

1 Contact Explanations in Linguistics

SARAH THOMASON

Language contact has been invoked with increasing frequency over the past two or three decades as a, or the, cause of a wide range of linguistic changes. Historical linguists have (of course) mainly addressed these changes from a diachronic perspective – that is, analyzing ways in which language contact has influenced lexical and/or structural developments over time. But sociolinguists, and many or most of the scholars who would characterize their specialty as contact linguistics, have focused on processes involving contact in analyzing synchronic variation. A few scholars have even argued that contact is the sole source of language variation and change; this extreme position is a neat counterpoint to an older position in historical linguistics, namely, that language contact is responsible only for lexical changes and quite minor structural changes. In this chapter I will argue that neither extreme position is viable. This argument will be developed through a survey of general types of contact explanations, especially explanations for changes over time, juxtaposed with a comparative survey of major causal factors in internally motivated language change. My goal is to show that both internal and external motivations are needed in any full account of language history and, by implication, of synchronic variation. Progress in contact linguistics depends, in my opinion, on recognizing the complexity of change processes – on resisting the urge to offer a single simple explanation for all types of structural change.

The structure of the chapter is as follows. Section 1 provides some background concepts and definitions, and sections 2 and 3 compare and contrast contact explanations with internal explanations of change. Section 4 is a brief conclusion that includes a warning about the need to be cautious in making claims about the causes of change – both because in most cases no cause can be firmly established and because of the real possibility that multiple causes are responsible for a particular change.

1 Some Background Concepts

First, what counts as language contact? The mere juxtaposition of two speakers of different languages, or two texts in different languages, is too trivial to count:

unless the speakers or the texts interact in some way, there can be no transfer of linguistic features in either direction. Only when there is some interaction does the possibility of a contact explanation for synchronic variation or diachronic change arise. Throughout human history, most language contacts have been face to face, and most often the people involved have a nontrivial degree of fluency in both languages. There are other possibilities, especially in the modern world with novel means of worldwide travel and mass communication: many contacts now occur through written language only.

Second, what isn't language contact? That is, under what circumstances is an internal explanation for variation and/or change the only possible explanation? This question is trickier than it might seem to be, because it can rarely or never be answered by ascertaining that there was no language contact when a variant entered a language. For one thing, it is difficult, and maybe impossible, to find a language anywhere that isn't in contact with one or more other languages at any given time. For another, in a sense all linguistic variation and every linguistic change must necessarily involve language contact. This is true because there are always two steps in the establishment of an innovation in a speech community: the initiation of variation and change must begin with an innovation in one or more speakers' speech, and the spread of that variant through a speech community is always a matter of transfer from speaker to speaker – i.e. via language, or at least dialect, contact. An innovation that remains confined to a single speaker cannot affect the language as a whole. In spite of this complication, it has long been traditional to posit contact explanations for linguistic variation and change only when two or more different languages are concerned.

Third, what is contact-induced change? Contact is a source of linguistic change if it is less likely that a particular change would have happened outside a specific contact situation. (Note that this is a definition, not a criterion for establishing contact-induced change: there is no way to measure "less likely" precisely for any past linguistic change.) The definition has several parts, all of them important. It specifies "a source" rather than "the source" because a growing body of evidence suggests that multiple causation – often a combination of an external and one or more internal causes – is responsible for a sizable number of changes. It specifies "less likely" rather than "impossible" because historical linguists are wary, with good reason, about making strong claims about impossible changes. And it specifies "a specific contact situation" because efforts to argue for contact-induced change without identifying a contact situation in which it could have occurred are doomed to failure. One encounters occasional arguments to the effect that (for instance) change *x* must have been due to some kind of substrate influence because it could not have happened through strictly internal means. This generally means that the linguist making the claim can't find an internal route to innovation; but appealing to an unidentified and unidentifiable substrate language cannot possibly explain anything – it just adds an extra layer of mystery to the historical puzzle.

The motivation for appealing to a mystery language and inferring part of its structure from the structure of the putative receiving language appears to lie in

a belief that every linguistic change can be explained. This brings me to a fourth background point: in spite of dramatic progress toward explaining linguistic changes made in recent decades by historical linguists, variationists, and experimental linguists, it remains true that we have no adequate explanation for the vast majority of all linguistic changes that have been discovered. Worse, it may reasonably be said that we have no full explanation for *any* linguistic change, or for the emergence and spread of any linguistic variant. The reason is that, although it is often easy to find a motivation for an innovation, the combinations of social and linguistic factors that favor the success of one innovation and the failure of another are so complex that we can never (in my opinion) hope to achieve deterministic predictions in this area. Tendencies, yes; probabilities, yes; but we still won't know why an innovation that becomes part of one language fails to establish itself in another language (or dialect) under apparently parallel circumstances. There is an element of chance in many or most changes; and there is an element of more or less conscious choice in many changes. Even if we could pin down macro- and micro-social features and detailed linguistic features to a precise account (which we cannot), accident and the possibility of deliberate change would derail our efforts to make strong predictions. This assessment should not be taken as a defeatist stance, or discourage efforts to find causes of change: recent advances in establishing causes of changes after they have occurred and in tracking the spread of innovations through a speech community have produced notable successes. More successes will surely follow; seeking causes of change is a lively and fruitful area of research. But the realistic goal is a deeper understanding of processes of change, not an ultimate means of predicting change.

The point about not being able to explain most changes will perhaps become clearer if we consider the fate of most innovations. Speakers who are tired, or drunk, or nonnative, or three years old, or even just verbally inept frequently produce innovative forms. To take one type of example, collecting speech errors from weather reports read by radio broadcasters turns up examples like *dreezle* (in the sentence *We could have some freezing dreezle*) and *frog* (in the noun phrase *patchy frog*, a combination of *frost* and *fog*). Neither *dreezle* nor *frog* in this sense is likely to enter the language as a permanent feature (although *smog*, a combination of *smoke* and *fog* exactly parallel to *frog*, has certainly done so); but the forms were uttered by native speakers, and that makes them linguistically possible changes in the language. Their subsequent history – whether they are ever used again by the same speakers and, if they are, whether they are adopted by other speakers – is a matter of linguistic and social probability, not possibility. It is easy to think of linguistic reasons why (for instance) *frog* might never turn up in an English dictionary (its homophony with the semantically unconnected pre-existing word *frog* would probably hurt its chances); but offering such an explanation for its ephemerality is a “Just So” story, mere speculation. There is no evidence to support it. And the same is true of most or all lexical and structural innovations that don't achieve ultimate success.

Fifth, how can internal and external causes of change be established? Traditional ways of identifying internal causes of change have emphasized

learnability, in the form of pattern pressures, or structural imbalances, that make a particular set of forms or syntactic structures relatively hard to learn. In phonological systems, especially in the past 30 years or so, phonetic causes of change have been identified. There is now experimental research supporting certain claims of ease of learning, but to date these comprise only a very small fraction of past and ongoing changes. In another line of research, over the past 40 years variationists have studied the spread of variants within speech communities, identifying (for instance) social networks that contribute to the success of a given innovation.

Establishing external causes of change has proved especially difficult, in part because most historical linguists used to be reluctant to admit any contact explanation for a structural change. Even now, there is a strong tendency to consider the possibility of external causation for a change only when the search for an internal cause has failed to produce a plausible result. This tendency has weakened in the past 20 years or so, but it has not vanished. It is therefore necessary to be quite explicit, and rigorous, about criteria for establishing contact-induced change.

Here is a list of conditions that must be met (see Thomason 2001: 93–4 for further discussion and justification of these requirements). These conditions are usually needed only to support claims that structural features have been transferred without the morphemes that express them in the source language; given a reasonable amount of luck, loanwords will declare their origin, in which case no further effort is needed. Attaching an external cause to an innovative structural feature is much more difficult. The first requisite is to consider the proposed receiving language (let's call it B) as a whole, not a single piece at a time: the chances that just one structural feature traveled from one language to another are vanishingly small. Second, identify a source language (call it A). This means identifying a language – or, if all speakers of A shifted to B, one or more closely related languages – that is, or was, in sufficiently intimate contact with B to permit the transfer of structural features. Third, find some shared features in A and B. They need not be identical in the two languages, and very often they won't be, because transferred features often don't match in the source and receiving languages. They should, however, belong to a range of linguistic subsystems, e.g. both phonology and syntax, so as to rule out the possibility of structurally linked internal innovations. Fourth, prove that the features *are* old in A – that is, prove that the features are not innovations in A. And fifth, prove that the features *are* innovations in B, that is, that they did not exist in B before B came into close contact with A. For the sake of completeness, the search for causes should not end here, even if an external cause has been solidly established, because the influence of internal causal factors must also be considered. The best explanation for any linguistic change will take all discoverable causal factors into account, both internal and external. The rather extensive literature that attempts to decide between an internal and an external cause of a particular change is a waste of effort – the dichotomy is false, and the best historical explanation might well have to appeal to both causes.

If all five of the prerequisites can be met, then the case for contact-induced change is solid. But if one or more cannot be met, then any claim of external causation must be tentative at best. The most common weakness in a case for external causation concerns requisites four and/or five. Here are two examples to illustrate an all too common situation. In the well-known Pacific Northwest Sprachbund (Oregon, Washington, British Columbia), a number of striking structural features are shared widely in all languages of the region. These include, among other things, typologically marked features such as velar versus uvular obstruents, labialized dorsal consonants, lateral obstruents, a weak noun/verb distinction, verb-initial sentence structure, optionality of plural inflection, and numeral classifiers. All specialists agree that this area is a true Sprachbund. But it turns out that all the most widespread areal features must be reconstructed for all three of the major language families in the region – Proto-Salishan, Proto-Wakashan, and Proto-Chimakuan. This means that we have no actual evidence for diffusion of any of the features. They could, in principle, either be inheritances from a common ancestor for the three families or due to diffusion among the three protolanguages. But just as we have no evidence of diffusion, because we can't satisfy the fourth and fifth conditions for establishing contact-induced change, we also have no evidence that two or all three of the language families are changed later forms of a single parent language. (Such a relationship has been proposed, most prominently in recent times in Greenberg 1987, but Greenberg's methods are considered by virtually all specialists to be fatally flawed, and his results have not been accepted by historical linguists who specialize in Native American languages.) At least we can rule out accident as the source of the shared area-wide features, because the package is too specific and too unusual as a package to make accidental similarity an attractive hypothesis. But this does not help us to choose between the remaining two possibilities.

This last point suggests that there may be no plausible historical explanation at all for a particular change or set of changes. This inference is correct. Our goal in analyzing linguistic changes, always, is to arrive at the best available historical explanation for a change. But in many cases, as noted above, no historical explanation is available; and in others, like the question of the origin of the shared area-wide features in the Pacific Northwest, two explanations are in principle available, but there is no supporting evidence for either of them.

2 Contact Explanations and Internal Explanations of Change: Social Predictors

Not surprisingly, contact-induced change can be viewed from a variety of perspectives. The focus in this section and in section 3 is on factors that predict the outcome of change processes – that is, on social and linguistic explanatory factors. The ones presented here are discussed in more detail in Thomason 2001 (ch. 4), though without the present emphasis on comparing and contrasting external and internal causation. As we will see, certain factors are unique to

contact-induced change, while others are shared with internally motivated change; but there do not appear to be any factors that are unique to internally motivated change. I will argue (following Dorian 1993) that there is often no clear-cut dichotomy between internally and externally motivated change, and that this makes the search for causal explanations even harder than it might otherwise be.

Let us turn now to a consideration of some major predictors of linguistic change – not predictors in an absolute sense of predicting that change *will* occur, but predictors in the sense of conditions under which certain kinds of change *can* take place. The major (general) social factors that are relevant for predicting the effects of contact-induced change are the presence versus the absence of imperfect learning, intensity of contact, and speakers' attitudes. Of these, the first will not be relevant for internal explanations of change, because the agents of internally motivated change are native speakers of the changing language, or nonnative speakers who have native-like fluency in the changing language, or incipient native speakers (if children produce innovations during the process of first-language acquisition). This is true both of the original innovator(s) of a novel linguistic feature and of those who participate in the spread of the innovation through a speech community.

The presence or absence of imperfect learning by a group of people is, however, a major predictor of the outcome of contact-induced change (Thomason & Kaufman 1988, Thomason 2001: 66–76). Here is a brief characterization of the contrasting expectations. When the agents of change are fluent speakers of the receiving language, the first and predominant interference features are lexical items belonging to the nonbasic vocabulary; later, under increasingly intense contact conditions, structural features and basic vocabulary may also be transferred from one language to the other. The only major type of exception to this prediction is found in communities where lexical borrowing is avoided for cultural reasons; in such communities, structural interference may occur with little or no lexical transfer. The prediction for the outcome of contact situations in which one group of speakers shifts to another language, and fails to learn it fully, stands in sharp contrast to a situation in which imperfect learning plays no role: in shift-induced interference, the first and predominant interference features are phonological and syntactic; lexical interference lags behind, and in some cases few or no lexical items are transferred from the shifting group's original language to their version of the target language. Here too there is a class of potential exceptions. If the shifting group is a superstrate rather than a substrate population, then there may be a large number of transferred lexical items. (But it is doubtful that the famous case of the shift by Norman French speakers to English in England ca. 1200 CE, which is often cited as a prime example of superstrate shift, belongs in this category: by the time of the shift, the Norman French speakers in England were almost certainly fully bilingual, so that imperfect learning in fact played no role in the process of shift.)

The second social factor that affects contact-induced change, intensity of contact, is relevant to both of these general types of contact-induced change. Where imperfect learning plays no role, intensity of contact is typically derived from things

like the duration of contact and the level of bilingualism in the receiving-language speech community. The longer the contact period and the greater the level of bilingualism, the more likely it is that structural features will be transferred along with lexical items. In shift-induced interference, intensity has to do with such factors as the relative sizes of the populations speaking the source and receiving languages, the degree of access to the target language by the shifting group, and the length of time over which the shift occurs: if there are many more shifting speakers than original target-language speakers, if the shifting group has only limited access to the target language, and if the shift occurs abruptly, a relatively large amount of shift-induced interference is likely. In the opposite situation, little or no shift-induced interference can be expected.

A typical example of the former type is the variety of English of a community of Yiddish speakers in the United States. In this community, Yiddish-speaking immigrants learned English, but Yiddish was their first language and remained their main language. Their contact with native English speakers was somewhat limited; within their community, they were certainly the majority; and they learned English as a second (or third, or . . .) language rather abruptly. As a result, their English displayed moderate lexical interference but strong phonological and morphosyntactic interference from Yiddish, their first language (Rayfield 1970: 85). (These immigrants did not in fact shift from Yiddish to English; they remained Yiddish-dominant bilinguals throughout their lifetimes.) Ironically, given its reputation as an extreme case of (superstrate) shift-induced interference, the structural influence of Norman French on English illustrates the opposite set of conditions: between 1066 and ca. 1200, when the Normans finally shifted entirely to English in England, they were always vastly outnumbered by English speakers, and their access to English as spoken by native speakers was apparently unlimited. Nor was their shift to English abrupt; as noted above, by the time it occurred, the Norman population in England had apparently long been bilingual. Structural interference of French on English is quite modest, especially compared to the huge number of French loanwords.

One complication here is that a significant amount of shift-induced interference is sometimes found in a long-term contact situation in which imperfect learning was important early on, but then bilingualism was established and maintained for a considerable period of time: the shifting group's version of the target language was fixed at a time when the level of bilingualism was low among members of the shifting group, and (possibly for attitudinal reasons: see below) it never converged toward the target language as spoken by the original target-language speech community. An example is the French spoken in the (originally) Breton community of Ile de Groix, France: as of 1970, only the oldest inhabitants were fluent speakers of Breton, but the French spoken in the community was heavily influenced by Breton in both structure and vocabulary (Fowkes 1973: 195, in a review of Ternes 1970).

Intensity of contact is a factor in internally motivated change if (and only if) we include under "contact" processes of person-to-person transmission of variants within a single speech community – that is, the spread of an innovation.

The concept of social networks, as developed in e.g. Milroy 1987, is of obvious relevance here: the idea is that variants spread through networks, and close-knit social networks characterized by intense contact among the participants can facilitate the spread of innovations. Intensity of contact of course plays no role in the initial innovation of an internally motivated change; it can be relevant only for the spread of a change.

The third general social predictor, speakers' attitudes, is certainly relevant both in contact-induced change and in internally motivated change. This is admittedly a very vague notion, but it is difficult to make it precise – and equally difficult, unfortunately, to prove that it has affected the course of language history. Speakers may or may not be aware of the attitudinal factors that help to shape their linguistic choices, and historical linguists are (of course) unable to establish speakers' attitudes except in the tiny handful of instances in which metalinguistic comments on innovations are found in old documents. To take just one of many frustrating examples, a striking areal feature of at least some parts of the Pacific Northwest Sprachbund is an avoidance of loanwords from French and English, the European languages with which the indigenous peoples first came into contact. In Montana Salish, for instance, there are hardly any English (or French) loanwords, in spite of massive cultural assimilation to European-derived culture; a similar situation obtains in Nez Perce, an unrelated language whose speakers have long had close contact with Salishan tribes. The two tribes have instead constructed descriptive words from native morphemes to name items imported from Anglo culture, as in the Montana Salish word for "automobile," *p'ip'úyʂn*, literally 'it has wrinkled feet' (so named because of the appearance of tire tracks), and the Nez Perce word for "telephone," *cewcew'in'es*, literally 'a thing for whispering'. Modern elders, when asked by young tribal members how they would say (for example) "television set" in Salish, make up comparable words on the spot; but when asked why they don't just use the English word with a Salish pronunciation, they don't know – they merely shrug and say that's how it is. In other words, the reason for this culturally determined pattern of lexical innovation is unknown to current tribal members, and was possibly never a conscious avoidance pattern.

The clearest examples of speakers' attitudes as a cause of change therefore come from cases of deliberate change (though even here it is often impossible to prove that a change was made with full conscious intent). Some of these are internally motivated, at least in the sense that no direct language contact was involved; others are externally motivated, according to the definition of contact-induced change given above in section 1. Language planning is one prominent source of internally motivated deliberate changes. For instance, the twentieth-century Estonian language reformer Johannes Aavik introduced hundreds of new words and a sizable number of morphosyntactic features into Estonian, and many of these became permanently fixed in the language (Saagpakk 1982, Thomason 2007). Several striking examples of contact-induced changes that must be explained by speakers' attitudes come from situations in which a speech community wishes to distinguish its language, or more likely its dialect, more sharply from its neighbors'

speech. Changes range from lexical substitution in certain languages of Papua New Guinea (Kulick 1992: 2), to reversal of gender assignments, also in Papua New Guinea (Laycock 1982, Thomason 2007), to phonological distortion of words in Lambayeque Quechua in Peru (David Weber, p.c. 1999, citing research by Dwight Shaver), and to a combination of the first and third of these types of change in Mōkkī, a language of Baluchistan that was created by lexical substitutions and distortions (Bray 1913: 139–40). Lexical substitutions are also found, of course, in teenage slang, which is usually (at least in the United States) a product of internally motivated lexical innovation.

A consideration of social predictors of externally and internally motivated language change could be extended to more fine-grained social factors, but the very general factors discussed here provide a good overall comparative picture of external and internal explanatory social factors. One of the three categories, speakers' attitudes, seems to be equally effective in internal and external causation. A second, intensity of contact, is very important to both innovation and spread of an innovation in contact-induced change, but it is relevant only to the spread of an innovation in internally motivated change. The third category, the differential effects of interference depending on whether or not imperfect learning played a role, is relevant only for contact-induced change.

3 Contact Explanations and Internal Explanations of Change: Linguistic Predictors

As with social predictors, the discussion here of linguistic predictors is confined to quite general categories; here too the analysis could be extended to cover more specific linguistic factors, but the broader categories will serve to develop an overall comparative picture. For contact-induced change, the most important linguistic predictors are typological distance, universal markedness (with its ultimate appeal to ease of learning), and degree of integration within a linguistic system. The first of these is relevant only to contact-induced change, but the other two are equally important for internally and externally motivated change.

Typological distance is a (very informal) measure of structural differences between two linguistic systems; it cannot be relevant for making predictions about internally motivated change because internal motivations arise within the same overall system. If different dialects are involved in motivating a change, then that is contact-induced change, not internally motivated change. If differences exist in two parts of the same system – say, in two different inflectional classes in a language's system of noun declension – then analogic changes that bring about leveling of the two classes are indeed akin to contact-induced change if they are interpreted as interference between two different (sub)systems. But in such a case the typological distance between the two (sub)systems is minimal or zero: with minor variations, noun classes in a single language will share the same structural morphological and syntactic properties.

In contact-induced change, the degree of typological distance between specific subsystems of a source language and a receiving language helps to predict the kinds of interference that may occur under differing degrees of contact intensity. Where typological distance is small, linguistic subsystems in which contact-induced change is in general rare may undergo contact-induced change. This principle is most obviously illustrated by changes in the inflectional morphology, which tends to lag behind phonology and syntax and even derivational morphology in a catalogue of interference features, in both shift-induced interference and interference in which imperfect learning plays no role.

Specifically, minimal typological distance is in part responsible for the frequency of interdialectal interference involving inflectional features that are rarely transferred in cases of foreign interference. An example is the realignment of syncretic categories in the plural oblique cases of masculine and neuter nouns in certain nonstandard dialects of (the language formerly known as) Serbo-Croatian. Where Standard Serbo-Croatian has syncretism in the Dative-Instrumental-Locative plural, whose suffix *-ima* is opposed to the Genitive plural suffix *-a:*, some nonstandard dialects of the čakavian dialect group had instead a Genitive-Locative suffix *-i:h* versus Dative plural *-o:n* and Instrumental plural *-i*. But in the major study of one of these čakavian dialects, that of the Adriatic island Hvar, the analyst found that only older speakers still retained the inherited čakavian system; by contrast, younger speakers were using *-i:h* only for the Genitive plural, and they had borrowed the standard dialect's suffix *-ima* for the Dative, Instrumental, and Locative plural cases (Hraste 1935: 17–25). It is important to emphasize here that the role of typological distance in this and other cases is not to motivate the change itself; social factors – in this instance an expanded educational system that exposed younger speakers heavily to the standard dialect, together with the prestige of that dialect – were surely the primary cause of the change. (Note that when I conducted dialect research in Yugoslavia in 1965 it was still fairly easy to find villagers as young as 60 who had never attended school. Ten years later this would almost certainly have been impossible.) The role of typological distance, in a case like this one, is to make possible a type of change that would be a great deal less likely if the source and receiving systems differed in some or all of their inflectional categories (gender, number, case, and/or noun class).

Minimal typological distance sometimes does facilitate otherwise rare types of contact-induced change in different languages, of course. A well-known example is the borrowing of Bulgarian person/number verbal suffixes in Megleno-Rumanian, yielding double-marked verb forms: original Megleno-Rumanian forms like *aflu* 'I find' and *aflī* 'you find' were already marked for 1sg and 2sg subject, respectively, but the borrowed Bulgarian 1sg and 2sg suffixes *-m* and *-š* were nevertheless added, producing *aflum* and *aflīš*. Bulgarian and Megleno-Rumanian are only distantly related to each other, but their verbal systems have the same person–number combinations, so that these redundant suffixes could be added without any adjustment in the categories – there was already a one-to-one correspondence in the expression of 1sg and 2sg in verb inflection. In other words, the typological distance between the two languages at this structure point was zero.

It is far more common, however, for different languages to differ significantly in inflectional and other categories, and in these cases typological distance is likely to prove a barrier to contact-induced change. Not an absolute barrier: under circumstances of intense contact, any linguistic feature can be transferred to any other language. But the effect of typological distance when typologically dissimilar languages are in intimate contact is reflected in the various borrowing scales that have been proposed in the literature (e.g. in Thomason 2001: 69–71): with casual contact, only easy-to-borrow items can be transferred from source to receiving language, primarily or only nonbasic vocabulary; with increasingly intense contact, harder-to-borrow features may be transferred, ultimately including even inflectional morphology, basic vocabulary, and typologically disruptive features (e.g. prefixes introduced into a language that was previously exclusively suffixing).

Importantly, no borrowing scale can be valid for cases of shift-induced interference, because in shift-induced interference the primary agents of contact-induced change are speakers of the source language who have learned the receiving language imperfectly. In particular, neither introducing features from one's first language into a second language nor failing to learn aspects of the second language (the target language) requires any great knowledge of the second language – by definition, in the case of learning failure. The validity of borrowing scales therefore rests on their appropriateness for cases of interference in which imperfect learning plays no role.

Certain features that appear at the hard-to-borrow end of a borrowing scale are hard to borrow because they are relatively hard to learn (typically, because they are universally marked): you can't borrow what you don't know, so only the most fluent bilinguals can introduce hard-to-learn features into their second language. But part of the reason that features are hard to borrow has to do with the degree to which they are integrated into the linguistic system. This is why inflectional features are so much less likely than other structural features to be transferred from one language to another: inflectional systems tend to be very tightly integrated in a system of interlocking structural relationships, and it is thus likely to be difficult both to extract a single form or set of forms from one system and to insert foreign forms into another inflectional system, especially one that is typologically incompatible. (See below for more detailed discussion of the role of markedness and of systemic integration.)

In fairly intense contact situations where imperfect learning plays no role and where the languages involved are very different typologically, then, interference features are most likely to include much nonbasic vocabulary, some function words and derivational morphology, borrowed phonetic and phonological features confined to loanwords, and borrowed syntactic features that do not cause major typological change. But toward the extreme end of the borrowing scale, where contact is very intense, typologically significant contact-induced changes may occur: borrowed basic vocabulary, borrowed phonology and phonetics in native vocabulary, borrowed syntactic features that do alter the receiving language's syntactic typology, and even borrowed inflectional categories and patterns. The Iranian language Ossetic, which has borrowed extensively from neighboring

Caucasian languages, provides an example from the middle of the scale, with moderate structural interference. In addition to many loanwords from Georgian (a South Caucasian language), Ossetic has borrowed ejective stops, which appear even in native Ossetic vocabulary, a declensional system with more cases than Ossetic inherited from Proto-Indo-European and Proto-Iranian, agglutination (replacing the largely flexional morphology typical of Indo-European languages), and a more rigid SOV word order, with more postpositions, than one finds in Iranian languages that have not undergone interference from Georgian or other Caucasian languages.

In sum, the popularity of borrowing scales, and the fact that they seem to be largely valid (in the absence of powerful social factors that skew the results, such as a culturally motivated disinclination to borrow words from certain languages), indicate the need for ideal social conditions – in the form of very strong cultural pressure from a dominant language – in order to override typological barriers to the transfer of hard-to-borrow structural features. It may reasonably be surmised that typological barriers could also be broken down in situations where attitudinal factors favor the adoption of typologically disruptive innovations. Here are two examples that illustrate this possibility, though both are admittedly minor in terms of their current and probable ultimate effects on the receiving languages' systems (see Thomason 2007 for further discussion).

First, the remaining speakers of Ma'a, a mixed language of northeastern Tanzania, are bilingual in Shambala and in fact form part of the Shambala speech community. Ma'a combines Cushitic lexicon and a few residual Cushitic structural features with Bantu lexicon and structure, plus a sizable component of Masai words; its complex history involves heavy Bantuization of an originally non-Bantu (presumably Cushitic) language, and also a near-complete shift from Ma'a to Shambala, with retention only of some non-Bantu lexicon – and one phonological feature that is foreign to the nearby Bantu languages, a voiceless lateral fricative /ɬ/. Nowadays Ma'a speakers emphasize the distinctness of their heritage language by introducing this fricative into their Bantu discourse, using it not only in Ma'a words but also in Bantu words (Mous 1994: 199). The effect is to make their Bantu speech less Bantu-like, and apparently also to impress their non-Ma'a-speaking Bantu interlocutors with their ability to pronounce such an exotic sound. The introduction of this fricative into Shambala is both phonetically and typologically novel.

The second example is syntactic accommodation to English structure in two unrelated Native American languages of North America, Montana Salish and Nisgha. Neither case involves actual language change; but in both cases the deliberate innovations attest to the possibility of future contact-induced syntactic change that would be typologically disruptive in a major way (although Montana Salish, at least, will lose its remaining fluent native speakers within the next 20 or 30 years, too short a period to see any major syntactic changes). Montana Salish is a polysynthetic language with morphological marking of up to three arguments in its verbal structure and many other verbal affixes that express additional inflectional and derivational features. Its basic sentential word order pattern is VOS. Ten or twelve years ago, in an elicitation session focusing on ditransitive verbs, I asked

an elder for sentences with glosses like ‘Johnny stole huckleberries from Mary.’ Again and again my consultant responded with sentences like *Čoní naq^w t st’ša tl’ Malí* (lit. ‘Johnny steal PARTICLE huckleberry from Mary’) – very close to a word-for-word translation from English – instead of the expected *Naq^w-m-ł-t-s Malí ci t st’ša Čoní* (lit. ‘steal-derived.transitive-relational-transitive-he Mary that PARTICLE: from huckleberry PARTICLE Johnny’). The former sentence, though perfectly grammatical in Montana Salish, is bizarre in isolation or indeed in any context other than a very particular discourse context (usually involving a change of agent from a previous sentence). But it is very “Englishy.” The latter sentence, with all the elaborate morphological apparatus of a ditransitive verb and with the usual marking of full-noun arguments, is what would be expected in isolation and in almost all ordinary discourse contexts. When I finally asked the elder if he didn’t think the translations he was giving me were rather, um, Englishy, he was surprised: Yes, of course they are, he said; but you asked in English, so I thought that’s what you wanted.

The Nisgħa example is partly parallel. In working with speakers of Nisgħa, in which objects are deleted under identity with the object of a previous clause (as in pseudo-English *They heard him but couldn’t see*) except in emphatic contexts, Tarpent found that Nisgħa–English bilinguals tended to insert object pronouns into their Nisgħa speech when they were trying “to approximate the English utterance” (Tarpent 1987: 157–8). She also observed that “some bilingual speakers . . . tend to stick very close to English surface structure” when they translate English sentences, resulting in very strange-sounding Nisgħa.

Let us turn now to the other two major linguistic predictors of contact-induced change, the two that are also relevant for internal explanations of language change: universal markedness and degree of integration within a linguistic system. Markedness, as noted above, is ultimately connected with ease of learning. Universally marked features are believed to be those that are harder to learn; unmarked features should be easier to learn. The amount of evidence available to support this connection is unfortunately limited, but two main lines of evidence – frequency of cross-linguistic occurrence (expected to be greater for unmarked than for marked features) and age at which children learn them in acquiring their first language (earlier for unmarked features, later for marked features) do converge on certain features, especially phonological ones. To take a rather trivial example, a phoneme /t/ is close to universal in the languages of the world, while a phoneme /θ/ is quite rare; and /t/ is acquired earlier than /θ/ by children learning English as a first language. So, arguably, /t/ is less marked than /θ/.

Markedness plays an important role in shift-induced interference, both because the shifting group is more likely to learn unmarked target-language features than marked ones and because, if the two speaker groups eventually merge into a single speech community, original target-language speakers are less likely to adopt marked features than unmarked ones from the learners’ version of the target language. But in contact-induced changes that do not involve imperfect learning, markedness is likely to be of considerably less importance, and may not play any role at all. The reason is that the agents of change in this type of interference are

fluent speakers of the receiving language and of (at least the relevant aspects of) the source language as well, so ease of learning does not enter the picture; if they borrow structural features, they are as likely to incorporate marked as unmarked features. The Ma'a example above is a case in point: the reason for introducing the lateral fricative into Ma'a speakers' Bantu speech was precisely its exoticness, its status as a hard-to-pronounce phoneme.

In internally motivated change, ease of learning is the major component of the phenomenon known as drift, the only internal factor traditionally recognized as a cause of language change. (The other two traditional causal factors are external: dialect borrowing and foreign interference. These external factors are of course sometimes difficult or impossible to distinguish from one another.) The idea behind the concept of drift (which was first proposed, though with now controversial trappings, in Sapir 1921) is that pattern pressures, or structural imbalances, motivate language change because they are structure points that cause learning problems. Irregularities are harder to learn than regular patterns, for instance; and marked features, which by definition impose a burden on learning, are relatively hard to learn and are therefore likely to be diachronically unstable. A well-known characteristic of drift is that it often brings about similar or identical changes in related languages, especially during the period immediately following the split of two or more sister languages from their common parent – because all the daughter languages will have inherited the same pattern pressures from the parent, and efforts to ease the learning burden may well take the same route in each. In the Indo-European language family, for instance, the history of all extant branches displays a tendency toward inflectional simplification (with resulting complication in the syntax); in noun declension, for example, even those languages that best retain many aspects of Proto-Indo-European noun declension have collapsed several inherited noun classes, which were semantically opaque, into just three, with a few residual forms from other classes.

It is hardly surprising, given that markedness plays an important role both in shift-induced interference and in internally motivated structural change, that different (unrelated) languages can undergo the same change for quite different reasons. It therefore makes no sense to ask (for instance) whether the loss of certain plural case distinctions in the Serbo-Croatian dialect of Hvar is due to contact-induced change or to the same long-term process of drift that has eroded Indo-European inflectional distinctions over many centuries. Of course in that case there is no doubt about the contact influence – the borrowed Dative-Instrumental-Locative plural suffix *-ima* attests to its standard-dialect origin – but drift may well also have played a role in motivating the change. And if (as is often the case) it had been merely the standard-language Dative = Instrumental = Locative plural pattern that was involved, and not the actual suffix, it would still make no sense to assume that a choice between an internal cause and an external cause was necessary.

The third major linguistic causal factor, degree of integration into the system, also has its place in explaining both internally and externally motivated changes, although here internal causation is somewhat less clear than external causation. Contact-induced changes are much more common in loosely integrated linguistic

subsystems than in subsystems which – like the inflectional morphology – are characterized by sets of interconnected forms organized into paradigms. In fact, as noted above, inflectional morphology is the linguistic subsystem that is least likely to be affected by contact-induced change, owing in part to typological distance (precise category matching in the inflectional systems of different languages, except with close relatives or in certain Sprachbund situations, is unlikely) and in part to the fact that the inflectional morphology typically displays the highest degree of integration of elements, of interlocking structure. Transfer of inflectional features from one language to another is therefore likely to happen only under very intense contact conditions, including processes of language shift as well as changes in which fluent bilinguals are the agents. And most such changes fit into the receiving language's inflectional patterns without significant typological disruption. So, for instance, Lithuanian acquired two new noun cases when speakers of Finnic languages, which are rich in case distinctions, shifted to Lithuanian; but the cases fit naturally into the already case-rich Lithuanian system of noun declension and caused no typological change. As we saw above, the same is true of the Bulgarian person/number suffixes added to Megleno-Rumanian verbs. In general, however, less close-knit subsystems more readily admit new elements; that is why nonbasic vocabulary is the predominant category of interference features in contact situations where imperfect learning plays no role.

It is far from obvious that tightly integrated inflectional systems tend to resist internally motivated change, or that they change more slowly than other linguistic subsystems (although claims of super-stable morphology have certainly been made; see Thomason 1980 and sources cited there for discussion). Analogic changes within inflectional paradigms (as well as in other subsystems) are routine occurrences in languages all over the world. One might argue, however, that the analogic processes themselves arise out of tightly integrated systems, where partial regularities can be found on multiple axes and thus motivate analogic changes. In this sense, the degree of integration can be said to serve as a predictor of internally motivated change.

In sum, like the effects of social predictors of change, the effects of linguistic causal factors are unevenly distributed between externally and internally motivated change. Of all the predictors we have surveyed, two – presence or absence of imperfect learning and typological distance – are restricted to contact explanations. Two others, intensity of contact and degree of integration within a system, are highly relevant in explaining contact-induced change but (apparently) of less relevance in explanations of internally motivated change. And the remaining two factors, speakers' attitudes and markedness, are significant in both types of explanation, although in contact-induced change the effects of markedness are largely restricted to shift-induced interference, where imperfect learning is important.

4 Conclusion

What, then, is the value of contact explanations in linguistics? This very general question has not been fully answered in this chapter, but by surveying causal

factors in both externally and internally motivated change, I hope to have sketched the beginning of an answer. In analyzing the linguistic effects of language contact, the linguist needs to consider all possible causal factors. If any factors can be ruled out, the task of explaining the changes should become easier. Only some predictors discussed above have relevance for internally motivated change, so the range of internal explanations for a given set of changes in an intense contact situation is narrower to begin with than the range of potential contact explanations. The search for internal and external causation should proceed in parallel, because of the strong possibility, an actuality in many cases, that both internal and external causes influenced the linguistic outcome of change.

We have also seen that certain social factors – most obviously the presence or absence of imperfect learning and intensity of contact – set the stage for different linguistic outcomes. For example, if contact is intense enough, especially if no imperfect learning is involved, then typological distance is no barrier to extensive structural borrowing; to take another example, speakers' attitudes can trump expectations for types and degree of both externally and internally motivated change. In other words, in this domain social factors rule. This of course does not mean that linguistic predictors are necessarily less important or less significant in a given case than social predictors. It only means that, in cases where linguistic and social factors point to different outcomes, the social factors will be more effective.

A caveat is needed at this point: although it is easy to find clear examples of causation, with all the causal factors discussed here, it remains true that for the vast majority of known linguistic changes there is no adequate explanation. Some of the reasons are obvious: often, in past contact situations, too little is known of the social and linguistic circumstances to satisfy the requisites for establishing contact-induced change, and the same is unfortunately true for internal causation. This should not discourage the search for causes. The search itself is illuminating, and concentrating on changes for which we can build a solid explanatory account helps to advance our understanding of the probabilities of change.

This leads to a final point. Historical linguists and sociolinguists employ such different methods that they sometimes misunderstand each other's results; and, more ominously, specialists in each subfield are sometimes inclined to dismiss the results achieved in the other subfield. This inclination, if indulged, diminishes our chances of arriving at a single unified account of contact-induced change, and of contact explanations more generally. There can surely be no doubt that a satisfactory theoretical understanding of contact phenomena must be compatible with the results of both subfields – and must, for that reason, help each set of specialists to a better understanding of the processes they study.

REFERENCES

- Bray, Denys de S. 1913. *Census of India, 1911*, vol. 4: *Baluchistan*. Calcutta: Superintendent Government Printing.
- Dorian, Nancy C. 1993. Internally and externally motivated change in contact situations: doubts about dichotomy. In Charles Jones (ed.), *Historical Linguistics: Problems and Perspectives*. London: Longman, pp. 131–55.
- Fowkes, Robert A. 1973. Review of Ternes 1970. *Language* 49: 195–8.
- Greenberg, Joseph H. 1987. *Language in the Americas*. Stanford: Stanford University Press.
- Hraste, Mate 1935. Čakavski dijalekat ostrva Hvara [The Čakavian dialect of the island Hvar]. *Južnoslovenski Filolog* 14: 1–59.
- Kulick, Don 1992. *Language Shift and Cultural Reproduction: Socialization, Self, and Syncretism in a Papua New Guinean Village*. Cambridge: Cambridge University Press.
- Laycock, Donald C. 1982. Melanesian linguistic diversity: a Melanesian choice? In Ronald James May and Hank Nelson, eds., *Melanesia: Beyond Diversity*. Canberra: Australian National University Press, pp. 33–8.
- Milroy, Lesley 1987. *Language and Social Networks*, 2nd edn. Oxford: Blackwell.
- Mous, Maarten 1994. Ma'a or Mbugu. In Peter Bakker and Maarten Mous (eds.), *Mixed Languages*. Amsterdam: Institute for Functional Research into Language and Language Use (IFOTT), pp. 175–200.
- Rayfield, Joan Rachel 1970. *The Languages of a Bilingual Community*. The Hague: Mouton.
- Saagpakk, Paul F. 1982. *Estonian-English Dictionary* (Introduction, section "Linguistic innovation in Estonian," pp. lxxix–lxxxvii). New Haven: Yale University Press.
- Sapir, Edward 1921. *Language: An Introduction to the Study of Speech*. New York: Harcourt, Brace and World.
- Tarpen, Marie-Lucie 1987. Between ergative and accusative syntax: lessons from Nisgha/English syntactic interference. In John Dunn (ed.), *Papers from the Twenty-Second International Conference on Salish and Neighboring Languages*, Norman, OK: University of Oklahoma, Department of Linguistics, pp. 149–71.
- Ternes, Elmar 1970. *Grammaire Structurale du Breton de l'Île de Groix*. Heidelberg: Winter.
- Thomason, Sarah G. 1980. Morphological instability, with and without language contact. In Jacek Fisiak (ed.), *Historical Morphology*. Berlin: Mouton de Gruyter, pp. 359–72.
- Thomason, Sarah G. 2001. *Language Contact: An Introduction*. Edinburgh and Washington, DC: Edinburgh University Press and Georgetown University Press.
- Thomason, Sarah G. 2007. Language contact and deliberate change. *Journal of Language Contact* 1: 41–62.
- Thomason, Sarah G. and Terrence Kaufman 1988. *Language Contact, Creolization, and Genetic Linguistics*. Berkeley: University of California Press.