

Borrowing

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Borrowing

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Introduction

Borrowing - the incorporation of features of one language into another - has been studied by researchers working in a wide range of areas, from a diachronic as well as a synchronic perspective. In a diachronic research tradition that focuses on the historical development and the genetic classification of languages, it is clearly of central importance to be able to distinguish borrowed features from non-borrowed or native features of a language. The importance of the role of lexical and structural borrowing for language change has however only fairly recently been recognised, as until the publication of Thomason and Kaufman's (1988) book on contact-induced change, historical linguists used to emphasise internal causes of language change. Interest in the synchronic analysis of borrowing emerged towards the turn of the century. The main focus of the synchronic analyses has been to identify the grammatical constraints on borrowing, and to describe the phonological, syntactic and morphological integration of borrowed words. In addition, researchers have tried to delimit borrowing from other language contact phenomena, such as code-switching and transfer, and they

have developed different classifications of borrowing. The social correlates of borrowing have received attention in more quantitatively oriented studies. Put differently, researchers have mainly focused on what Weinreich, Herzog and Labov (1968) have called the *embedding problem* and the *constraints problem*. The embedding problem, when applied to the study of borrowing, concerns on the one hand the embedding or integration of source language features in the borrowing language. On the other hand, it deals with the embedding of these features in the social structure: to what extent do social factors influence the quantity and the quality of the borrowing process. The constraints problem deals with the question of determining the set of possible borrowings and with the discovery of the structural constraints on the borrowing process. Other questions have received less systematic attention. The *actuation problem* and the *transition problem* (how and when do borrowed features enter the borrowing language and how do they spread through the system and among different groups of borrowing language speakers) have only recently been studied. The *evaluation problem* (the subjective evaluation of borrowing by different speaker groups) has not been investigated in much detail, even though many researchers report that borrowing is evaluated negatively. Apart from the issues raised above, in more recent studies, pragmatic and psycholinguistic aspects of borrowing have been studied in some detail.

Short historical overview

Early synchronic studies on borrowing, such as Salverda de Grave (1906), focus on lexical borrowing, and often consist of word lists of borrowed words, the history of each of which is discussed in some detail. The focus is generally on one language pair and on borrowing in one direction only. In some studies the loan words are grouped into different semantic categories and there is often some attention for the adaptation of these words to the phonological system of the borrowing language. The syntactic and morphological integration of borrowed words, on the other hand, remains often unexplored, and pragmatic or psycholinguistic considerations are entirely absent. The importance of these early studies resides in the meticulous detail with which the history of individual words is analysed and in the fact that they show how important lexical borrowing can be in a particular variety. These studies are limited in scope, because it is not

possible to predict with any confidence that a word cannot be borrowed (Romaine 1995: 142). Although most researchers no longer attempt to provide complete lists of borrowed words in a particular variety, an important new resource for those interested in lexical borrowing can be found in the World Loanword Database (Haspelmath and Tadmor 2009), which provides an overview of borrowings in 41 languages (<http://wold.livingsources.org/>).

It is mainly through the work of Bloomfield (1933); Haugen (1950) and Weinreich (1953) that language contact was established as a new research field in the course of the twentieth century. At first, the focus was mainly on lexical borrowing. This may well be due to the fact that lexical borrowing is frequent in the languages of the world. In addition, Weinreich (1953: 56) points to the fact that words are more likely to be borrowed than structural elements, and states that "the vocabulary of a language, considerably more loosely structured than its phonemics or its grammar, is beyond question the domain of borrowing *par excellence*."

After the publication of the seminal works of Haugen and Bloomfield, the focus of research shifted from the result of borrowing to the process of borrowing and the principles behind this process. Many researchers discussed the grammatical principles constraining the occurrence of lexical borrowing. Some authors formulated these general principles in the form of implicational scales which aimed at establishing universals of borrowing (Moravcsik 1978) and others formulated hierarchies of borrowability (Muysken 1981a). The first large quantitative studies, which appeared towards the end of the eighties (Poplack, Sankoff and Miller 1988), made it possible to empirically test these hierarchies in large databases, and to investigate the social correlates of the borrowing process in some depth. Furthermore, after the pioneering studies of Pfaff (1979) and Poplack (1980), a large number of studies focused on *code-switching*, the alternate use of two or more languages in discourse. Many researchers concentrated upon finding criteria to delimit borrowing from code-switching, because they felt that the search for constraints on code-switching was seriously impeded by the problems involved in distinguishing code-switching from borrowing (see Appel and Muysken 1987; Romaine 1995 for an overview).

Researchers agree that lexical borrowing is widespread in the languages of the world, but the existence of structural borrowing has been the subject of many debates. Thomason and Kaufman's (1988) work represents a turning point in language contact research, as it is the first study which offers a comprehensive framework for the analysis of a wide range of language contact phenomena, such as borrowing, interference and convergence, and of contact languages, such as

pidgins, creoles and mixed languages (see below for more details). Also, they are the first to provide detailed evidence of the role of external factors (language contact) in language change and they provide examples and analyses of contact-induced change from a wide range of language pairs.

Prince (1988) is one of the first studies in which pragmatic borrowing is explored. In the early nineties, pragmatic aspects of and constraints on borrowing are beginning to be investigated, especially in those studies which focus on discourse markers (Salmons 1991; De Rooij 1996 and Matras 1998). In addition, important new insights are gained from psycholinguistic research into the processing of bilingual speech (see Grosjean 1997 for an overview). Another new research strand concentrates on the analysis of bilingual intonation patterns. Queen (2001: 56) provides initial evidence that the intonation patterns of her Turkish-German bilingual informants differ from those of monolinguals, but according to Queen the result is a pattern "that occurs in the speakers' Turkish and their German, yet is common to neither language." The mechanism behind this phenomenon is therefore not considered to be borrowing or transfer but fusion. Colantoni and Gurlekistan (2004), on the other hand, point to a combination of direct and indirect transfer from Italian as the source of intonation patterns found in Spanish as spoken in Buenos Aires.

Definitions of borrowing: terminological issues

Defining borrowing is problematic because researchers use different terminology to refer to a number of different language contact phenomena and it is difficult to find generally accepted terminology. The definition given by Thomason and Kaufman (1988) in their pioneering work on contact-induced change has been very influential in the past decade and is therefore probably a good starting point. Thomason and Kaufman (1988: 37) define borrowing as follows:

"Borrowing is the incorporation of foreign features into a group's native language by speakers of that language: the native language is maintained but is changed by the addition of the incorporated features."

In most cases, in a situation of language contact between bilinguals, words are the first elements to enter a borrowing language. According to Thomason and Kaufman, if bilingualism is wide-spread and if there is strong long-term cultural

pressure from source-language speakers on borrowing language speakers, "structural features may be borrowed as well - phonological, phonetic and syntactic elements and even (though more rarely) features of the inflectional morphology" (Thomason and Kaufman 1988: 37).

Thomason and Kaufman hold the view that "as far as the strictly linguistic possibilities go, any linguistic feature can be transferred from any language to any other language" (T&K 1988: 14). It is clear, however, that not all features are equally likely to be borrowed. Thomason and Kaufman therefore propose a very detailed borrowing hierarchy, which has subsequently been used widely by other researchers as a yardstick against which the depth of the borrowing process in contact situation can be measured. The hierarchy is a detailed elaboration of the hierarchies of borrowability that have been proposed earlier in the literature (see below under constraints for more details).

The terminology adopted by Thomason and Kaufman is somewhat different from the terminology used by other researchers. Haugen (1950: 212) defines borrowing as "the attempted reproduction in one language of patterns previously found in another". The problem of this definition is that the notion "patterns" remains rather vague, and it is unclear to what extent elements beyond the word level are included. Weinreich (1953: 1), on the other hand, uses the term "interference" as a cover term for interlingual influence at different levels (phonological, syntactic, semantic and lexical) and defines interference as "those instances of deviation from the norms of either language which occur in the speech of bilinguals as a result of their familiarity with more than one language."

Van Coetsem's definition of borrowing as recipient language agentivity corresponds to Thomason and Kaufman's definition of borrowing, and Van Coetsem's (1988) concept of *imposition* (source language agentivity) is relatively close to Thomason and Kaufman's concept of interference through shift. Because of the existing confusion over terminology, some researchers have proposed new terms. Clyne (1967 and 2003) uses the term *transference*, partly because of the negative connotations attached to the notion interference. Johanson (1993) introduces the term *code copying*, as the term borrowing suggests that materials borrowed at some stage will be given back at a later point, which is not the case. Milroy (1997: 311) points out that "as for language contact, it is not actually languages that are in contact, but the speakers of the languages." I agree with Milroy that there is a danger in seeing languages as discrete entities independent of speakers, because under this view the role of speakers in actuating and diffusing language change (or borrowing) is being neglected. Most researchers

have however continued to use the terms borrowing, albeit in slightly differing definitions.

Researchers have different views on the necessity to distinguish borrowing from other language contact phenomena, such as transfer, convergence and code-switching. Poplack and associates (Poplack 1980; Poplack and Meechan 1995) maintain that borrowing and code-switching are different phenomena. Support for this position comes from Grosjean and associates (Grosjean 1988, 1995, 1997), who have extensively studied psycholinguistic aspects of code-switching and borrowing (see under psycholinguistic approaches for more details). Other researchers assume that there is a common set of formal principles to morphological and syntactic structure and that as a result, there may well be parallel constraints on borrowing and code-switching (Appel and Muysken 1987; Muysken 1990). The issue cannot be discussed here in more detail (cf. Treffers-Daller 2005; 2009).

Different types/classifications of borrowing

Bloomfield (1933) is one of the first studies in which an attempt is made at classifying lexical borrowing. He distinguishes between "*dialect borrowing*, where the borrowed features come from within the same speech-area (as, father, rather with [a] in an [ɛ] -dialect), and *cultural borrowing*, where the borrowed features come from a different language." (Bloomfield 1933: 444). The term cultural borrowing is reserved for the importation of words for cultural novelties, such as *spaghetti* from Italian, which are introduced to the culture of the borrowing language. Clearly this is an increasingly important phenomenon, especially in relation to the influence of (American) English on other languages. Cultural borrowing is not necessarily one-sided, and intensive contact between speakers of both languages is not a prerequisite. When speakers of different languages come into more intensive contact, borrowing "extends to speech-forms that are not connected with cultural novelties" (Bloomfield 1933: 461). This is called *intimate borrowing* and it is generally one-sided: borrowing goes predominantly from the upper language to the lower language, that is from the culturally, politically or economically dominant language speakers to the speakers of the less prestigious language.

Haugen (1950, 1953) and Weinreich (1953) further develop the typology of lexical borrowing. Haugen's approach is new in that he also discusses the structural constraints on borrowing and the structural effects on the borrowing language as a whole. Weinreich not only discusses lexical borrowing (or in his terminology: lexical interference), but also syntactic and phonological interference. Weinreich also establishes links with the sociolinguistic and psycholinguistic theories of his time, and this distinguishes his work from all other approaches to borrowing developed before. The sociolinguistic and psycholinguistic aspects of his work are now out of date, but the classifications of different types of borrowing Weinreich and Haugen developed are still widely used. As they are very similar, the following discussion is limited to Haugen's typology.

Haugen (1950) distinguishes different types of borrowing, based on the question of whether or not source language morphemes are imported into the borrowing and whether or not substitution of source language morphemes or phonemes by borrowing language elements occurs (see also Backus and Dorleijn 2009 for a further refinement of this typology). We will illustrate the concepts with examples from French-Dutch language contact data, as described in Treffers-Daller (1994).

Loanwords: morphemic importation without substitution

When French-Dutch bilinguals import the French discourse marker *donc* (so) into Brussels Dutch, they keep the French nasal vowel [ɔ̃] and do not replace it with one or more Dutch phonemes.

Loan blends: morphemic importation as well as substitution

Bilingual speakers in Brussels use *pertang* (however), originally from French *pourtant*. Because the French nasal vowel [ɑ:] has been replaced by the vowel [a] and the nasal velar [ŋ] and the vowel [u] has been substituted by a schwa, this word is often not recognised as a borrowing anymore. The category of loan blends includes hybrids or mixed compounds, which consist of French and Dutch morphemes, such as *gemeente-taxe* (council tax), where *gemeente* (council) is Dutch and *taxe* (tax) is Brussels French.

Loanshifts: morphemic substitution without importation

In the case of loan shifts only a meaning, simple or composite, is imported, but the forms representing this meaning are native (Appel and Muysken 1987: 165). Famous examples are German *Wolkenkratzer*, French *gratte-ciel* and Spanish *rascacielos*, all of which are modelled on English skyscraper (Haugen 1950: 214). In these cases both halves of the compound have been translated into the borrowing language, but no source language morphemes have been imported into the borrowing language. Similarly, in some cases, the meaning of a word can be extended or changed without any importation of lexical material. An example of this phenomenon, called *semantic loan*, is found in the extension of the meaning of Dutch *tellen* (to count). In Belgian Dutch, *tellen* has acquired the meaning 'to count on' from French *compter sur*, as in the expression: *iemand waar ge op kunt tellen* (someone you can count on).

Poplack and associates introduced a different typology of borrowing, based on the diffusion of these elements throughout a speech community:

"Established 'loanwords' (which typically show full linguistic integration, native-language synonym displacement and widespread diffusion, even among recipient-language monolinguals) differ from 'nonce borrowings' only insofar as the latter need not satisfy the diffusion requirement" (Poplack and Meechan 1995: 200).

Grosjean (1995: 262) refers to nonce borrowings as idiosyncratic loans or as speech borrowings, and Appel and Muysken (1987) use the term lexical interference for the same phenomenon.

The fact that borrowing can also take place between spoken and sign languages has only recently started to be explored. Sandler and Lillo-Martin (2006:95) use the term cross-modal borrowing for two kinds of borrowing in sign languages: the mouthing of spoken words and fingerspelling of words from the spoken language. According to these authors, borrowings from English can enter American Sign Language (ASL) in various ways: one strategy consists of replacing the native sign with the fingerspelled shape of the first letter of the English word. Thus *room* and *office* are distinguished in ASL in that the hand takes the shape of the letters R and O respectively but the movement and location of the sign remain the same. An alternative strategy is to fingerspell loans. Thus the ASL word *no* has evolved from finger-spelled N O. Insights from sign language are often overlooked in studies of language contact, and further research into this area is very much needed.

The integration of borrowings

The phonological integration of loanwords has received much more attention in the literature than the morphological, syntactic or semantic integration. The following overview gives an idea of the issues that have been discussed.

In his typology of borrowing, which is based on the notions of substitution and importation, Haugen (1950: 214) "postulates a morphemic substitution which operates independently of the phonemic". Other researchers have subsequently corroborated this assumption. Appel and Muysken (1987: 153) state that if one assumes that the lexicon and the phonological component of the grammar are independent, the meaning and the phonetic form of a word are not necessarily always borrowed together. Sometimes the entire phonetic form of a word is borrowed, and sometimes it is partly or entirely substituted by borrowing language sounds. Van Coetsem (1988: 8) reserves the term *imitation* for the former and *adaptation* for the latter. Thus, when speakers of English pronounce the French expression *déjà vu*, they may or may not be successful in realising the French front rounded vowel [y], which does not belong to the inventory of English phonemes. Many speakers will substitute [y] with native [u], which is an example of adaptation in Van Coetsem's terminology.

Haugen (1950: 222); Poplack, Sankoff and Miller (1988) and Thomason and Kaufman (1988) show that there is a lot of variability in the pronunciation of

loanwords and that this variation correlates with speaker characteristics such as age and bilingual ability. Older speakers who have a less elaborate command of the source language phonology integrate the loanwords to a larger extent into the phonological patterns of the borrowing language than younger speakers do. Poplack and Sankoff (1984) and Poplack, Miller and Sankoff (1988) provide evidence for the fact that phonological integration proceeds as a function of the social integration of the loanword. Widespread loans which have entered the borrowing language at an early date are often realised with borrowing language pronunciation, whereas the pronunciation of more recent and less widespread ones is often more similar to the pronunciation in the source language.

Thomason and Kaufman (1988: 124) demonstrate that the importation of large numbers of loanwords into a language does not necessarily have important consequences for the phonological system of the borrowing language. Although lexical influence of French on English was very heavy, there is very little structural interference from French. French loanwords did not introduce any new phones at all into English, according to Thomason and Kaufman, even though formerly allophonic distinctions, such as the distinction between [f] and [v], were phonemicized in Middle English under the influence of French. In other language contact situations the phonological system of the borrowing language can be changed dramatically, as the case of Asia Minor Greek (Dawkins 1916, in Thomason and Kaufman 1988) illustrates.

As far as the syntactic integration of loanwords is concerned, gender allocation to borrowed nouns is a well explored area (Baetens Beardsmore 1971; Chirsheva 2009; Poplack et al 1982; Wawrzyniak 1985; Poplack, Sankoff and Miller 1988). Morphological integration has been studied by Miller (1997), who focuses on the combination of French derivational suffixes and English roots and vice versa. Others have investigated the addition of inflectional morphology, such as the formation of plurals of borrowed words (Poplack et al 1988; Treffers-Daller 1999).

Constraints

The main thrust of research at the end of the seventies and the eighties was to discover the constraints on the borrowing process. It was clear that most bilingual data contained loanwords of different categories and that some categories were

more likely to be borrowed than others. As mentioned above, all researchers recognise the existence of lexical borrowing and this is certainly the wide-spread form of borrowing in the languages of the world. As Weinreich (1953: 56) puts it, "the vocabulary of a language, considerably more loosely structured than its phonemics or its grammar, is beyond question the domain of borrowing *par excellence*." In addition, Weinreich points to the socio-cultural reasons behind the fact that the lexicon is so receptive to borrowing: speakers often want to introduce new concepts or try to avoid homonyms and frequently replace outworn expressions with new ones.

The aim of the studies into constraints on borrowing was to explain why certain categories were more likely to be borrowed than others. Appel and Muysken (1987: 170–171) give an overview of different approaches to this problem, and discuss the principles behind the so-called hierarchies of borrowability (also called scale of adoptability, cf. Haugen 1950).

One of the earliest hierarchies dates back to the Sanskritist William Dwight WHITNEY, Whitney (1881) who formulated the following hierarchy, which was taken up and subsequently elaborated by Haugen (1951).

(1) Nouns – other parts of speech – suffixes – inflection – sounds

Muysken (1981a) formulates the following hierarchy on the basis of his analysis of Spanish borrowings in Quechua:

(2) nouns – adjectives – verbs – prepositions – co-ordinating conjunctions – quantifiers – determiners – free pronouns – clitic pronouns – subordinating conjunctions

Appel and Muysken (1987: 172) explain that paradigmatic and syntagmatic coherence relations in language are at the basis of these hierarchies. As the pronoun system of a language is more tightly organised than the adjectives, for example, pronouns are less likely to be borrowed. Categories that are firmly embedded in the syntagmatic relations in a sentence, such as verbs, are less likely to be borrowed than elements such as nouns, which are less crucial to the organisation of the sentence.

Moravcsik (1978) formulates the constraints on borrowing in the form of implicational universals of borrowing. Matras (1998: 283) summarises and reinterprets these universals as follows: "...elements that show structural autonomy and referential stability are more likely to be affected by contact than those that display stronger structural dependency and referential vagueness or abstractness."

The borrowing scale formulated by Thomason and Kaufman (1988) further develops the ideas advanced in earlier studies by including structural features in the hierarchy. Where other researchers hesitated whether rules of the grammar can be imported into another language, Thomason and Kaufman (1988: 14) state that "as far as the strictly linguistic possibilities go, any linguistic feature can be transferred from any language to any other language". Aikhenvald (2006: 2) confirms this view and claims that no feature, be it a form or a pattern is entirely "borrowing-proof." In Thomason and Kaufman's model, the crucial social factor determining the extent and depth of borrowing is intensity of contact: greater intensity of contact or greater cultural pressure on borrowing-language speakers results in more borrowing. In addition to intensity of contact, typological distance between languages seems to be relevant for predicting how much, and what kinds of interference will occur in a borrowing situation (Thomason and Kaufman 1988: 72). The principle behind the borrowing scale is explained as follows:

"Our tentative borrowing probability scale, then, is a hierarchy determined by the relative degrees of structuredness of various grammatical subsystems: the more internal structure a system has, the more intense the contact must be in order to result in structural borrowing. We propose that, in the absence of a close typological fit between particular source-language and borrowing-language structures, features lower on the scale will not be borrowed before features higher on the scale are borrowed." (Thomason and Kaufman 1988: 73-4).

At the lowest level in the scale, borrowing is limited to the lexical level and mainly to content words. Structural borrowing is found at the higher levels only. According to the scale, the existence of structural borrowing in a language generally implies that words have also been borrowed. The type and amount of structural borrowing increases with the amount of contact/pressure exerted on borrowing-language speakers. At level two, one also finds some borrowed function words, such as conjunctions and various adverbial particles. In Brussels Dutch, for example, where borrowing is mainly limited to level 2 phenomena (Treffers-Daller 1999), one finds French adverbs and adverbial phrases such as *donc* 'so', *d'ailleurs* 'anyway, otherwise, furthermore', *surtout* 'especially', *à peu près* 'about' and *de temps en temps* 'from time to time' as well as French conjunctions such as *tandis que* 'while' and *à moins que* (French 'à moins que', 'unless'. An example of slight structural borrowing in this language contact situation can be found in the adoption of French phonemes, but their occurrence is restricted to loanwords. Thus, the French nasal vowels are imported in some loan words, such as *donc* and *de temps en temps*. Syntactic borrowing is very

limited in Brussels Dutch. Borrowed adverbial particles appear in a pre-clausal position, rather than in the first position in the main clause and this phenomenon can perhaps be attributed to influence from French (Treffers-Daller 1994, 1999).

At level three, one finds borrowing of prepositions and slight structural borrowing. Derivational affixes may be abstracted from borrowed words and added to native vocabulary. Miller (1997) in his study of borrowed suffixes on native bases in Middle English, comes to the conclusion that French suffixes were productive in Middle English, as there were at least 100 hybrid forms consisting of an English base and a French suffix in English prior to 1450. The most productive of these were: *-able* as in *understandable*, *-ess* as in *murderess*, and *-ery* as in *husbandry*.

At levels four and five, major structural features are borrowed. According to Thomason and Kaufman, Weinreich's (1953) examples of German borrowing in Romansh, which has lost gender in predicative adjectives and in which the noun-adjective word order is partially replaced by adjective-noun order, is probably an example of borrowing at level four. Thomason and Kaufman extensively discuss Dawkins' (1916) analysis of Turkish influence on Asia Minor Greek, which they see as an example of structural borrowing at level five. In these varieties of Greek, various word order features are borrowed, as well as vowel harmony. In addition, several grammatical categories that Turkish lacks, such as gender and adjective-noun agreement are lost.

Bakker and Mous (1994) and Thomason (1996) convincingly show that there is a difference between languages which are characterised by heavy borrowing and genuinely mixed languages. Bakker and Mous define mixed languages as a combination of the grammatical system of one language with the lexicon of another. An example is *Media Lengua*, which is a combination of Quechua grammar with a Spanish lexicon (Muysken 1981b, 1994, 1996). Michif is a different case, because it has the nominal grammar from French and the verbal grammar from Cree (Bakker 1996). English does not classify as a mixed language, despite the fact that 75% of its vocabulary is from French, because the basic vocabulary of English remains almost completely English. According to Thomason and Kaufman (1988) only 7% of the basic vocabulary of English is borrowed. In mixed languages such as *Media Lengua*, almost all words have been replaced, including the basic vocabulary.

As borrowing and interference through shift can occur in the same contact situation, it is sometimes difficult to establish with certainty whether the phenomena under consideration are due to one or the other process. Especially in those situations characterised by heavy borrowing or heavy substratum

interference, the distinction between both processes may become blurred. Winford (2003: 83) considers it problematic to treat contact between Asia Minor Greek and Turkish as a case of "borrowing" in the strict sense, because the speakers of Asia Minor Greek may not have been the sole agents of change in this case.

In recent years, several studies have highlighted the structural effects of borrowing. Aikhenvald and Dixon (2006) and Matras and Sakel (2007) provide an overview of structural borrowing in a wide range of languages. The latter also introduce a distinction between matter replication (borrowing of morphological material and its phonological shape) and pattern replication: "the organisation, distribution and mapping of grammatical or semantic meaning, while the form itself is not borrowed" (Sakel 2007: 15). Salmons (1990) is one of the first studies on borrowing in which the focus shifts from grammar to the level of pragmatics and discourse. Salmons shows that speakers of American German dialects use mainly English discourse markers ("you know, well, of course") even though literal translations of some German particles and similar items are being used in expressions such as *let's go to town once, come here once or that too yet* (German *das auch noch*) (Salmons 1990: 473). In addition, speakers maintain discourse routines for greetings, leavetakings, etc, which appears to be common even for speakers who are barely bilingual. Other authors who have focussed on pragmatic and discourse-analytical analyses of switched and borrowed discourse markers are Auer (1984, 1998); Fuller (2001); Hlavac (2006); Meeuwis and Blommaert (1998) and Moyer (1998).According to Stolz and Stolz (1996; in Matras 1998: 289) borrowing begins at the level of discourse and gradually makes its way into clause combining devices until the level of word grammar.

Matras' (1998; 2000) approach to the constraints problem is interesting because he integrates pragmatic and psycholinguistic considerations in the analysis of constraints on borrowing. Matras shows that structure-oriented borrowability hierarchies on their own cannot give a satisfactory explanation of why utterance modifiers (interjections, discourse markers such as *well* and *anyway*, and adverbial particles) are borrowed so frequently in many contact situations (Salmons 1990; De Rooij 1996; Maeschler 1998). Although syntactic considerations, such as the lack of syntactic integration of these elements clearly play a role here, in a comparative study of borrowing in different dialects of Romani, Matras shows that a number of pragmatic principles explain the different degrees of borrowability of utterance modifiers which have the same structural-syntactic status. Instead of aiming for a structural syntactic approach to a hierarchy of borrowability, Matras develops a function-related hierarchy in which,

for example, contrastive conjunctions are very frequently borrowed, but temporal conjunctions much less frequently. Matras argues that the process responsible for the replacement of the utterance modifiers is fusion, i.e., the nonseparation of the two systems, and he points to psycholinguistic factors, such as the “cognitive pressure exerted on bilinguals to draw on the resources of the pragmatically dominant language for situative, gesturelike discourse-regulating purposes” (Matras 1998: 321) to explain the hierarchy. In a follow-up study Matras (2000) develops the cognitive model for bilingual discourse markers further and shows how bilingual speakers accidentally produce discourse markers from language B while aiming to speak language A, which is interpreted as evidence for the existence of fusion.

Although pragmatic and discourse-functional perspectives on borrowing remain rare, Prince (1988) is one of the very few studies which address the issue of pragmatic borrowing, i.e., the borrowing of a discourse function of a particular syntactic form from another language. Prince shows that the discourse function of Yiddish DOS-sentences, exemplified in (3), was borrowed from Russian, on the analogy of the Slavic expletive ETO ‘this’:

(3) Dos shlogst du di puter?
 This beats you the butter

‘It’s you who’s churning the butter?’ (Prince 1988: 506)

DOS-sentences are functional equivalents of English cleft-sentences, but syntactically they are the same as ES-sentences, such as (4):

(4) Es dremlen feygl oyf di tsvaygn
 it doze birds on the branches

‘Birds are dozing on the branches.’ (Prince 1988: 510)

As the syntactic structures of (3) and (4) are the same, Prince argues that (3) is not an example of syntactic borrowing, but an example of pragmatic borrowing of a discourse function. It is highly interesting to see that is possible to borrow a pragmatic function, but unfortunately there are hardly any other examples of pragmatic borrowing in the literature.

Studies of discourse which include a focus on borrowing remain rare. In his analysis of job applications by semi-literate speakers of French in Cameroon

Mboudjeke (in press) shows how speakers make use of a borrowed discourse strategy: speakers unconsciously borrow a persuasion strategy from their L1 when speaking French, as in (5) where the speakers express admiration for the addressee before making their request, which is common in traditional cultures of Cameroon.

(5) J'ai l'insigne honneur de venir très respectueusement auprès de votre haute et humiliante personnalité solliciter un poste de travail dans votre société en qualité de chauffeur.

"I have the distinguished honour to come before your high and humiliating personality to apply for the position of a driver in your company)."

Quantitative approaches

Parallel to the development of the qualitative approaches to borrowing, towards the end of the eighties, the first quantitative studies of borrowing appeared. This was certainly to a large extent due to the fact that corpora became available in electronic form and the techniques for the analysis of bilingual data improved tremendously. As a result, it became possible for researchers to study far larger corpora and to investigate the quantitative properties of borrowing in more detail than had been possible previously. Poplack, Miller and Sankoff (1988) were the first to present detailed quantitative analyses of borrowing and to make a comparison between the distribution of loanwords (established borrowings and nonce borrowings) and native words in a corpus. This comparative analysis made it possible for them to make well-founded claims about the likelihood for different words to be borrowed. Their French-English corpus, which consists of two and a half million words collected in Ottawa-Hull, is still probably the largest database of bilingual speech collected to date. The results by and large confirmed the predictions of the hierarchies of borrowability formulated earlier, and clearly demonstrated that nouns are by far the most frequently borrowed elements, followed by verbs, adjectives and conjunctions. Interjections and frozen expressions, which were not taken up in any of the hierarchies of borrowability formulated so far, formed the third largest category of borrowed words. Prepositions were borrowed less frequently than predicted by many of the hierarchies and non-lexical categories were exceedingly rare in the corpus. In total, the English-origin borrowings in French as spoken in Ottawa-Hull formed less than 1% of the total words in the corpus, showing that borrowing is a relatively rare phenomenon in this data base. Treffers-Daller (1994) found similar

low rates of borrowing in a French-Dutch corpus of 190.000 words and showed that there was a clear asymmetry in the directionality of borrowing: French words were far more likely to be borrowed into Dutch than Dutch words into French.

Using advanced statistical techniques, van Hout and Muysken (1994) study the influence of four sets of factors on borrowability in a Spanish-Quechua bilingual corpus: lexical content, frequency, structural coherence factors and equivalence. They show that structural coherence factors, in particular paradigmaticity (whether or not an item is part of a structural paradigm), are the strongest structural factors in their model. In other language pairs, other factors may however turn out to be more important, according to the authors.

Apart from addressing the constraints problem, Poplack et al also investigated the social embedding of borrowing in Ottawa-Hull by making a detailed analysis of the influence of social factors such as age, gender, social background and residential area on the frequency and the type of lexical borrowing in Ottawa-Hull. One of the most important results of this analysis is that environmental factors (the norms of the community) and not an individual's language proficiency in both languages are the key predictors of borrowing patterns. Their conclusion is therefore that "behavior with respect to use of borrowings is acquired and not merely a function of lexical need." (Poplack, Sankoff and Miller 1988: 98).

Psycholinguistic approaches

Towards the end of the eighties, borrowing and code-switching started to be studied from a psycholinguistic point of view. From this perspective, the focus is on language processing (production and perception) of bilingual speech in bilinguals. Grosjean (1997: 232) notes that:

"although code-switching and borrowing have continued to be studied extensively by linguists and sociolinguists the past few years (...) there is surprisingly little experimental work in the domain of bilingual language production."

From the pioneering work done by Grosjean and associates (Soares and Grosjean 1984; Grosjean and Soares 1986; Grosjean 1988; 1995, 1997), it has become clear that important new insights into the characteristics of borrowing and the differences between borrowing and other language contact phenomena can be

gained from psycholinguistic approaches. Grosjean (1985 et seq) introduced the concept of language modes, which has subsequently been shown to be a very powerful explanatory concept:

“Bilinguals find themselves in their everyday lives at various points along a situational continuum that induce different language modes. At one end of the continuum, bilinguals are in a totally monolingual language mode, in that they are interacting with monolinguals of one – or the other – of the languages they know. At the other end of the continuum, bilinguals find themselves in a bilingual mode, in that they are communicating with bilinguals who share their two (or more) languages and with whom they normally mix languages (i.e., code-switch and borrow)” (Grosjean 1997: 228).

When researchers control for the language mode their subjects are in, they have a better chance of disentangling the different language contact phenomena found in the speech of bilinguals, and this may in turn help to identify the (differences and similarities between) the constraints on the various phenomena.

“Whereas in a bilingual language mode, all bilingual language phenomena can occur (interferences, code-switches, borrowings of various types, etc.) this is not the case in a monolingual language mode. Here code-switches and borrowings are either inexistent or are usually kept to a strict minimum so as to ensure adequate communication” (Grosjean 1998: 228).

Grosjean (1997) also discusses evidence for the fact that borrowing and code-switching are processed differently.

The concept of language modes is one of the basic characteristics of Grosjean's interactive activation model of word recognition in bilinguals, named BIMOLA (Bilingual Mode of Lexical Access), developed over many years of experimental research (see Grosjean 1997 for a detailed presentation).

Green's (1998) Inhibitory Control Model is a model of bilingual speech processing which aims at explaining how bilinguals control their two languages, for example when translating from L_1 to L_2 without actually using L_1 words. This is done by assuming that lemmas are specified in terms of a language tag. Thus, each lemma has an associated language tag and this tag is one of the factors which affects the activation of the lemma. After lemmas have been linked to lexical concepts, the model allows for lemmas with the “wrong” tag to be inhibited, so that they cannot catch speech production during a translation task. Though the model was not developed to account for borrowing and code-switching, it may well have interesting implications for the analysis of language contact phenomena. One of the issues to be investigated further is whether the

concept of language tag(s) attached to the lemma's of words can be helpful in distinguishing established borrowings, nonce borrowings and code-switches. It is well known that many established borrowings can no longer be recognized as borrowings. Thus, native speakers of English do not recognize *people* as a borrowing from French, even if they are fluent speakers of French. Guest words that contain strong language phonetic or phonotactic cues, such as *snob* in French, are probably still recognizable. One may wonder whether in the process of borrowing language tags are lost or replaced and whether language tags play a role below or beyond the word level (Treffers-Daller 1998). As detailed phonetic analyses of individual segments and suprasegmental features are now possible with the help of software such as PRAAT (<http://www.fon.hum.uva.nl/praat/>), new insights into the phonetic characteristics of borrowings and other language contact phenomena may well become available in the near future, and these may help to establish whether it is necessary and feasible to distinguish different contact phenomena from each other either receptively or productively.

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