwhelmingly focused on the study of language use among groups in post-World War II, industrialized Western democracies, with an emphasis on English-speaking nations. Inferring gen-

eral social principles of language change from this tradition thus involves an assumption of socio-cultural and historical uniformitarianism, i.e that processes of language change in these groups is similar to that across the full range of human societies and eras. We might reasonably wonder, however, if Labovian generalizations about language change, in which gender plays a central role, might be affected by different local understandings of appropriate communicative conduct by men and women. Consider, for example Labov's (2001: 266) generalization that women have lower rates of use of stigmatized variants, and high rates of prestige variants. While this generalization has strong empirical support in the societies that have been the object of variationist studies, we might question whether it would hold for Malagasy society, in which women are more likely than men to employ socially dispreferred confrontational and direct forms of speech, with men employing more socially-valued indirect forms (Keenan [Ochs] 1973). Similarly, since social network structure plays an important role in the differential propagation of variants (§3), we might expect that small-scale societies, such as those of many hunter-gatherers, or highly mobile societies, such as pastoralist or nomadic ones, exhibit different patterns of variant propagation than dense, sedentary societies (Bowern 2010). We might similarly wonder, even in Western societies, if social organization and ideologies have changed sufficiently in the last 500 years such that the social determinants of language change in modern England are significantly different from those of, say, the 16th century. Questions like these point to the need to engage with issues of cross-cultural and historical differences in language use.

Fortunately, the extension of variationist methods to speech communities outside of the industrialized West is becoming increasingly common (Stanford and Preston 2009), with available research suggesting a complex picture regarding the consequences of cultural and social organizational differences for variationist generalizations. Stanford (2009, this volume) and Garde (2008)

show, for example, that in Sui (Tai-Kadai; China) and Bininj Kun-Wok (Gunwinjguan; Australia) society, respectively, clans, and not socio-economic classes, constitute important social groups with respect to variation. With respect to the role of gender, Romero (2009) argues that in the Santa Maria Chiquimula dialect of K'iche' (Mayan; Guatemala) a fricativized variant of intervocalic /l/ has emerged that has become a stigmatized stereotype associated with that dialect. Significantly, women use this stigmatized variant more frequently than men, an outcome that Romero argues results from men's more frequent contact with speakers of other K'iche' dialects. Clarke's study of dialect convergence in Innu (Algonquian; Canada) shows convergence to the dialect of the most powerful of three social groups, but notes that the social asymmetries in question are not based on economic inequality, but rather on political inequality that has its roots in historical intensity of contact with Europeans. These assorted studies suggest that generalizations from mainstream variationist sociolinguistics may need to be carefully reconsidered when applied to other social milieu, and that considerably more study of variation in minority language contexts is called for.

Research relevant to evaluating the historical dimension of the uniformitarian assumption is somewhat more advanced, but remains geographically quite circumscribed (see Bergs (2012) for an overview). Some of the best available insights in this area come from historical sociolinguistics, which extends the methods of mainstream variationist sociolinguistics to historical written corpora (Kroch this volume, Romaine 1982, Nevalainen and Raumolin-Brunberg 2003). Most work in historical sociolinguistics has focused on English, and is based on the corpora of texts from a variety of genres, crucially including personal correspondence, from approximately 1400-1800. Interestingly, this body of work has tended to confirm the sociolinguistic findings of the modern era, e.g. in finding that linguistic change is led by women and groups in the central portion of the socioeconomic hierarchy (Raumolin-

Brunberg 2005), and that the diffusion of linguistic innovations is mediated by weak social ties and resisted in networks with strong social ties (Henstra 2008). Despite the currently geographically limited nature of the field, the overall congruence of historical and modern results is encouraging.

A pivotal methodological and analytical innovation in variationist sociolinguistics was the development of a process for inferring diachronic processes of change from synchronic facts about variation. The key to this process is the 'apparent time construct', which is based on the assumption that variation which patterns meaningfully with age-partitioned segments of the population results from the diachronic spread (or contraction) of the relevant variants in the population. The spread of variants in 'apparent time' that emerges from this way of interpreting age-correlated variation is metaphorically similar to inferring geological 'diachrony' via the examination of 'synchronically' available geological strata (see Bailey (2008) for an overview). A number of sociolinguistic factors, however, complicate the apparent time interpretation of synchronic data, including 'adolescent peaks', age-grading, and lifespan change effects, all of which involve changes in use of a variant across a person's lifetime (Tagliamonte and D'Arcy 2009).

In recent years, two different approaches have developed that allow us to evaluate the reliability of the apparent time construct, and to avoid reliance upon it. Within the mainstream variationist tradition proper, the field now has sufficient time depth that studies can be carried out which compare data collected decades apart (e.g. José 2010, Pope, Meyerhoff, and Ladd 2007, Tagliamonte and D'Arcy 2009).[4] And historical sociolinguistics, mentioned above, allows direct comparison of change in apparent time and real time in

[4]There are two major kinds of studies of this type: 'trend studies', which collect and compare data from the very same individuals at two or more points in time; and 'panel studies', which do not follow individuals through time, but rather follow speech communities.

the written record. What both approaches reveal is that, in general, apparent time studies correctly predict changes in real time, but not exceptionlessly (Bailey 2003).

3.2 Social typology and language change

Contrasting with the perspective of social network-based approaches are those that seek to associate particular outcomes of language change with very coarse-grained attributes of societies, such as group size or modes of subsistence.

One of the earliest influential models in the variationist tradition which made use of gross demographic factors was Trudgill's (1974) gravity model, which sought to explain the spread of dialectal variants among urban centers in terms of the population size of the urban centers and their geographic separation, where changes proceeded roughly in order of population size. More recent work has suggested that the population size effects are epiphenomenal, with interactions between individuals from urban centers – which increase in likelihood as population increases – to be the crucial determinant of variant spread (Labov 2003).

A more recent line of research examines correlations between languages spoken in small societies and their structural complexity (Nettle 2012). Trudgill (2011: 146-148) argues that a combination of social factors contribute to the emergence of linguistic complexity, including: 1) low amounts of adult language contact; 2) high social stability; 3) small overall size of a society; 4) dense social networks; and 5) large amounts of communally shared information. The result, according to Trudgill, is that languages spoken in large industrialized societies tend to be comparatively grammatically simple, while those spoken in small face-to-face societies exhibit complex grammatical subsystems like number distinctions beyond singular/plural (e.g. dual

and trial), large systems of evidentials and deictics, and relative age-grading in pronominal systems (ibid.: 167-184) (cf. Perkins 1992).

Lupyan and Dale (2010) reach a compatible set of conclusions by examining the relationship between, on the one hand, the size, geographical spread and degree of contact of societies in which languages are spoken and, on the other hand, the structural realization of grammatical categories, as well as the number of distinctions made in categories such as case, agreement, epistemic modality and evidentiality, negation, TAM, and demonstratives. Based on a sample of 2,236 languages, they found statistically significant correlations between: 1) comparatively large and geographically dispersed languages in situations of significant language contact; and 2) simpler morphological systems, lexical rather than morphological expression of categories, and smaller numbers of distinctions within grammatical categories. Lupyan and Dale explain these results by suggesting that adult language learning plays a more significant role in the acquisition of languages spoken by large, dispersed populations in contact with other societies, than of those spoken by small, concentrated, isolated societies. The greater role of adult language learning in the former, it is suggested, militates against grammatical complexity.

In a similar vein, a series of studies on progressively larger sets of languages has argued that phonemic inventory size is inversely correlated to the size of the population that speaks the language (Atkinson 2011, Hay and Bauer 2007, Nettle 1995, Wichmann et al. 2011), although recent work by Donohue and Nichols (2011) fails to find any significant correlation. Moran, McCloy, and Wright (2012) provide a detailed critique of the statistical methods employed in previous studies, and by Hay and Bauer (2007) in particular, and likewise conclude that there is no correlation between inventory size and population, with language family effects emerging as a major confound. The latter methodological critiques, though not directed at claims regarding relationships between grammatical complexity and social factors, like those of

Lupyan and Dale (2010), strongly suggest that such claims must be revisited.

Turning to how modes of subsistence make affect language change, Bowern (2010) addresses the question of whether hunter-gatherers exhibit different patterns of language change, and responds negatively in at least one domain where hunter-gatherer languages have been proposed to vary from sedentary-agriculturalist ones: frequency of lexical borrowing (Bowern et al. 2011). Epps et al. (2012) compares hunter-gatherer numeral systems with those of non-hunter-gathers, and finds weak correlations between hunter-gatherer subsistence practices and small numeral systems, although continent-sized areal patterns are a considerably stronger predictor.

In short, although the state-of-the art is somewhat equivocal, there is not strong support for gross demographic characteristics or coarse-grained socio-cultural types being reliable predictors of linguistic complexity (see Greenhill (this volume) for further discussion).

4 Conclusion

Thanks largely to work in the variationist tradition, we understand considerably more about the social dimensions of language change than we did 50 years ago. It is clear that both indexical-ideological and accommodation effects play major roles in variant selection, and ongoing experimental work promises to clarify in what ways accommodation effects are informed by social categories, roles, and position, just as computational modeling promises to give us insight into the relationship between these two kinds of factors in accommodation selection and language change. Work in anthropological linguistics and culturally-informed grammaticalization theory also indicates that cultural ideals can result in language change. In all the selection processes we are considering in this section, frequency of selection appears to mediate the replication of competences within and across speakers, making

social contexts and structures important determinants of language change. Social contexts facilitate or inhibit the use of particular variants, and network structures mediate individuals' exposure to variants.

The variationist tradition has also produced important results regarding the role of class, gender, and social network structure in differential variant propagation in modern Western industrialized societies, although it is not clear how this knowledge extends to language change in different kinds of societies, cultures, and eras. In these Western contexts, however, it is clear that the central socioeconomic classes and women play a central role in advancing linguistic change. The exploration of linguistic variation in non-industrialized and non-Western societies will clearly be important to assessing the general validity of these results, and in developing an account of language change that is less vulnerable to criticism of uniformitarian assumptions.

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