

## Contact-induced change

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### Abstract

Contact-induced linguistic changes are diachronic changes within a recipient language that are traceable to languages other than the direct ancestor of the recipient language and that have spread and are conventionalized within a community speaking the recipient language. This chapter aims (i) to survey attested phenomena of contact-induced change and (ii) to discuss approaches to modeling such change, evaluating their empirical coverage, as well as (iii) to identify promising directions of future research. I focus on cross-linguistically attested asymmetries in patterns of contact-induced change, i.e. the fact that some kinds of contact-induced changes occur more frequently than others across languages, and some occur preferably in a given order within languages. A fundamental task of modeling contact-induced change is to identify and motivate the factors that underlie these asymmetries and describe the interaction between them. Motivations for these factors ultimately come from (i) cognitive-psycholinguistic constraints on language processing and learning that affect the linguistic behavior of individuals in multilingual settings; (ii) socio-political conditions of the multilingual settings; and (iii) the structural properties of the languages involved.

**Keywords:** adposition borrowing, affix borrowing, borrowing, borrowing hierarchies, code-copying, code-switching, contact-induced change, Interference, linguistic areas, loanwords, MAT(ter) borrowing, PAT(tern) borrowing, selection malfunction hypothesis, substrate, Wanderwörter

### 1. Introduction

Contact-induced change is manifold in its manifestations and ubiquitous in the world's languages, suggesting that most humans were probably multilingual throughout most of human history. Understanding contact-induced change is thus crucial for explaining the historical development of language and the synchronically observable diversity of languages. A growing amount of empirical evidence for contact-induced changes is available from diverse languages and a range of models have been proposed to establish the limits on the range of the attested variability. Some of these models posit absolute constraints on contact-induced change, based on theoretical considerations and more or less restricted samples of languages. Other approaches start out by describing which kinds of changes are more probable in larger samples of languages in order to establish the relative strength and interaction of various factors involved.

In this chapter I use traditional terminology such as “recipient language”, “donor language” and “borrowing”. Alternative terms for the latter are “transfer” (Wilkins 1996; Myers-Scotton 2002) “adoption” (van Coetsem 2000; Winford 2005) and “copying” (Johanson 2008). The last is particularly attractive for two reasons: Firstly, it highlights that contact-induced changes are the result of creative processes of imitation. Secondly, the associated code-copying framework explicitly acknowledges that these processes involve a number of, to some extent independent, components, namely M(aterial), S(emantic), C(ombinatorial) and F(requential) aspects of the linguistic sign. The absence or presence of morphological material in borrowing is also captured in the terms MAT(ter) vs. PAT(tern) borrowing (Matras and Sakel 2007). Finally, contact-induced changes of a particular kind, namely those introduced by speakers of the recipient language (see §4), is called “Interference (through shift)” (Thomason and Kaufman 1988), a term which partially overlaps with the terms “imposition” (van Coetsem 2000; Winford 2005) and “substrate influence”.

Contact-induced change can be studied at different time scales, which implies the availability of different data and methods. The following three levels on this temporal continuum may be distinguished:

1) Prehistoric: Some similarities among large numbers of languages in big, often continent-wide areas can be shown to be long-term result of multiple individual contact-induced changes. Details of the historical processes involved must usually remain unclear, including, e.g., the sociolinguistic

situation and the directionality.

2) Reconstructible or attested: Here, individual historical processes can be described for individual pairs of languages, also in terms of directionality of borrowing. For such cases, proof of contact-induced change requires four components (Thomason 2001: 91–95): (i) the recipient and donor language are or have been in contact; (ii) the recipient and donor language share a feature A; (iii) a pre-contact direct ancestor of the recipient language did not have feature A; and (iv) a pre-contact direct ancestor of the donor language had feature A. Steps (iii) and (iv) can be approximated by reconstruction if documentation is not available, as is often the case.

3) Ongoing: Here, the creation of new varieties within as little as a few years can be studied, focusing on issues such as matrix language shifts during code-switching, frequency of use of borrowed vs. native material, and the linguistic and sociolinguistic background of speakers involved in producing contact-induced changes.

After a brief discussion of prehistoric contact-induced changes in the following section, the focus in this chapter will be on reconstructible or attested changes, since these kinds of data provide most of the evidence on which inferences regarding asymmetries of contact-induced change can be made.

## **2. Prehistoric contact-induced change and linguistic universals**

At least since Nichols (1992) there is an interest in capturing the interaction between contact-induced change, inheritance, and universality in the world-wide distribution of typological features such as word order and morphological complexity. Work in this tradition usually starts out by defining macro-areas based on geographical boundaries (Hammarström and Donohue 2014) and historical, including genetic, data, and then compares distributions of features within and across these areas. One method is to study the proportion of families within areas that have biases towards a particular feature, probing the universality of this feature against the probability of areal spread. For example, Bickel (2015) finds strong evidence that language contact favored the occurrence of case categories such as accusative in Eurasian languages by showing that their areal spread in Eurasia is independent of the typological correlation between such case marking and verb-final word order. A second example concerns left-branching NPs in Eurasia which by this method can be shown to be “something that happened to be locally attractive for copying, a mere fashion” (Bickel 2017: 11). Other work in this domain has also revealed asymmetries in the relative borrowability of grammatical subsystems. For instance, classifiers, as one type of nominal classification system, can be shown to be more prone to areal diffusion than genders and noun classes, as another such type (Nichols 1992: 132), and Wichmann and Holman (2009: 54–55) find them to be less stable in terms of inheritance, reflecting the tighter grammatical integration and more abstract meaning of the latter (see §3.1.). Borrowed morphological material is usually not identifiable in prehistoric contact-induced change, *Wanderwörter* being interesting exceptions (Haynie et al. 2014).

## **3. Asymmetries in contact-induced change**

### **3.1. Types of asymmetries**

Constraints on contact-induced change are often formulated in terms of asymmetries of borrowability, or “borrowing hierarchies”, such as DERIVATION > INFLECTION, or NOUNS > VERBS. Sometimes authors construe such asymmetries as implicational universals predicting possible vs. impossible constellations in individual languages, e.g. Moravcsik’s (1978) claim that no language would borrow bound morphology if it did not also borrow at least one free morpheme. Other authors use such asymmetries to also explain tendencies in a diachronic order in which different kind of elements, such as free vs. bound forms, are borrowed (Thomason and Kaufman 1988). Another application of these asymmetries is to describe the relative frequencies of attested cases of borrowing, e.g., free vs. bound forms, in typological samples (§3.2-3.4). Truly universal asymmetries in contact-induced change should surface at all three levels, language-internally, diachronically, and typologically. The theoretical significance of such asymmetries is that they may inform us about properties of the human language faculty in terms of the relative stability of linguistic subsystems.

Figure 1 summarizes borrowability asymmetries from the literature, focusing on borrowing that includes morphological material (MAT), rather than purely structural (PAT) borrowing. Properties of individual morphemes (I and II in Figure 1) have been the main focus of research on borrowability, to which most proposed “borrowing hierarchies” apply. Also included is an asymmetry that applies in situations where sets of morphemes are borrowed (III in Figure 1) and “intersystemic” asymmetries regarding relations between donor and recipient (IV in Figure 1).

#### **I. FORMAL PROPERTIES OF INDIVIDUAL MORPHEMES**

- FREE > BOUND
- SHARP > FUZZY BOUNDARIES BETWEEN CONSECUTIVE MORPHEMES
- TIGHTLY > NOT TIGHTLY INTEGRATED IN MORPHOSYNTACTIC SYSTEM
- NO ALLOMORPHS > ALLOMORPHS
- OPTIONAL > OBLIGATORY
- DERIVATION > INFLECTION
- INHERENT INFLECTION > CONTEXTUAL INFLECTION (Gardani, Arkadiev, and Amiridze 2015)

#### **II. SEMANTIC/PRAGMATIC PROPERTIES OF INDIVIDUAL MORPHEMES**

- CONCRETE, LEXICAL > ABSTRACT, GRAMMATICAL MEANING
- AFFECTIVE > NON-AFFECTIVE MEANING
- UNCERTAINTY > CERTAINTY ASSOCIATED WITH MEANING, e.g., FUTURE > PAST (Matras 2007)

#### **III. PROPERTIES OF SETS OF MORPHEMES**

- INTERRELATED SETS > NON-INTERRELATED SETS (SEE SECTION 3.4) (Seifart 2012)

#### **IV. INTERSYSTEMIC CONSTRAINTS**

- GAP-FILLING > NOT GAP-FILLING
- CONGRUENT > NON-CONGRUENT STRUCTURES (Field 2002)
- PHONOLOGICAL SIMILARITY > DISSIMILARITY

Figure 1: Proposed asymmetries in borrowability. Where not otherwise noted, these are taken from Wilkins (1996), in turn based on earlier work, mainly Weinreich (1953). The symbol “>” means “more easily borrowable than.”

Underlying the compilation of asymmetries in Figure 1 is the assumption that each of them has an independent effect on relative borrowability (Wilkins 1996: 110; following Weinreich 1953). However, many of them are not independent, but more or less strongly correlated. For instance, forms with abstract, grammatical meanings are more likely to be bound (affixes) than forms with concrete, lexical meanings. To demonstrate the independence of an individual asymmetry, one would need to keep the values for the remaining asymmetries constant. Attempts at keeping at least some factors constant in typological samples include keeping constant the recipient language (e.g. Romani languages: Elšik and Matras 2006), the donor language (e.g. Spanish: Stolz and Stolz 1996), or bound vs. free morphemes (e.g. affixes only: Seifart 2013, 2017). Another approach is to focus on the relative borrowability of categories that are in quasi-paradigmatic relation, e.g. future vs. past or augmentative vs. diminutive markers (Matras 2007).

The following sections discuss examples of asymmetric borrowing patterns attested in typological samples, focusing on formal and semantic/pragmatic properties of free and bound morphemes (§3.2-3.3), sets of morphemes (§3.4), and intersystemic constraints (§3.5).

### **3.2. Asymmetries in borrowing vocabulary**

Lexical items are relatively often borrowed. There appear to be few if any languages in which no loanwords are in use. A number of asymmetries contribute to this fact: lexical items have concrete, lexical meaning, and are often free. Robust results of relative borrowability within vocabulary are provided by a study that identified loanwords in wordlists of about 1000-2000 entries from 41 languages (Tadmor 2009; Haspelmath and Tadmor 2009). This study establishes a ranking of lexical meanings according to relative borrowability, including a set of “basic vocabulary” that is relatively resistant to borrowing and that includes as prominent semantic domains body parts, natural phenomena, and some items that relate to human culture, such as HOUSE, NAME, ROPE, and TO TIE. This

study also substantiates the NOUN > VERB asymmetry. This asymmetry holds not only in morphologically complex but also in highly isolating languages, suggesting that it is not reducible to the higher morphological complexity and syntactic integration of verbs, as establishing links with other elements in the clause. In morphologically complex languages, different strategies are employed to incorporate borrowed verb stems, including, but not limited to, inserting bare verb stems and leaving inflection on native auxiliary verbs (Wohlgemuth 2009).

Overall, open-class words are more often borrowed than function words (Tadmor 2009). Within function words, one of the best attested asymmetry concerns conjunctions where the hierarchy BUT > OR > AND has been shown to hold in two independent studies (Stolz and Stolz 1996; Matras 1998). Since most or all other factors are kept constant in comparing the relative borrowability of conjunctions, this empirical finding is particularly informative for modeling contact-induced change (see §4).

### 3.3. Asymmetries in borrowing affixes

Affixes are predicted to be among the least borrowable items by a number of asymmetries, including their bound status, their abstract meaning, and more or less high degree of grammatical integration (see also Chapter 5). Affixes, and in particular derivational affixes, may initially enter a language as part of complex loanwords before they spread to native stems, as was the case with Norman French *-able* in Middle English, for which loanwords from Norman French such as *honourable* served as a “Trojan horse”. But borrowing inflectional affixes in conjunction with stems is also well attested, resulting in “parallel systems” (Kossmann 2010) in which entire sets of loanwords are productively inflected with borrowed affixes, well beyond isolated instances in learned registers, as with Latin number marking on English *alumnus* – *alumni*. This raises the question to what extent borrowed affixes are direct effects of language contact, rather than being the result of language-internal spread from borrowed stems to native stems, possibly much later than, and to some extent independent of, the borrowing of the loanwords (Seifart 2015).

With the caveat that the directness of affix borrowing must remain uncertain in many attested cases of affix borrowing, cross-linguistic surveys confirm the asymmetry DERIVATION > INFLECTION (Matras 2007; Seifart 2017). Among the commonly borrowed derivational affixes are nominalizers, especially agent nominalizers, adjectivizers and diminutives. Among inflectional affixes, those with the most abstract meanings and tight syntactic integration are hardest to borrow, e.g., structural case or subject agreement markers, which are assigned to a word because of the syntactic context in which it appears (Matras 2007; Seifart 2017). Such morphology is called contextual inflection, in contrast with inherent inflection (Booij 1996), which is more easily borrowed. Inherent inflection carries more concrete meanings and modifies words independently of syntactic context, like plural markers (Gardani 2012), and is therefore intermediate between derivation and contextual inflection. On the other hand, increasing evidence shows that inflectional affixes, including contextual inflection, are more commonly borrowed than previously assumed (Gardani 2008; Seifart 2017), suggesting that they should be accounted for within models of contact-induced change.

### 3.4. Asymmetries in sets of borrowed forms

Comparison of languages that borrow entire sets of affixes (or other grammatical morphemes) reveals a tendency towards borrowing interrelated sets of form, e.g. sets consisting of various members of a paradigm of case markers, resulting in “chunks” of borrowed morphology, rather than sets consisting of independent forms, e.g. one case marker, one tense marker, and one number marker (Seifart 2012, 2017; Evans 2016). In such cases of heavy borrowing, the tight, paradigmatic integration of forms such as case markers or argument indexes thus favors particular outcomes, even though such forms are correctly predicted to be harder to borrow than other, less tightly integrated forms in the first place.

### 3.5. Intersystemic asymmetries

Although structural and phonological similarity between donor and recipient language plays a major role in some models of contact-induced change this has hardly been investigated systematically across large samples of languages. Similarity may facilitate unusual borrowing events, such as borrowing bound affixes, as sometimes observed when closely related languages borrow from each

other (Mithun 2013). Structural and phonological similarity due to chance, rather than genealogical relatedness, may also have this effect. For instance, native inflectional suffixes are replaced by phonologically similar ones from Turkish in both Cappadocian Greek and Balkan Romani (Matras 2009: 213–216; Janse 2009) and from Bulgarian in Megleno Romanian (Gardani 2008). Regarding adpositions, according to an early claim (Moravcsik 1978), these can only be borrowed if their position within the adpositional phrase is maintained, i.e. prepositions as prepositions and postpositions as postpositions, and if structural similarity is an absolute constraint on borrowability, e.g., postpositions can only be borrowed by a postpositional language from another postpositional language. Grossman (2014) showed this to be a statistical tendency in a sample of about 100 languages, but also revealed numerous counterexamples of various types.

#### 4. Modeling contact-induced change

Models of contact-induced change aim to capture the interaction between linguistic factors and extralinguistic factors in accounting for attested patterns of contact-induced change. They differ mainly in the relative importance given to sociolinguistic features of “contact scenarios” vs. features of the grammatical (in particular syntactic) systems of the language involved.

Two basic types of contact scenarios are distinguished that are associated with different patterns of contact-induced change: “borrowing” and “interference” scenarios, to use Weinreich’s (1953) terms. In the first scenario, “borrowings” from a donor language are introduced by recipient-language speakers, e.g. English speakers using loanwords from French. In the second one, “interferences” are introduced by (typically second-language) speakers of the donor language into their variety of the recipient language, e.g. French speakers speaking English with a French accent. In Thomason and Kaufman’s (1988; further developed in Thomason 2001) model, within the first scenario type there is a continuous range from casual to intense contact, defined by degree of bilingualism and social acceptability of borrowing. Along this continuum borrowing hierarchies summarized in Figure 1 above apply with casual contact leading to lexical borrowing only (beginning with non-basic vocabulary), and structural borrowing of bound forms occurring only under intense contact.

In the second scenario type, contact-induced change is crucially shaped by imperfect learning during second language acquisition, especially of adult learners. This predicts contact-induced changes to proceed in an almost opposite direction, namely first affecting phonology (as non-native pronunciation) and grammar, especially syntax, which is often simplified, but not vocabulary, which is relatively easy to acquire, also by adult learners. Accordingly, it has been hypothesized that high-contact languages would be less complex (Kusters 2003; Trudgill 2011), which has been partially substantiated in quantitative studies showing that languages with more second-language speakers tend to lose nominal cases markers (Bentz and Winter 2013). Pidginization and creole formation (see Chapter 12) are linked to very specific types of contact scenarios involving lack of a common language between, e.g., slave populations and plantations owners. These processes are also sometimes argued to involve imperfect acquisition and simplification of lexifier languages, but this is highly contested (Blasi, Michaelis, and Haspelmath 2017). Similarly, mixed languages, e.g. French-Cree Michif (Matras and Bakker 2003) are argued to arise in very specific socio-historical situations as social identity markers through “deliberate manipulation of bilingual repertoires” (Thomason 2008: 51).

Based on van Coetsem’s (1988, 2000) work, Winford (2005 and elsewhere) has emphasized that the same speakers may be involved both in (imperfectly) acquiring the donor language and borrowing into the donor language from their native language. This necessitates introducing the concepts of dominant language and agentivity, in addition to first and second language, in a model of contact-induced change. How unusual contact-induced changes result from shifting dominance and agentivity over a few decades within a multilingual community has been documented in a community speaking Gurindji and English-based Gurindji Kriol (McConvell and Meakins 2005; Meakins 2011). “Double agentivity” may also be involved in cases of affix borrowing, in which words consisting of recipient language stems and donor language affixes are first attested in the donor language (e.g. Quechua-Spanish *warmin-ero* ‘woman-izer’ used in Spanish) before they were used by (possibly the same) speakers in the recipient language, resulting in borrowed affixes (Seifart 2015).

Another type of sociolinguistic factors are cultural constraints on lexical borrowing. For instance, the linguistic exogamy (i.e. marrying outside of speech community only) practiced by some societies

of the Northwest Amazon require maintenance of vocabulary as social identity marker, but also imply heavy multilingualism. This explains how remarkably low rates of lexical borrowing can coexist with rampant contact-induced structural changes, and in some cases borrowed affixes (Epps and Michael 2017).

Other models emphasize that contact-induced changes should be in accordance with recipient language speakers' grammatical, in particular syntactic, representations of their language (Poplack 2009; Silva-Corvalán 1994; Myers-Scotton 2002; Field 2002). Within these approaches, for instance, Myers-Scotton's (2002) 4M(orpheme-type)-model predicts decreasing likelihood of code-switching, and subsequent borrowing, of different morpheme types, largely consistent with the asymmetry DERIVATION > INHERENT INFLECTION, and an absolute constraint on borrowing contextual inflection. Within this framework, difficulty or impossibility of borrowing certain morpheme types is related to their increasing integration in syntactic structure, modeled in term of universal grammar. An important determinant of contact-induced change in these approaches is the distance between the donor and recipient language ("intersystemic asymmetries" in Figure 1), where it is often assumed that there are absolute constraints to the effect that code-switching, and consequently borrowing, is only permitted where two languages share a particular structure, e.g. constituent order. Such constraints have been increasingly challenged by empirical data, for instance showing the possibility of borrowing prepositions as such also in postpositional languages (Grossman 2014).

Focusing on the goal-oriented nature of communication, Matras (2007, 2009) provides a model for contact-induced change which, among other things, accounts for a number of asymmetries by the "selection malfunction hypothesis". According to this hypothesis borrowing is more likely for forms that express uncertainty and related meanings, such as future tense. This uncertainty potentially challenges speakers' authority and compromises their control over the selection of languages in their repertoire and thus leads to code-switching and eventually borrowing. This approach is able to explain the asymmetry BUT > OR > AND (where BUT expresses a potentially challenging adversative relation) and others otherwise unaccounted for.

Finally, Muysken (2013) has shown how many of the considerations discussed so far can be accommodated in a single model as optimality-theoretical constraints related to four "bilingual optimization strategies": (i) borrow into first language only where necessary; (ii) use as much as possible of the second language; (iii) produce structures and words which share properties of the first and second language; and (iv) use universal combinatory principles to combine fragments from different languages independently of the grammars involved. These four constraints can then be variably ranked according to the concrete contact situation to correctly predict the actual outcome as, e.g., favoring or disfavoring borrowing of various kinds.

## 5. Conclusions and outlook

Increasing empirical evidence on contact-induced change in the world's languages challenges the existence of absolute constraints on contact-induced change, but promises to uncover significant asymmetries in the form of statistical tendencies. One challenge for modeling contact-induced change is to test the separate effects of the individual factors involved and capture their interactions and dependencies and interaction with universal properties of human language and language genealogy. Progress in this respect will require scaling up descriptive-empirical groundwork and submit the enlarged data sets to large-scale statistical testing. Four areas appear particularly promising for future work: (i) text frequencies (van Hout and Muysken 1994) and other evidence gleaned from corpora documenting naturally occurring multilingual speech (Adamou 2016); (ii) the shifting agency and dominance of speakers in multilingual communities as observable in sociolinguistically contextualized longitudinal studies (McConvell and Meakins 2005); (iii) asymmetries in the relative stability of grammatical features as observable in large typological databases (Wichmann and Holman 2009); and (iv) the use of genetic evidence to infer language shift and contact scenarios to provide insights into prehistoric processes that may have had an impact on contact-induced language change (Pakendorf 2014).

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