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Chapter 3

Theories on Linguistic Borrowing

This chapter addresses the theoretical issues relevant to the analysis and interpretation of the data. The chapter is divided in three sections. The first section makes the reader familiar with the approach of Functional Grammar (henceforth FG), which provides a broader context for the theory of parts of speech developed in the second section. In a functional perspective the structure of human languages is best understood in relation to their communicative function. Following this premise, I address the theoretical and methodological principles of a functional approach from the standpoint of FG in section 3.1.1. How language contact is viewed from a functional perspective is the topic of section 3.1.2. The relevance of language contact for a functional theory of language is demonstrated in section 3.1.3 with respect to the standards of observational, descriptive and explanatory adequacy and the search for patterns of language contact. The empirical data of this study offer a solid testing ground not only for theories of contact but also for general theories of language. The data come from contact varieties, the social and typological nature of which differs from that of languages commonly analyzed in the literature. Section 3.1.4 deals with the motivations of language change and their relation to language contact within a functional approach that puts socio-communicative needs in the foreground.

The second section of this chapter discusses in detail the theory of parts of speech developed by Hengeveld (1992) and Hengeveld *et al* (2004) and the points in which this theory differs from other related proposals. A preliminary outline of the implications of the parts-of-speech theory for lexical borrowing follows in the third section. These implications are the point of departure for the predictions made in the following chapters about the three languages of the corpora. The fourth section explores the relationship between implicational hierarchies on the one hand, and scales of borrowability on the other. The fifth section offers a critical overview of language-contact hypotheses from the literature because they provide the backdrop against which borrowing data are analyzed in the chapters that follow. Of particular interest for the analysis are the scales of borrowability proposed by several authors during the last fifty years (Haugen 1950; Moravcsik 1978; Campbell 1989; Field 2002; Bakker *et al* 2008). The relevance of these hierarchies lies on their encompassing of lexical and grammatical borrowing, which allows for a unified treatment of linguistic borrowing. The ultimate purpose of this section is to incorporate the hypotheses from the parts-of-speech theory and the scales of borrowability within a coherent testing framework that includes not only structural but also functional factors.

3.1. The theory of Functional Grammar

Functional Grammar (Dik 1997) is one of several functional theories of language developed in the second half of the twentieth century in response to the increasing influence of formalist theories, in particular Generative Grammar. Different from formalist approaches by its stress on communication and usage, FG has a number of things in common with these frameworks, not least its effort to map the systematic organization of language and the basic assumption of underlying structures on which utterances are mapped. On these grounds functional theories like FG have been called 'structural-functional grammars' (Butler 2002: 1). In what follows I sketch the main principles of a functional view of language and pinpoint the specificities of FG in so far as they diverge from those of other functional theories.

3.1.1. A functional view of language

Functional views of language characterize language primarily as an instrument of social communication. Two corollaries of this assumption are that (i) language use is the point of departure for any theory of language; and (ii) language is part of a general social capacity of human beings to deal with other human beings and become part of human society. Accordingly, social context, communication and usage model functional views of language. Dik (1997) articulates this approach through the concepts of communicative competence and natural language use:

In the functional paradigm a language is in the first place conceptualized as an instrument of social interaction among human beings, used with the intention of establishing communicative relationships. Within this paradigm one attempts to reveal the instrumentality of language with respect to what people do and achieve with it in social interaction. A natural language, in other words, is seen as an integrated part of the communicative competence of the Natural Language User (Dik 1997: 3)

A functional stance calls to define what 'function' is in the first place. In his review of the multiple meanings of 'function', Nuyts (1992: 60) has shown that the primary communicative role of language goes hand in hand with other functions of informative, intentional, socializing and contextualizing nature. Therefore, when FG and other similar theories attribute themselves a 'functional' character, they imply two things: first, they understand language in its primary function of instrument of social behavior; second, they analyze the system of language *always* as a function of the uses it performs in society.

Viewing language in its instrumentality for human interaction not only brings the study of language back to social praxis; it also calls for an object of study that

integrates structure and use. In this perspective the Chomskyan division between internal language and external language is unnecessary and creates an illusory opposition. The knowledge of the language system and the use thereof in communication are indeed complementary. Dik explains this integrative view of functionalism in the following terms:

A theory of language should not be content to display the rules and principles underlying the construction of linguistic expressions for their own sake, but should try, wherever it is possible at all, to explain these rules and principles in terms of their functionality with respect to the ways in which these expressions are used. (Dik 1997: 4)

This leads to a major issue of discontent between formalists and functionalists in the study of language: the autonomy of linguistic knowledge and the consequent autonomy of grammar. As a matter of fact any conception of language as a set of rules for its own sake entails inevitably the independence of grammar (or syntax for that matter) from the setting in which speech occurs. On the contrary, a functional view of language as firmly rooted in society implies that linguistic knowledge is *not* independent and can be adequately explained only to the extent that it is linked to its instantiation in speech. According to Croft (1995: 491ff), the idea of autonomy can be unfolded in two related issues that are at the heart of the divide between formalism and functionalism: the concepts of self-containedness and arbitrariness. Arbitrariness implies that the rules governing the structure of linguistic expressions are not determined by the rules governing the use of those expressions. Self-containedness maintains that rules of structure are organized in a closed system that cannot be affected from outside, i.e. from external factors involved in language performance.

In a functional perspective, the system of language rules is determined by the use to which linguistic expressions are put, and to this extent it is modeled from outside. As a result, the causes of language change are less internal than external to language. Any theory of grammar that boasts a truly *functional* approach should therefore prioritize pragmatics, semantics and discourse as the interface between language usage and language structure and submit syntactic, morphological and phonological levels of language organization to the scope of the former. This was the main goal of FG from its inception and continues to be the motivation behind its latest developments.¹

¹ The new model of FG is called Functional Discourse Grammar and has been under development in the last lustrum. See Hengeveld (2004) and Mackenzie (2004) for the latest overviews of this model.

Complementary of the previous discussion are the features of the functional paradigm outlined by Dik (1997). This author sketches the main characteristics of the functional paradigm “by answering a number of questions concerning the nature and functioning of natural languages” (Dik 1997:4). Some of these questions have been already addressed and will not be mentioned here except for those concerning the cognitive dimension, language acquisition, and language universals.

As Butler (2004: 37ff) shows in his comparative study of functional linguistic theories, FG is deeply concerned with a cognitive dimension. This concern has two implications: first, the seat of the system of rules governing structure *and* use is the mind of the Natural Language User (NLU); second, this system of rules makes up the “communicative competence” that enables speakers to use language for communicative purposes in a felicitous way (Hymes 1972). Dik insists that “competence” does not refer only to rules of structure but also to rules of use. While the position of the cognitive dimension is outstanding in the outline of FG, most of the paths leading to a cognitive understanding of language organization and function remain unexplored. One of these paths concerns the processing of the lexicon in the bilingual mind. Lexical processing will be explored here in relation to the influence of bilingual performance on linguistic borrowing.

Insufficiently explored in FG is also the acquisition of language by the child, though recent attempts in this direction have been made on the basis of linguistic typology (cf. Boland 2006). The conception of language acquisition in a FG perspective is basically constructionist (Butler 2004: 40). It focuses on the idea that language acquisition “develops in communicative interaction between the maturing child and its environment” (Dik 1997: 7). While the role of the environment is decisive, Dik insists that FG does not exclude genetic factors in language acquisition but downplays their role in the process. In this aspect he clearly parts company with formalist views.

Another major issue addressed by Dik is the explanation of language universals from a functional point of view. Dik makes it clear that the existence and nature of language universals is satisfactorily explained only if commonalities across languages stem from (i) the biological and cognitive blueprint shared by language users, and (ii) the common purpose of communication in social interaction. In Dik’s words, “one should like to be able to understand the pervasive common properties of languages in terms of the external factors which determine their nature” (1997: 7). This view is coherent with the idea that the ultimate causes of language change are found in cognitive and social factors.

In sum, the functional paradigm allows for an appropriate and comprehensive account of language contact phenomena in so far it defines language change within the limits of a system (with regularities and patterns based on structure) while characterizing socio-communicative factors as the primary causes of change.

3.1.2 A functional view of language contact

In this section I develop my approach to language contact from a functional perspective on the basis of three assumptions. The first assumption of this study is that *the communicative motivation that leads speakers to take part in verbal interaction within a speech community is also operative when speakers of two or more languages are involved in social behavior, regardless of the relative position of the languages with respect to each other*. In this view, the ultimate reason for contact between two or more language communities is communicative in the broadest sense of the word. In addition, the study of language contact and its varied output has far-reaching import for a theory of human communication and for models of verbal interaction like the one sketched for FG (Dik 1997: 8ff).

The second assumption is relevant for understanding language contact as a discourse-driven phenomenon: as a system of rules for structure and use, language is *not* autonomous, self-contained or monolithic. Language is considered an open system (Berthalanffy 1968) defined in these terms: *an organized array of elements (lexical, morphological, syntactic, etc) in dynamic interaction with each other and with the environment (other languages and speakers) for the purpose of human communication*. Defining features of language are: (i) non-additivity, the whole of language is more than the aggregation of parts; (ii) goal-orientedness, language is always oriented to the accomplishment of a communicative goal; (iii) equifinality, any state is determined not only by the initial conditions but above all by the nature of the process, so that identical states may grow out of different conditions. This characterization of language becomes evident in contact phenomena insofar as no adequate explanation of them can be based (i) on purely linguistic analysis, (ii) without considering the foremost communicative goal of language, or (iii) considering the typological outline of the languages in contact apart from the role of cognition and bilingualism.

The third assumption is that the agents of language contact are *speakers* and not languages per se. Every linguistic choice is the product of a psycholinguistic process which should not be oversimplified. When looking for typological constraints on borrowability, it is therefore assumed that the ultimate decision is up to the speaker. This statement implies that structural rules governing the borrowing process may be superseded by psychological and sociological factors. This leads to consider bilingualism another factor in the definition of borrowability. Speakers with different degrees of bilingualism show different amounts of borrowing. The borrowing of linguistic forms is not always a matter of consensus, and most forms enter the language through their being borrowed by few speakers or even just one. Monolingual speakers often learn non-native lexicon by imitating bilinguals for reasons of linguistic fashion. In such cases the role played by bilinguals in the borrowing process is crucial, since they become speech models for their

monolingual peers. In general, monolinguals and bilinguals access (borrowed) lexicon and grammar in different ways. Accordingly, it should be possible to test the differential access and use of borrowings by bilinguals and monolinguals. The fact that the use of foreign elements depends on the speaker's level of bilingualism explains why the origin of lexemes is perceived differently according to their degree of assimilation into lexicon, and why two individuals may not agree on the origin of the same lexeme. Of course, this situation does not exclude that reasonably bilingual speakers with intuitions about lexical classes in language A borrow lexemes from language B provided they fit the parts-of-speech system of A (cf. section 3.3).

3.1.3 Standards of adequacy and language contact

To the extent that a theory of language provides the parameters for the description of human languages, it must follow a number of standards of adequacy that make the baseline for any satisfactory account of language phenomena. Standards of adequacy as identified first by Chomsky (1965) include observational, descriptive and explanatory. There is general consensus about these standards nowadays, although not everybody agrees on their relative importance. Different approaches prioritize different standards of adequacy. Thus, observational adequacy is often downplayed by formalist theories, which consider explanatory adequacy as the ultimate goal of linguistic theory. For empirically oriented theories, however, observational adequacy is a benchmark insofar as the first step for descriptively and explanatorily adequate analyses is a comprehensive account of data. Different approaches entail also different views of what is descriptively adequate. Chomsky maintains that a theory of language is "descriptively adequate to the extent that it correctly describes the intrinsic competence of the idealized native speaker [and] makes a descriptively adequate grammar available for each natural language" (1965: 24). This is only partially true for FG, because this theory does not assume such a thing as an idealized native speaker and views competence exclusively as a communicative capacity.

In a functional perspective the three standards are related to each other, although not in the way assumed by Chomsky, i.e. with explanatory adequacy as a self-sufficient goal. For one thing, no linguistic theory that downplays observational and descriptive adequacies can boast sound foundations. Both adequacies imply the need of a model to rely on linguistic facts and to be empirically based. This shows that the relation between the standards is hierarchical in the sense that explanatory adequacy can be accomplished only if descriptive adequacy is previously attained, and the latter can be attained only if observational adequacy has been met before.

In addition to the aforementioned standards Dik proposed three standards according to which any linguistic theory is (i) *pragmatically* adequate when it observes the rules and principles of verbal interaction, (ii) *psychologically* adequate

when it is attuned to the psychological models of production and comprehension of linguistic expressions, and (iii) *typologically* adequate when it is capable of providing a grammatical description of any human language (Dik 1997: 13ff). These standards are related to each other insofar as typological adequacy is a pre-requisite for psychologically and pragmatically adequate theories.

While FG studies make use of data in diachronic perspective, none of them mentions a *diachronic* requirement. To include diachronic factors as part of any theory of language will account for the wide array of phenomena concerning language change and language contact (Bakker 1998: 1). In a similar way, acquisitional and areal criteria are required to account for phenomena of areal distribution and language acquisition. Acquisitional factors influence the patterns of language development and linguistic variation (cf. Boland 2006). Areal factors play an important role in the development of linguistic areas, in which the distribution of language features is determined by the sharing of geographical and sociocultural spaces by speakers of typologically different languages that become increasingly similar to each other as a result of contact.

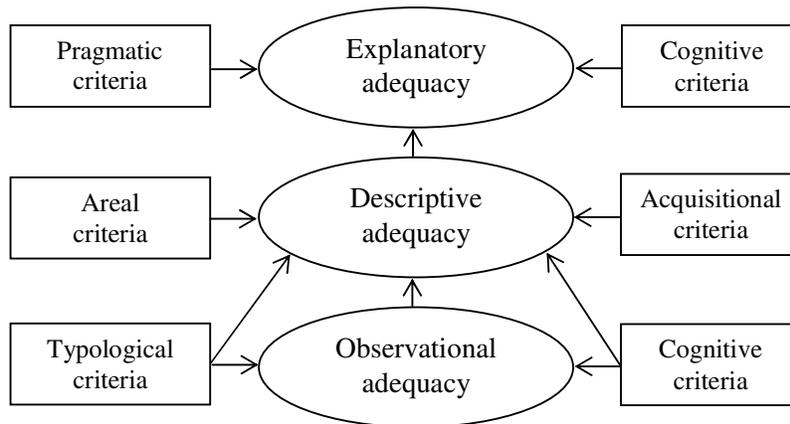
The pragmatic, psychological, typological, diachronic, areal and acquisitional specifications underlying the three standards of adequacy are criteria for the application of the general standards. Figure 1 sketches how I view these standards and their relationship. Thus, explanatory adequacy is the ultimate goal provided it relies on descriptive and observational adequacies and takes the six relevant criteria into consideration.²

The data analyzed in the following chapters provide a solid ground for testing the theory from different angles and attaining the necessary standards of adequacy. The analysis of lexical and grammatical borrowing will clarify the relation between lexicon and grammar and the influence of lexical structure on lexical accessibility (psychological adequacy). Linguistic borrowing will also shed light on the socio-communicative motivations that encourage natural-language users to incorporate foreign elements into their languages, and the pragmatic motivations of linguistic choice in bilingual speech (pragmatic adequacy). Furthermore, the study of borrowing will enhance the scope of analysis of several theories of language to the extent that borrowing includes contact phenomena often characterized as marginal, performative elements (typological adequacy). This is visible not only in borderline cases where massive borrowing results in restructured varieties which cannot be ascribed to either of the two parent languages (see the concepts of non-additivity and equifinality in section 3.1.2 above) but also in less dramatic scenarios of language

² Another useful principle that may be considered a rule of thumb in FG is that any comprehensive explanation of language facts “should strive for the lowest level of abstractness which is still compatible with the goal of typological adequacy” (Dik 1997: 16), and therefore it must be neither too concrete nor too abstract. This principle relates the typological requirement to the main standards of adequacy.

variation such as codeswitching in bilinguals or dialect formation in speech communities. Finally, the study of borrowing will trace the paths of language change and help the theory account for the development of the languages analyzed here (diachronic adequacy).

Figure 3.1. Standards of adequacy in a functional perspective



An adequate account of language contact phenomena is of interest for the development of any linguistic theory. Moravcsik (1978) develops the rationale for the inclusion of language contact phenomena in a theory of language by taking as a point of departure the notion of ‘actual linguistic utterance’ and the constraints on language interaction:

“[G]iven that the basic assumption that linguistic theory is to explain all the logically non-necessary facts about how human beings communicate in terms of orally articulated sounds, it follows that linguistic theory has to be able to characterize the concept of “actual human linguistic utterance” within the class of logically possible sets of human linguistic utterances such as those constituting a language, a dialect, and some particular style, and to impose constraints on various subsets of human languages correlated with the temporal and interactional relations of their speakers” (Moravcsik 1978:98)

The integration of contact phenomena and bilingualism into FG may help the model fulfill the standards of adequacy in a more comprehensive way. However, since any functional approach to language cannot be explanatorily adequate unless it also

sheds light on the motivations for language change, I explore now the ways in which these motivations interact with each other in a functional perspective.

3.1.4 Motivations of contact-induced language change

Inasmuch as linguistic expressions are ultimately determined by the uses to which they are put in verbal interaction, it is natural that the first cause of contact-induced language change is external to language itself. In similar terms, the fact that human language is an instrument of communication and exists only in relation to the accomplishment of this functionality implies that language change is a mechanism of adaptation to the communicative needs of language users. By 'communicative needs' I refer not only to processing needs such that linguistic expressions must be structured in a way that maximizes their effective parsing and facilitates the information flow. I also refer to social and cultural conditions, which become particularly relevant in multilingual situations like the ones prevailing in the speech communities of the languages analyzed here.

Language change follows naturally from verbal interaction. However, language change is not a random process, as language itself is *not* a set of unconnected elements but an organized array (see Section 3.1.2). Language is an open system with structure. It differs from a closed system in its interaction with the environment and the disturbing effects it suffers as a result of such interaction. It is precisely to these disturbances that natural language users react by adapting their language *along the parameters* set by linguistic structures. The present study seeks to identify these parameters for the case of languages that borrow elements from other languages. Linguistic borrowing illustrates the adaptive strategy of assimilation of foreign elements to the morphosyntactic matrix of the receiving language.

Nevertheless, any solutions to communicative pressures are necessarily provisional, as the environment constantly disturbs the system and language users look for the best adaptive alternatives within the limits of the linguistic system to preserve its stability. While this process is largely subconscious because speakers normally do not monitor their speech at the level of linguistic structure, there is also deliberate manipulation of language material as a mechanism of contact-induced language change (Thomason 2001, 149). Deliberate decision may be at work not only in garden-variety lexical borrowing but also in cases of relexification resulting in the emergence of mixed languages (Muysken 1997; Gómez Rendón 2005, 2008b). Counter to common assumptions deliberate change also influences grammatical borrowing provided levels of bilingualism are high (cf. Golovko 2003).

There is an ongoing tension between the requirements from verbal interaction (e.g. multilingualism) and the requirements from structure (e.g. effective formulation), and between external and internal factors. Communicative needs meet at the crossroads of internal and external motivations, and these concur in exerting

pressure on the language system. The outcome is that “language at any particular time is the result of competing motivations” (Butler 2004: 14; cf. Dubois 1985: 343ff). In language contact terms it is better to speak of internal and external factors simultaneously influencing the makeup of the languages in contact. For Dik the only possible, though provisional solution to competing motivations is a compromise:

There is thus continuous competition between different functional prerequisites; the actual synchronic design of a language is a compromise solution, a precarious balance in efficacy with respect to different functional prerequisites. (Dik 1986: 21f)

This “precarious balance” results from the compromise between the homeostatic tendency of language structure to remain unchanged and the transformative force of adaptation of the system to socio-communicative needs. Borrowing and imperfect second-language learning are two cases in point. On the one hand, there is no unnecessary borrowing, in the sense that “borrowing takes place with the borrowing individuals having some purpose in mind” (Moravcsik 1978: 102), and borrowings are assimilated to the matrix of the recipient language in order to minimize the chances of structural disruption (typological shift). On the other hand, the imperfect learning of a second language (L2) usually leads to the transfer of native-language (L1) features to the target language. In this case the structure of L1 resists to the changes effected by the structure of L2. Still, the tendency of language structure to remain unchanged not always holds on. Provided that socio-communicative needs have disrupting effects on the system (i.e. relexification or massive borrowing) and these cannot be prevented, there may be some type of restructuring. An illustration of this is the so-called matrix language turnover (Myers-Scotton 1998) in which the morphosyntax of the source language replaces that of the borrowing language and gives rise to mixed varieties such as Mednyj Aleut or Ma’a. While these are dramatic scenarios, the effects of contact can vary from less to more disrupting depending on the contact situation.

It is often claimed by linguists from the formalist school that the argument of competing motivations is non-falsifiable. According to such claim, the resort to functional factors in the explanation of language facts is plagued with vacuity because one of an endless number of functional motivations may always be invoked (Newmeyer 1998: 150). Furthermore, functional explanations would often produce circular arguments involving change and adaptation where there is no possible way to know which one caused the other (Butler 2004: 22). While the risks behind a deliberate use of functional factors in the explanation of language change are many, I consider it the duty of everyone who resorts to functional arguments to chart all the external factors that are considered operative in language change in a hierarchical arrangement that shows their degree of influence on such change and their interplay

either as co-determining instances or members of cause-effect chains. Complementarily, sociolinguistic factors should be related to cognitive factors in meaningful ways - in the case of borrowing through linking sociocultural factors to individual bilingualism, i.e. determining how the cognitive makeup of bilinguals is modeled by the social uses of language. An accurate weighing of external factors and their integration within a coherent frame is the only manner of not ‘explaining away’ language change from a functional perspective. The mapping of external factors for the specific sociolinguistic situations of the languages scrutinized in the following chapters is given in Chapter 2 and will be substantiated in the discussion of sociolinguistic factors in Chapter 4.

3.2 The theory of Parts of Speech

Part of the theoretical framework underlying this research is the theory of parts of speech as elaborated by Hengeveld (1992) and Hengeveld *et al* (2004). This theory provides a basis for the analysis of lexical borrowing. There are three basic differences from other theories of parts of speech. One is that Hengeveld’s theory is concerned only with what is usually termed “major parts of speech”, including nouns, verbs, adjectives and manner adverbs. Another difference is that Hengeveld defines parts of speech primarily on *syntactic* grounds. The basic syntactic unit is the phrase, which can be either referential (noun phrase) or predicational (verb phrase). Two main slots are identified within each phrase, one for heads and one for modifiers. The possible combinations for English are shown below.

Table 3.1. Lexemes and syntactic slots in English

| | Head | Modifier |
|--------------------|------|-----------------|
| Referential Phrase | Noun | Adjective |
| Predicate Phrase | Verb | (Manner) Adverb |

Note that the predicate phrase modifier is the manner adverb rather than the adverb in broad terms. The reason is that only manner adverbs modify the head of predicate phrases while other adverbs modify the sentence as a whole (Hengeveld *et al* 2004: 6). The third difference in Hengeveld’s approach is that parts of speech are defined according to their non-predicative uses. Accordingly, “verbs are characterized by the fact that they have no non-predicative uses, i.e. they can be used predicatively *only*. Non-verbal lexemes, on the other hand, may have additional predicative uses, but their defining use is a non-predicative one” (Hengeveld *et al* 2004: 6; my emphasis). After testing the occurrence of lexical classes in syntactic slots in a sample of typologically and geographically distant languages, it was found that some languages have one lexical class for one syntactic slot (differentiated systems);

others have more than one lexical class for two or more slots (flexible systems); and still others lack lexical items to fill syntactic slots (rigid systems). English is a typical example of a differentiated system, with a separate lexical class for each syntactic slot, as opposed to languages like Samoan in which any lexeme can be used in any syntactic position without any derivation mechanism involved. Parts-of-speech systems from the most flexible to the most rigid are charted in Table 2.

Table 3.2. Parts of speech systems

| <i>Part of Speech System</i> | | | <i>Head Pred. Phrase</i> | <i>Head Ref. Phrase</i> | <i>Modifier Ref. Phrase</i> | <i>Modifier Pred. Phrase</i> |
|------------------------------|---|----------------------|----------------------------------|---------------------------------|-------------------------------------|--------------------------------------|
| Flexible | 1 | Samoan, Tagalog | Contentive | | | |
| | 2 | Quechua, Guaraní | Verb | Non-verb | | |
| | 3 | Ket, Miao, Tidore | Verb | Noun | Modifier | |
| Differentiated | 4 | Basque, Japanese | Verb | Noun | Adjective | Manner Adv. |
| Rigid | 5 | Kisi, Wambon | Verb | Noun | Adjective | - |
| | 6 | Krong, Navaho | Verb | Noun | - | - |
| | 7 | non-attested | Verb | - | - | - |

The table does not include intermediate systems, i.e. languages that do not fit into one basic type but share features of two types, provided these are adjacent in the classification. For flexible languages, this situation occurs when derived lexemes cannot be used in all the syntactic slots in which their base lexemes are used. This is the case of Lango (Western Nilotic), where a large class of adverbs (type 4) co-occurs with an open class of modifiers used in predicate and referential phrases (type 3). In the case of rigid languages, an intermediate system is attested when “the last class of lexemes on the hierarchy that is relevant for that language [is] a small closed class of items” (Hengeveld et al 2004: 25). An example of an intermediate rigid language is Tamil (Southern Dravidian). This language has no lexical modifiers of predicate phrases (type 6) and only a small class of adjectives (type 5). Due to restrictions on directionality only contiguous systems conflate to form intermediate types. In relation to system of parts of speech, typologically possible languages are therefore limited to seven discrete types (1-7) plus six intermediate types (1/2, 2/3, etc.). While combinatorially possible, other intermediate types (e.g. 1/7, 2/5, etc.) are not typologically viable. The classification of the languages of this study according

to their parts of speech in chapter 5 through 8 will make the above clear. According to Hengeveld *et al* (2004) the only parts-of-speech system that has not been attested is type 7, one in which the noun-verb distinction is absent, with verbs as the only lexical class. Iroquoian languages, particularly Tuscarora, have been considered examples of this type (Sasse 1988; Broschart 1991) but recently it has been demonstrated on a solid basis that these languages *do* make a distinction between nouns and verbs (Mithun 2001: 397ff). The existence of flexible languages in their most extreme form (type 1) has been questioned as well. A recent debate around the existence of lexical classes in Mundari (Austro-Asiatic) shows that different views on the issue of flexibility stem from different interpretations of semantic and morphological phenomena (i.e. polysemy vs. vagueness, zero-conversion vs. systematic flexibility) but also from whether flexibility is seen as a gradual phenomenon not necessarily involving the whole lexicon of a language.³

In general, parts of speech show a left-to-right hierarchy and systems are ordered according to this hierarchy. This means, for instance, that a language with a specific lexical class for predicate phrase modifiers *always* has individual lexical classes for the syntactic slots located to the left of this slot (system 4). No languages are attested that have a specific lexical class for predicate phrase modifiers and none for referential phrase modifiers. Hengeveld (1992) shows that the combination of syntactic positions with lexical classes is not random: it can be captured in an implicational hierarchy.

Table 3.3. The parts-of-speech hierarchy

| | | | |
|-----------|---------------|---------------|-------------|
| Head of | Head of | Modifier of | Modifier of |
| Predicate | > Referential | > Referential | > Predicate |
| Phrase | Phrase | Phrases | Phrase |

One feature of the hierarchy in need of explanation is directionality. The hierarchy's left-right order not only implies a *sequence* but also specifies a *direction* (expressed by >). In other words, the hierarchy shows not only an order of elements (x, y, z) but also the specific direction of this order (x>y>z). In practical terms this means that directionality determines the path of the processes of lexicalization and grammaticalization. It predicts, for example, that if a rigid language becomes more differentiated by replacing morphosyntactic strategies with a new lexical class, the latter will follow the last lexical class attested in that language. To be specific, if a type-6 language without adjectives and adverbs like Hixkaryana (Carib) created a new lexical class in its system of parts of speech, it would be the adjective and not the adverb, since the latter is not the lexical class immediately following the last attested lexical class in the language (i.e. nouns). Directionality is also relevant in

³ Cf. *Linguistic Typology*, Vol 9, Issue 3, December 2005.

explaining the case of bilingual speakers of typologically different languages who borrow items from one language to the other. In these cases directionality may be a constraint to the flexible use of borrowings. It might explain why, for instance, speakers of Quechua (type 2) do not use adverbs of Spanish (type 4) in adjective or noun positions even though this is permitted by the existence of a non-specialized lexical class of non-verbs.

On the one hand, positive evaluations of the model focus on its potential to account for language variation in a straightforward way “as the outcome of a process of successive syntagmatic and paradigmatic expansion” (Anward 2000, 8). On the other hand, most of the critiques⁴ deal with a) its restriction to only four major parts of speech; b) its ignoring of conventional lexical semantic differences and small syntactic categories; and c) the methodology behind the classification. Ongoing contributions from such fields as language contact and language acquisition aim at testing the model on an empirical basis. This will be a decisive step to determine its validity for capturing homogeneities and heterogeneities in the systems of parts of speech of languages around the world.

3.3 Implications of the Parts-of-Speech Theory to Lexical Borrowing

When two languages come into contact, linguistic material is exchanged between the source and the recipient. In the present study Spanish is the source language while the recipients are Guaraní, Quechua and Otomí (cf. Chapter 5). The general hypothesis to be tested in this study is that *the parts-of-speech systems of the languages involved in the borrowing process are relevant to determining the type of borrowed lexical classes and the functions to which they are put*. More specifically, the parts-of-speech system of the recipient language co-determines the borrowing of lexical classes from the source language and their functional adaptation in the recipient language. The implications from Hengeveld’s theory to lexical borrowing include a set of subhypotheses to be tested on data from either of two standpoints: the perspective of the source language, with emphasis on the identification of lexical classes and their frequency; and the perspective of the recipient language, with emphasis on the use and function of borrowed lexemes. Individual subhypotheses concerning the possible language contact situations are reviewed in Chapter 4; the implications for each of the languages of the sample are developed in Chapters 6 through 8.

⁴ See Petra Vogel and Bernard Comrie (eds.) *Approaches to the Typology of Word Classes*, for a critical evaluation of the model from different viewpoints.

3.4. Implicational hierarchies and scales of borrowability

The use of implicational hierarchies to capture parametric variation across languages became a common practice in typology ever since Greenberg (1966). In a similar fashion, efforts to capture parameters that model ‘borrowing’ and ‘transfer’ between languages have resulted in a number of scales of borrowability since the late nineteenth-century (cf. Whitney 1881). A critical discussion of scales of borrowability is presented in section 3.5. Scales of borrowability not only imply patterns in the preferences of borrowing and indicate *quantitative* tendencies; they also indicate specific paths of change and outline the *qualitative* nature of the borrowing process. It has been suggested that these interpretations are not contradictory and may be applied separately (cf. Van Hout and Muysken 1994: 41). The purpose of this section is to elucidate the links between implicational hierarchies and scales of borrowability. This task is relevant inasmuch as this study seeks to outline testable scales of borrowing from the hierarchy of parts of speech discussed in the last section.

Implicational hierarchies and scales of borrowability have many things in common, but many differences too. Both are the offspring of propositional logic and depend on formal deductive mechanisms (cf. Croft 1990: 49). Both seek to describe ranges of possibility as much as predict impossibilities in languages. Both indicate some type of asymmetry or unidirectionality. And both originate in the broader concept of markedness. But what is the relative status of implicational hierarchies and scales of borrowability in the context of a linguistic theory that aims to fulfill the standards of descriptive and explanatory adequacy? Van Hout and Muysken (1994: 41) pose several questions about the relationship between both concepts but leave them unanswered because their interest is quantitative rather than typological or historical. Because the present study is framed both in typology (section 3.2.) and language change (section 3.1.3.) it is necessary to explore the status and the relationship of these constructs.

Formally, typological hierarchies and scales of borrowability represent chains of implications arranged in consecutive order so that one element presupposes the others located before on the chain. Also, hierarchies and scales are different from each other in the following aspects: a) implicational hierarchies have originated from the observation of a relatively large number of languages while scales of borrowability have been proposed mostly on a language-pair basis, often supported by impressionistic rather than statistic evaluations; b) hierarchies boast a wider scope and applicability than scales because they conflate several implicational universals; c) hierarchies typically refer to different grammatical categories and processes (e.g. accessibility, definiteness, etc.) whereas scales of borrowability refer mainly to parts of speech and no proposals have been made so far to account for other grammatical parameters; finally, d) hierarchies have been given a dynamic

interpretation in order to account for language change from the perspective of diachronic typology (Greenberg 1978) while scales have been associated with synchronic stages of the languages in contact, which is due perhaps to the lack of historical linguistic records that enable the linguist to trace tendencies over time.⁵

To illustrate the point about the empirical basis of scales of borrowability, a few authors may be taken as examples. Often quoted as the first student of language contact who proposed a scale of borrowability, Whitney (1881) gives an impressionistic evaluation of borrowings from (non-specified) languages into English in support of his scale, saying “it has been comparatively easy to add adjectives and verbs to nouns because of the direct convertibility of our nouns into adjectives (a *gold* watch, a *leather* medal, etc) and of our nouns and adjectives into verbs (to *tree* a raccoon, to *grass* a plot of ground, to *brown* a complexion, to *lower* a price) without any change of form” (Whitney 1881: 20, his emphasis).⁶ However scanty and biased his evidence seems today, it is not radically different from the evidence presented seventy years later by Haugen in support of his own claims. Haugen presents three sets of statistical data for English borrowings in Swedish and Norwegian but provides no information about the way his corpora were gathered or the criteria considered in the analysis of loanwords. And yet, the data seem to be enough for him to state confidently that “all linguistic features can be borrowed, but they are distributed along a scale of adoptability [Haugen’s term for borrowability] which somehow is correlated to the structural organization” (Haugen 1950: 224). Thirty years later Singh (1981: 113f) provides a similar scale of borrowability for English loanwords in Hindi, without any satisfactory substantiation or systematic analysis. Few years later Thomason and Kaufmann (1988) put forward a scale of borrowability in five stages and their proposal became soon widely accepted as a general reference for the study of languages in contact. The same scale appeared recently in Thomason (2001: 70), with a few minor changes. Although these authors link borrowing levels to specific contact scenarios in a coherent way, the data they provide in support of their proposals are more anecdotic than meticulous, and their approach is less empirically founded than assumed. I further comment on Thomason and Kaufmann’s scale in the next section, in particular on Thomason’s statement that typological parameters do not govern contact-induced language change.

The foregoing discussion implies that scales of borrowability could hardly apply to languages other than those used for their formulation. The fact that too often English (or some other Indo-European language) is the language considered as

⁵ A notable exception is Karttunen (1978) for the case of Nahuatl in contact with Spanish. Indeed, the abundant Nahuatl record from the first years of the Spanish conquest to the present makes this contact situation rather exceptional and without parallel in other areas where a colonial language has coexisted for several centuries with a native language.

⁶ By “add adjectives and verbs to nouns”, Whitney means those cases in English in which zero conversion occurs such that no derivational mechanisms are at work.

source or recipient also limits the range of applicability of scales in a significant way.

The limited scope of scales of borrowability as proposed in the literature takes us to the next issue: the implicational nature of hierarchies in comparison to the seemingly contingent nature of scales as evinced by the various scales proposed. Many scales grow out of case studies of specific language pairs for which individual corpora have been analyzed. However, the formulation has often followed an inductive method without a theory-driven approach that enables a fine-grained analysis of data. Few of those who propose a scale of borrowability on empirical grounds make all the steps clear in their analyses. Others take it for granted that parts of speech are synonymous with lexical classes as defined by traditional grammarians for European languages. Only a theory-driven approach to the study of borrowing combined with empirical data shall provide students of contact with predictive devices and explanations about why scales are the way they are. We should not forget Moravicsk's warning in this respect:

“Even though constraints on borrowing, as we have just seen, can serve to explain observations about similarities and differences within and among languages, such constraints themselves are also in need of explanation” (Moravicsk 1978: 118)

This means that scales of borrowability and implicational hierarchies are themselves further explananda. That is, they represent only part of the explanation. Notice that for any explanation of language contact phenomena to be satisfactory, it must incorporate language-internal and language-external factors in a coherent theory of borrowing (Chapter 2).

From the above it becomes clear that a major difference between implicational hierarchies and scales of borrowability is the limited scope of scale not in terms of languages but also of grammatical categories. Most scales of borrowability include parts of speech only. Exceptional are those scales (called ‘hierarchies’ by some of their proponents) which cover lexical and grammatical borrowing alike (Cf. van Hout and Muysken 1994; Field 2002). On the other hand, the number of scales proposed for lexical borrowing exceeds by far the number of scales of grammatical borrowing. The preference for the former type stems from the traditional view that the grammatical apparatus of a language can hardly be affected by contact with other languages, no matter how long and deep this may be. Arguably, the limited scope of scales of borrowability is determined by the nature of borrowing itself, i.e. the nature of the linguistic material exchanged in most contact situations. This interpretation, however, bars the way to what is perhaps the most interesting aspect of the study of contact outcomes: the use made of loanwords in the recipient language. This side of borrowing has been hardly explored in contact linguistics in spite of its potential

contribution to a theory of language (e.g. how languages adapt their structures to changing environments) and language change (e.g. to what extent lexical and grammatical borrowing lead to typological shift or restructuring). As I show in Chapter 4, any theory of borrowing must include not only a model of borrowability (the conditions and the limits of what is borrowable or not) but also a model of borrowing usage (the ways in which languages adapt alien material).

Not less important is the difference between hierarchies and scales as far as diachrony is concerned. A Greenbergian dynamicization of typology (cf. Greenberg 1978) uses the tools for describing synchronic variation (universals and hierarchies) in the description of language stages and clears the way for a wider diachronic perspective. Despite language contact studies are closely related to historical linguistics, studies on borrowing have been largely focused on synchronic description and assumed that borrowing implies language change without any specification of this change. The cause of such blindness to diachronic description is implicit in the notion of 'borrowing'. Traditionally, borrowing has been understood as a product rather than a process. There is a warning against this bias already in Haugen (1950: 213f). Still, his long list of outcomes of borrowing shows his preference for the description of products over processes. Whether this preference is due to terminology or the lack of historical linguistic records available is unclear. What is fairly clear is that borrowing can be described both synchronically (products) and diachronically (processes) and that both sides are complementary to a large extent. In fact, language variation mirrors language change in that the parameters governing today's languages are equivalent to the limits of language change over time. Boland claims in this respect that "implicational hierarchies or markedness scales established for describing adult language variation are thus hypothesized to be reliable predictors of universals in language acquisition" (Boland 2006: 16). As it seems, the diachronic study of borrowing will contribute to unveil the relation between patterns in language variation and patterns in language change, and explain the nature of language universals. This study can profit from other fields of linguistics like stratigraphic analysis and grammaticalization theory. Anyway, the question remains whether scales of borrowability allow for a diachronic reading or not. In other words, it still is unclear whether there is a stepwise process of borrowing, according to which one part of speech is borrowed before others or, more radically, some parts of speech cannot be borrowed unless others have been before.

For typological hierarchies the assumption is that a diachronic interpretation is not only possible (cf. Greenberg 1978) but also feasible (cf. Heine 1991). The hypotheses underlying the diachronic interpretation of hierarchies hold that a) the nature of languages remains the same across time and the languages spoken in the

past are similar in nature to the languages spoken in the present⁷; b) patterns of variation across languages in the present mirror patterns of language change in the past, in a somewhat modified version of the idea that ontology recapitulates phylogeny. To the extent that a scale of borrowability may be deduced from a typological hierarchy, there is nothing that prevents the scale from being interpreted along diachronic lines, especially if borrowing is considered a gradual process of incorporation of alien material. This position was adopted, among others, by Moravcsik (1978), who assumes an equivalence between hierarchies and scales, on the one hand, and synchronic and diachronic interpretations, on the other⁸.

Some studies in language contact report instances of abrupt change and restructuring in which a language changes substantially within the time span of one or two generations as a result of massive borrowing and without consideration of lexical classes (cf. Muysken 1985; Gómez Rendón 2005). Despite these cases seem to run counter to a stepwise interpretation, they are not essentially different from other scenarios and represent one of the ends of the scale. Thus, a provisional statement would be that all things being equal, lexical borrowing proceeds by steps and may eventually lead to grammatical restructuring (Karttunen 1976; Campbell 1987; Fauchois 1988). Of course, things are not always equal and a large number of non-linguistic factors may intervene to determine the course of the borrowing process. Unfortunately the lack of systematic studies in the field of diachronic contact linguistics prevents us from making any decisive statement.

The four differences discussed above between typological hierarchies and scales of borrowability may be translated as deficiencies in the following terms: a) scales of borrowability have a limited applicability, derived as they are from language-pair studies; b) scales of borrowability are of limited scope in that their formulation, though empirically based, is not theoretically driven; c) scales of borrowability proposed so far have been applied mostly to the lexicon and only exceptionally to grammar, without any consideration of the use of borrowings in the recipient language; and d) scales of borrowability have been interpreted synchronically although their potential for a diachronic analysis is great.

In view of these deficiencies the present study seeks to model borrowability through: 1) a *comparative analysis* of borrowings across language pairs; 2) a *theory-driven approach* to borrowing in the framework of the parts-of-speech theory; 3) a comprehensive account of *lexical and grammatical borrowing* and their usage in the recipient language; and 4) a theoretical framework for language change through borrowing. The inclusion of non-linguistic factors such as the duration and type of

⁷ The hypothesis of uniformitarianism, which according to Croft derives from biology and geology (1990: 204, 274)

⁸ See, for instance, how she interprets her fifth statement. “No inflectional affixes can belong to the set of properties borrowed from a language *unless* at least one derivational affix also belongs to the set” (Moravcsik 1978: 112; my emphasis).

contact and the levels of individual and collective bilingualism complements the theory and allow for a multi-sided evaluation of data. As part of this research program the following section explores critically several scales of borrowability as a backdrop for the presentation of my model in Chapter 4.

3.5. Scales of borrowability: a critical overview

A number of proposals have been put forward in the literature on language contact to account for the occurrence of borrowings across languages. The study of linguistic borrowing and scales of borrowability grew out of the discussion about the existence and the status of mixed and Creole languages in the second half of the nineteenth century (Cf. Whitney 1881; Schuchardt 1882). Some hierarchies or scales of borrowability⁹ are established on the basis of a quantitative analysis of language-pair corpora; others are deduced from theoretical frameworks and claimed to be applicable cross-linguistically.¹⁰ The former hierarchies lack a comprehensive framework for the analysis and interpretation of data; the latter hierarchies need an empirical foundation that corroborates their claims in a relevant way.

As a matter of fact, most scales of borrowability include major parts of speech and function words. Few studies on borrowing analyze other grammatical categories such as word order (Campbell 1995: 136ff) or utterance modifiers (Matras 1998: 281ff). In our perspective, scales of borrowability should include not only content words (major parts of speech) but also function words and grammatical elements such as derivational and inflectional affixes. In principle it is possible to make a distinction between lexical borrowing (content words) on the one hand, and grammatical borrowing (agglutinative and fusional affixes) on the other, with function words occupying a place of transition between lexicon and grammar. In this study function words are considered part of grammatical borrowing and analyzed independently from the four word classes identified in the parts-of-speech theory outlined in section 3.2. Still, it is clear that any distinction between lexical and

⁹ Alternative terms are ‘hierarchies of adoptability’ or ‘hierarchies of receptivity’. For Haugen, “all linguistic features can be borrowed, but they are distributed along a SCALE OF ADOPTABILITY which somehow is correlated to the structural organization” (Haugen 1950: 224). Receptivity, in turn, is defined as the “capacity of absorbing words of foreign origin” (Vočadlo 1938: 170).

¹⁰ It is possible to distinguish between hierarchies of borrowability and scales of borrowability on the basis of their theoretical or empirical origin. Hierarchies of borrowability would be hypothetical models of borrowing with a number of falsifiable predictions. Scales of borrowability would describe a specific distribution of elements (parts of speech) in a language pair which may be predicted and tested in *similar* pairs. Both are in principle falsifiable but only hierarchies might be applicable to a large number of typologically different languages. It may be possible also to link hierarchies to universals of language, as done Moravcsik (1978). I have decided to use the term ‘scale of borrowability’ in this book in order to avoid terminological confusion.

grammatical borrowing is only schematic because borrowing implies a continuum stretching from content words (easiest to borrow) to affixes (hardest to borrow).

The non-existence of clearly defined boundaries between lexical and grammatical borrowing raises the question about the nature of borrowing. Borrowing is more a continuum of forms than a process with individual stages as represented by hierarchies. The concept of 'cline' as developed in grammaticalization theory is therefore more appropriate to describe this continuum. In fact, there are clear correspondences between clines of lexicalization (Hopper and Traugott 1993: 7) and scales of lexical borrowing, especially from a diachronic perspective. Also, hierarchies of grammatical borrowing can be inferred from clines of grammaticality. The commonality of features between grammaticalization and borrowing suggests that the latter should be conceived as a continuum and their analysis calls for a unified theory of lexicon and grammar.

In the same way that grammaticalization theory helps to define borrowability in more accurate terms, linguistic typology contributes to a better understanding of the limits of borrowing. In this case, the typology of the languages involved in the borrowing process helps to define constraints on borrowable elements. Thus, the morphological typology of the recipient language is described according to criteria of synthesis and fusion in order to predict, on the basis of such criteria, what elements a language may borrow. Likewise, source and recipient languages may be classified according to their typology of parts of speech so as to predict the type of loanwords transferable from one to the other. The typological approach to the borrowing of parts of speech diverges from traditional analyses in that these assume a univocal correspondence between the parts of speech of the source language and those of the recipient language. This assumption is misleading when typologically different languages and functional adaptation of borrowings are considered. The student of borrowing who works only on the parts-of-speech system of the source language may not find any trouble in establishing quantitative scales but will certainly fail to explain the use of borrowed elements in the recipient language. A typological approach to borrowability on the basis of parts of speech provides a comprehensive framework for the analysis of data from the perspective of both source and recipient languages.

3.5.1. Lexical borrowability

The literature on language contact describes lexical borrowing as the most widespread type of linguistic transfer. Every human language may be said to have borrowed one or more words from other language(s) at some point of its history. Several reasons have been adduced for the prominence of lexical borrowing in contact situations. First, lexical borrowing accomplishes the extension of the denotational capacity of the recipient language insofar as "the classes of words most

closely involved with the culture of a language are the *content words*” (van Hout and Muysken 1994: 42; their emphasis). Second, the perceptual saliency of content words on the basis of their phonetic shape makes lexical borrowing more prominent. Third, the semantic transparency of content items makes lexical borrowing more frequent than grammatical borrowing (Field 2002: 36).

Lexical borrowing is defined as the transfer of *content* words as opposed to the transfer of *function* words and morphemes (grammatical borrowing). There is a consensus among scholars that nouns, verbs and adjectives are content words, although their distribution is not the same across languages. The classification of adverbs as content words is disputed however. If adverbs are defined as *verb* modifiers, then their class is smaller than the class of adverbs defined as broader modifiers. Adverbs defined as verb modifiers include only manner adverbs because other subclasses have a wider scope than the verb. Additionally, manner adverbs in some languages form a relatively open class different from the closed set of time and place adverbs. Only manner adverbs form open classes¹¹ as opposed to other types of adverbs which are closer to function words. The classification becomes more problematic from a cross-linguistic perspective, because certain languages lack adverbs as a separate lexical class and use other lexical classes (verbs, nouns, adjectives) or non-lexical strategies instead. This explains why some scales of borrowability consider adverbs lexical borrowings while others put them on the grammatical side.

Scales of lexical borrowability

Regardless of their theoretical or empirical foundation, all scales of borrowability agree that nouns are by far the largest class of content items that languages borrow in contact situations. Explanations for the primacy of nouns include their perceptual saliency and semantic transparency and the fact that borrowed nouns expand the language’s referential capacity. From their study of English loanwords in Canadian French, Poplack *et al* (1988: 64) conclude that one factor influencing the large presence of borrowed nouns in their corpus is their low level of structural integration in the discourse of the recipient language and their quality of being the word class that carries most of the lexical content. The openness of the noun class as compared to other parts of speech is indeed a factor but it must be assessed in relation to other lexical classes and subclasses. There are languages in which nouns are grouped in

¹¹ As shown above (3.2.), the parts-of-speech theory that makes the theoretical framework for this study restricts adverbs to the subclass of manner adverbs. The reason is that only manner adverbs modify heads of predicate phrases (verbs) while other adverbs modify larger constituents such as clauses or sentences (Hengeveld 1992: 71f). To this extent, the borrowing hypotheses derived from this theory include only manner adverbs. For other adverbs, a number of predictions can be made on the basis of traditional hierarchies of borrowability.

clearly restricted subclasses while in other adjectives and manner adverbs conflate with nouns in one large class of non-verbs. Considering that Poplack was studying typologically similar languages, her ‘openness’ assumption may be misleading if applied to other language pairs. In addition, it remains to know to what extent the distribution of borrowed nouns is determined by the distribution of native nouns in discourse. The question can be answered only on a language-specific basis.¹² Poplack shows that univocal correspondences cannot be claimed in the distribution of parts of speech between borrowings and native items:

If borrowing into the various grammatical categories mirrored monolingual tendencies, we would expect to find comparable proportions of native and borrowed forms in each part of speech. However, the predilection for borrowing nouns exceeds by more than a factor of five the frequency of this category in French [...] Thus we may confirm that nouns have a particular propensity to be borrowed, over and above their frequency of occurrence in the host language” (Poplack *et al* 1988: 63f).

This predilection supports Moravcsik’s view (1978: 111) that noun borrowing is a universal of language contact and languages can borrow further lexical material only if nouns are borrowed first. Therefore, her position not only assumes precedence in time but suggests also “the possibly related phenomenon of a language always having a larger number of borrowed nouns than the number of borrowed items in another lexeme class” (p. 111). In addition to the examples quoted by Moravcsik in support of her claim, there are others like English loans in Hindi (Singh 1981), Spanish nouns in Otomí (Hekking and Muysken 1995) and Quechua (Muysken 1981; Gómez Rendón 2006a), and English nouns in Prince Edward Island French (King 2000).

A further factor that may influence the distribution of borrowings in word classes is the type of contact between the intervening languages and their relative position in society. An important number of borrowing situations in the literature on contact involve language pairs composed either of two European languages, or one European language as the source language and one non-European language as the recipient. The question is whether the outcomes of these situations can be generalized to more “exotic” scenarios. The contact between Spanish and Quechua and Spanish and Otomí illustrate diglossic situations where speakers of one language – generally the recipient – are subject to sociopolitical domination by speakers of another language – typically the source of borrowing. One could argue that

¹² A small sample of native discourse in each of the languages of this research was analyzed for the distribution of parts of speech in order to serve as a point of reference in the evaluation of borrowing preferences (Cf. section 4.3).

situations of political dominance force speakers of the dominated group to adopt the language of the mainstream society alongside their native language (bilingualism) or simply replace the latter with the dominant language (shift). Thus, it is possible that the outcomes of contact are not the same in situations where the speech communities enjoy a sociopolitical balance. The contact situations of English and French in Canada and Prince Edward Island are illustrative of this. While the intrusion of English in the local French-speaking culture is evident, English speakers and French speakers share a common Western heritage. Interestingly, the distribution of noun borrowing is closely similar to that of contact situations involving a European language and a non-European language (cf. Bakker and Hekking 1999, for Spanish and Otomi). Can we conclude from this that the overwhelming frequency of nouns in borrowing is a universal of language contact?

To the best of my knowledge, the only reported cases in which verbs are borrowed more frequently than nouns are the Brazilian languages Tariana (Aikhenvald 2002: 224) and Hup (Epps, forthcoming). In the case of Hup the linguistic purism dominant in the borrowing speech community restricts the entrance of Tukano nouns but not the borrowing of Portuguese nouns. The reason for such preference would be that nouns are more salient than verbs because these occur in complex forms while nouns can be easily “smuggled in” (Epps, forthcoming).

Arguably, noun borrowing is less frequent in situations involving two culturally similar groups with a long history of contact because there are few objects unknown to either group. On the other hand, for two culturally different groups that scarcely had contact in the past the need to adopt items referring to new physical objects surpasses other considerations. This suggests that explanations of the distribution of noun borrowing should include diachronic and cultural factors. The extreme case of Hup verb borrowing shows that strong predictions fail if there are factors of language ideology (perceptions and attitudes) influencing the mechanisms of contact. Still, the idea that social and cultural factors determine the scope of borrowing in each contact situation does not exclude the existence of linguistic constraints on the outcomes of contact.

As regards loan verbs, their position in the scales of borrowability is not fixed. Some hierarchies consider verbs as the second largest lexical class (cf. Haugen 1950; Thomason and Kaufmann 1988). Others put them either after adjectives (Whitney 1881; Muysken 1981; Singh 1981) or consider both as coterminous (Field 2002). Moravcsik represents the most extreme position because she considers that “a lexical item whose meaning is verbal can never be included in the set of borrowed properties” (Moravcsik 1978: 111). The empirical evidence available goes counter this statement: not only are verbs borrowed in many contact situations, but their number is also relatively high. A less strict interpretation of Moravcsik suggests a different scenario: verbs are borrowable items but they are always subject to native

mechanisms of derivation. This suggests that loan verbs might be used as non-verbs. The analysis of parts of speech presented in section 3.2 points in a similar direction.

While the evidence confirms the borrowing of verbs across typologically different languages, it is still notable that verbs are borrowed with less frequency than nouns. Several explanations have been put forward to explain this. Most have to do with the fact that verbs, unlike nouns, are not purely content items but carry structural information, which would make them more difficult to borrow than nouns, since their borrowing would require a knowledge of the source language beyond the lexicon. The degree of such knowledge depends on the syntactic and morphological constraints of the source and the recipient languages: for example, in order to borrow verbs from a fusional language like Spanish, in which verb roots are mixed with (derivational and) inflectional morphology, speakers of an agglutinative language like Quechua must know the structure of the Spanish verb. An example of Media Lengua illustrates this point:

- 1) *muy* *pokito* *disayuno-ta* *da -li-k* *ka-rka*
 very few.DIM breakfast-ACC give-DAT-DUR to.be-PST.3S
 'he used to give us a miserable breakfast'

Imbabura Media Lengua is a mixed language composed of Quechua grammar and Spanish lexicon which is spoken in the Ecuadorian Andes. It is the result of the intense contact of Quechua speakers with the Spanish-speaking society. Media Lengua speakers are proficient in Ecuadorian Andean Spanish and a local variety of Quechua. Example (1) contains, among other things, the Spanish verb root *da-* 'give', which has been borrowed along with the cliticized form of the indirect object pronoun for third person *le-*. Both elements do not form a frozen unit. The root and the clitic are assigned individual functions and meanings: *da-* replaces Quechua *ku-* 'give'; *li-* indicates dative case. For Media Lengua speakers to identify the Spanish verb root and its cliticized pronoun correctly, a nearly native command of the language is required. This is indeed the case. The above suggests that the structural properties of the source language and the level of bilingualism of borrowers are important factors shaping the outcomes of contact.

Adjectives are next on the list of lexical categories for their borrowability. Several studies have shown that adjectives are not a monolithic, undifferentiated category (Dixon 1982; Schachter 1985, Bhat 1994). In some languages they are classified in the same category of nouns while in others they behave like verbs. These facts have challenged the universality of the adjective category from a typological point of view. Conservative views (Croft 1991; Bhat 1994) consider adjectives as prototypical modifiers. Others (Baker 2003) define adjectives less in terms of their prototypical nature than in opposition to nouns and verbs. Whatever

the case may be, adjectives are a problematic category in terms of their cross-linguistic variation and the related implications for a theory of parts of speech.

Students of language contact do not agree either on the position of adjectives along a scale of borrowability. They agree on placing adjectives immediately next to verbs but not on their relative position. Many claim that adjectives are more borrowable than verbs and put them before them on hierarchies (cf. Whitney 1881; Muysken 1981; Singh 1981; Field 2002). Others (Haugen 1950) invert the order and state that adjectives are only a peripheral category. The relative position of verbs and adjectives depends more on the part-of-speech systems of the languages involved and less on the inherent borrowability of either class (Romaine 1995: 65). Languages without a clear-cut morphosyntactic distinction between adjectives and nouns borrow these lexical classes from languages which do make such a distinction and use both in exactly the same distribution. Since no case studies provides a classification of the parts-of-speech systems of the languages participating in the borrowing process, no typological criteria are available to evaluate the relative position of these lexical classes on the hierarchies proposed.

The class of adverbs proves not less problematic. The reasons have to do again with the gamut of lexical and morphological variants involved under the label “adverb”. As shown above, adverbs have subclasses with different morphological and syntactic behaviors which make their grouping in one single class a matter of convention rather than categoriality. In distributional terms, only manner adverbs are verb modifiers proper. Other subclasses modify adjectives or even other adverbs, and still others modify clauses and sentences. In morphological terms, adverbs are similar to adjectives in several ways. In some cases adverbs are produced from adjectives by adding a derivational morpheme (e.g. English *-ly*, Spanish *-mente*); in other cases no derivation is required and the same form may be used adjectivally or adverbially. The variation within the adverb category makes it clear why any attempt to make valid generalizations on the borrowing of adverbs is doomed to fail. Of the aforementioned authors, only Whitney 1881 and Haugen 1950 show the position of adverbs on the hierarchy explicitly (immediately after the verb). Others do not mention adverbs at all or assume they are included under adjectives (Muysken 1981).

For adjectives and adverbs, considerations of the typological profile of the donor and the recipient languages are required to evaluate their contribution to borrowing. Furthermore, a typological consideration of adjectives and adverbs challenges by itself the universality of scales of borrowability and restricts their application to the limits imposed by the typology of the languages in question. In other words, any hierarchy should be applied only to the specific donor-recipient pair considered in a particular contact situation and not across the board as in the universals proposed by Moravcsik (1978). Of course, this does not necessarily mean that hierarchies are useless predictors. From a set of implications derived from the

theory of parts of speech I show in Chapter 4 that hierarchies of borrowability refine their predicting capacity through the inclusion of typological criteria concerning the morphological type and the system of parts of speech of the language pairs considered. The issue of typological compatibility will come up clear in the following discussion about the borrowability of grammatical elements.

3.5.2. Grammatical borrowability

Less numerous but also less rigorous proposals have been made about grammatical borrowing. In this context, Campbell (1993) admitted that “grammatical borrowing has been both neglected and abused in studies of syntactic change” (1993: 91). Positions on this issue range from the statement that grammatical items can be borrowed almost without restriction (e.g. Wackernagel 1926-8: 8; Thomason 2001: 63) to the idea that grammatical borrowing is not possible at all (Sapir 1921: 203), Intermediate positions are represented by Weinreich (1953: 25), according to whom grammatical borrowing is possible only to the extent that the donor and the recipient languages are structurally compatible. Grammatical borrowing refers not only to the transfer of function words and bound morphemes but also to syntactic borrowing.¹³ In this section I review several issues concerning grammatical borrowability as a backdrop for the subsequent discussion of structural incompatibility.

Scales of grammatical borrowability

Scales of borrowability cover a continuum stretching from lexicon to grammar. Some authors (e.g. Muysken 1981) include grammatical borrowing on the right end of this continuum. In this perspective grammatical borrowing is an extreme case of borrowing associated with contact situations more intense than those leading to lexical borrowing.¹⁴

The study of grammatical borrowing has awakened the interest of many students of language since the late eighteenth century (Gyarmathi 1799, quoted in Campbell 1993: 91). However, few have undertaken a systematic research into the mechanisms involved in the process of borrowing. Proposals concerning grammatical borrowing count many. Some authors put forward general tendencies while others promote the latter to the status of universals without much consideration of extralinguistic factors and on the basis of a limited number of

¹³ It is worth noting that some authors (particularly Harris and Campbell 1995; but also Heine and Kuteva 2005 to some extent) equate syntactic borrowing with grammatical borrowing.

¹⁴ This may be taken as a rule of thumb in contact linguistics but there is one exception, i.e. the borrowing of word order patterns, a phenomenon supposedly found in all cases of languages in contact (Heine 2005).

contact situations. I discuss hereunder two scales proposed in the literature of language contact.

The first scale of grammatical borrowability was proposed by Whitney (1881) as part of a broader scale of linguistic borrowing. This author considers grammatical borrowing an extension of lexical borrowing along a continuum:

Table 3.4. Borrowing continuum based on Whitney 1881

| Lexical borrowing | Grammatical borrowing | | | | |
|-------------------|-----------------------|--------------|----------|--------------|--------------|
| | Function words | | | Affixes | |
| ... | Prepositions | Conjunctions | Pronouns | Derivational | Inflectional |
| > | > | > | > | > | |

The proposal makes two basic distinctions: one between lexical and grammatical borrowing, and another between function words and affixes. A further distinction separates derivational from inflectional affixes on the basis of the nowadays common idea that inflectional morphology is less borrowable than derivational morphology (e.g. Weinreich 1953; Moravcsik 1978; Field 2002). This is the view held by Moravcsik, who states in her fifth hypothesis that “no inflectional affixes can belong to the set of properties borrowed from a language unless at least one derivational affix also belongs to the set” (Moravcsik 1978: 112). According to Campbell (1995: 135) this hypothesis is absolutely false, as there are several cases in which inflectional morphemes have been borrowed without derivational ones being previously borrowed.¹⁵

The second scale I want to discuss here is the one put forward by Muysken (1981: 130) and Muysken and van Hout (1994). This scale is embedded in a continuum of borrowability stretching from lexicon to grammar.

Table 3.5. Borrowing continuum based on Muysken 1981

| Lexical borrowing | Grammatical borrowing | | | | | | |
|-------------------|-----------------------|--------------------------|------------|------------|---------|----------------|---------------------------|
| | Preposition | Coordinating Conjunction | Quantifier | Determiner | Pronoun | Clitic Pronoun | Subordinating conjunction |
| ... | | | | | | | |
| > | > | > | > | > | > | > | |

¹⁵ Campbell cites, among others, the example of Bolivian Quechua, in which the Spanish plural inflectional morpheme *-s* has been borrowed but “apparently without any borrowed Spanish derivational affixes” (1995: 135). While this may be true for Bolivian Quechua, it is not the case for Ecuadorian Quichua, which has borrowed, apart from the Spanish plural, at least two derivational morphemes, the agentive *-dur*, from Spanish *-dor*, and the diminutives *-itul-ita*, from Spanish *-itol-ita*. The borrowing of both affixes is clearly motivated by the borrowing of unanalyzed lexical chunks. For an analysis of grammatical borrowing in Imbabura Quechua, a Northern dialect of Ecuadorian Quechua, see Gómez Rendón and Adelaar (forthcoming).

Unlike Whitney's, this scale include only function words but *not* affixes on the assumption that function words are more prone to borrowing than affixes. This assumption can not be considered a universal constraint because there are well-attested cases in which affixes (viz. bound morphology) have been borrowed without accompanying function words (viz. free morphology). by Heath (1978) reports a case of the widespread diffusion for the aboriginal languages of Arnhem Land. Heath's "diffusible" categories include case affixes, derivational verbal affixes, verbalizers and the like, while "non-diffusible" categories are independent pronouns, bound pronominals (pronominal clitics) and demonstrative stems and adverbs, which are precisely those categories Muysken sets higher on the scale of borrowability. Haugen (1956) entertains a similar idea, according to which "function words, which only occur as part of utterances, are seldom borrowed" (1956: 67). In general, no precedence of function words (free morphemes) over affixes (bound morphology) may be claimed with universal value.

Another issue related to the borrowing of function words is their function in the borrowing language. One of the universals of language contact proposed by Moravcsik maintains that the borrowing of a function word implies the borrowing of "its linear order with respect to its head" (Moravcsik 1978: 112). This means that function words are always borrowed along with the corresponding syntactic pattern and function. In other words, no prepositions are borrowed which function as postpositions in the recipient language. There are two objections to the terms in which this hypothesis is formulated. On the one hand, this claim is counterintuitive in the sense that it excludes the borrowing of function words between languages with different syntactic patterns (Campbell 1995: 136). On the other hand, while counterexamples to the hypothesis are hard to find, lack of evidence is not sufficient proof. Still, a potential counterexample is the borrowing of the Spanish feminine article *la* in Paraguayan Guaraní, a language originally without articles. Not only the borrowing of *la* violates the requirement of structural compatibility; the use of the article as anaphoric and cataphoric pronoun in Guaraní breaks the word order patterns of Spanish article in Spanish.¹⁶

To complement his scale, Muysken lists a number of general ruling principles such as: 1) content words are easier to borrow than function words; 2) words that belong to structured paradigms are more difficult to borrow than words that do not belong to a structured paradigm; 3) case-assigning words are more difficult to borrow than words *not* assigning case; and 4) morphologically complex words are

¹⁶ For an analysis of the Spanish article in Paraguayan Guaraní, see Gómez Rendón (2007b). An alternative explanation of its use might be the homophony of the feminine article with the pronominal clitic.

more difficult to borrow than simple words. Principles (1) and (4) have been already mentioned in this chapter; principles (2) and (3) may be considered their extensions.

The idea of paradigms as structural constraints on borrowing is recurrent in the literature of language contact up to date. Case assignment has been used recently as a borrowing parameter by Myers-Scotton in her four-morpheme model. Comparing Muysken and Myers-Scotton with respect to the effects of case assignment, however, sheds a major discrepancy between them. Muysken considers case assignment as preventing verbs and prepositions from being borrowed easily while Myers-Scotton identifies content words as morphemes whose case-assigning condition precisely furthers borrowing. Notice also that Muysken makes a distinction between coordinating and subordinating conjunctions. In principle coordinating conjunctions are easier to borrow than subordinating ones. This hypothesis, however, does not hold for Otomí (Bakker and Hekking 1999) which borrows as many coordinating as subordinating conjunctions from Spanish. Still, the scale of borrowing and the general principles sketched by Muysken provide useful parameters for identifying the types and frequencies of grammatical borrowing.

The last issue I want to address here concerns the precedence of lexical borrowing with respect to grammatical borrowing as implicit in all scales of borrowability. Moravcsik (1978) promoted the precedence of lexical over grammatical borrowing to the status of a universal of language contact, and it has been admitted explicitly or implicitly ever since. The founding of this principle is the empirical fact that lexical items usually are more prominent in discourse than function words or affixes and therefore more available for borrowing. Nevertheless, “there would seem to be no inherent connection between prior lexical borrowings and grammatical loans, and hence no theoretically significant implications, even if this claim should prove true” (Campbell 1995: 134). Furthermore, the attestation of lexical precedence does not exclude scenarios where grammatical categories are borrowed in the absence of lexical items. The well-known case of Finno-Ugric influence on Russian in the absence of lexical loans adds to other recently documented cases, including the borrowing of syntactic patterns without lexical elements known as calquing.

3.5.3. Syntactic borrowing: calquing of word order patterns

Syntactic borrowing is often used as a synonym of grammatical borrowing (e.g. Campbell, 1989; 1995). Here we restrict this term to the calquing by one language of the word order patterns from another language while considering ‘grammatical borrowing’ a cover term for any kind of non-lexical borrowing. It has been suggested that syntax is resistant to change through contact, but the facts show that syntactic borrowing is ubiquitous and results from other borrowing processes at the level of lexicon and grammar (cf. Heine and Kuteva 2005). In this perspective

syntactic borrowing is considered “the epiphenomenal product of processes whereby meaningful structures are reinterpreted as some other structures” (Heine 2005: 60). Syntactic borrowing will be dealt with here to the extent that it occurs in our corpora as a result of the borrowing of lexical items and function words.

The borrowing of word order patterns is relevant to a theory of language change insofar as deviant word orders in languages cannot be explained by internal changes only. They usually originate in syntactic calques from neighboring languages and have two forms. On the one hand, previously marked word orders become unmarked as a result of the calquing of similar syntactic patterns from contact languages: in other words, a markedness shift occurs as a result of the frequency of the once marked pattern in the recipient language (Campbell 1995: 136ff). On the other hand, as a result of the transfer of the meanings encoded in lexical items borrowed from a contact language, “some structure is reinterpreted as some other structure, with the result that a seemingly new word order arises” (Heine 2005: 65). Both types of syntactic change may cause a typological shift in the borrowing language, but only the second type implies lexical borrowing. An example of reinterpretation of structures is found in Paraguayan Guaraní. The example below involves the reinterpretation of the native finite verb *ojapo* ‘it makes’ within a time adverbial construction:

- 2) *o-japo* *mokõi* *ary* *o-mano-ma-va'ekue* *che-ru*
 3-do two year 3-die-already- NMLZ.PST 1S-father
 ‘It is two years that my father died’
 Sp. ‘hace dos años murió ya mi papá’

Interestingly, the speaker of (2) is an educated bilingual man who feels proud of speaking what he considers “pure” Guaraní (*Guaraníete*). He was not aware of the extent to which Spanish had influenced the way he builds phrases and sentences in Guaraní. From the gloss it is clear that (2) is a perfect copy of the Spanish sentence, even though no lexical item from this language is involved. First, the Guaraní postposition *guive* ‘from, since’ has been replaced by a Spanish-modeled construction based on the finite verb *hace* ‘it makes’. Second, the adverbial phrase has been fronted for emphasis – an uncommon mechanism in classical Guaraní. Third, the subject has been placed in sentence-final position, an exceptional strategy in traditional Guaraní in spite of its relatively free word order. According to Heine (2005) cases like the transformation of *ojapo* from the status of a finite verb to that of an adposition on the model of Spanish are instances of contact-induced syntactic change through “a process of grammaticalization as it can be observed in situations that do not involve language contact” (Heine 2005: 71).

Of the authors who have proposed scales of borrowability, only Thomason (2001: 70) identifies syntactic borrowing explicitly as contact-induced change in

word order. On her four-stage borrowing scale, syntactic borrowing is coterminous with intensity of contact. Syntactic changes do not occur in the first stage (casual contact), but they appear increasingly in the following stages. The scale goes from an increased usage of previously rare word orders in the second stage to their fixation as unmarked word orders in the third stage, and the occurrence of “sweeping changes” in relativization, coordination, subordination, comparison and quantification in the fourth stage (Thomason 2000: 71).

Well-documented cases of contact-induced syntactic change are mentioned in Weinreich (1956) and Moravcsik (1978). The first author identifies syntactic borrowing as ‘interference in word order’ in the context of widespread bilingualism (Weinreich 1956: 38). Although syntactic borrowing not necessarily implies bilingualism, it is the natural result of having two linguistic systems in contact. Moravcsik, in turn, speaks of “the borrowing of syntactic constituent-ordering rules” for a handful of language families including Ethiopian Semitic, Cushitic, Assamese, Indo-European, Tibeto-Burmese, Dravidian and Bantu languages. Syntactic borrowing is part of the sixth universal of language contact proposed by Moravcsik, according to which “a lexical item that is of the ‘grammatical type’ (which type includes at least conjunctions and adpositions) cannot be included in the set of properties borrowed from a language unless *the rule that determines its linear order with respect to its head is also included*” (Moravcsik 1978: 112, my emphasis). The copying of word order patterns as a result of the borrowing of function words has been previously attested for one of the languages of this research (Quichua). There is a close link – i.e. a grammatical relationship – between the borrowing of Spanish subordinating conjunctions such as *porque* ‘because’ or *si* ‘if’ and the abandoning of native Quichua SOV word order for a Spanish-like SVO pattern (Gómez Rendón 2007a). Similar developments have been identified in cases of massive lexical borrowing as in Media Lengua (Muysken 1985), where the dropping of the Quechua accusative marker *-ta* on Spanish-origin items is related to an increasing frequency of SVO word orders. The difference in both cases lies on the speakers’ level of bilingualism: most Ecuadorian Quechua speakers are only partially bilingual; Media Lengua speakers are full-fledged bilinguals. Evidence of a second link between syntactic borrowing (interference) and bilingualism is found in Paraguayan Guaraní, where the copying of Spanish word order patterns with or without Spanish loanwords is common in bilingual discourse.

The study of syntactic borrowing is underdeveloped in relation to other types of borrowing, for which reason conclusive statements cannot be made as long as a comprehensive collection of data and new analytic approaches are not available. In this book I do not develop an analysis of syntactic borrowing. Still, I wanted to highlight the relevance of it for a comprehensive evaluation of the data in the following chapters.

3.6. Structural compatibility as a constraint on borrowing

Structural compatibility is one of the most used and abused concepts in contact linguistics. Proposals of structural compatibility are based on the notion that only structurally compatible languages can borrow from each other, which means that the typology of languages constrains their ability to borrow lexical and grammatical elements.

In his review of the topic, Campbell (1995: 123f) quotes several authors, from Meillet (1914) and Weinreich (1953) to Bickerton (1981) and Aitchinson (1981), who maintain in one form or another that borrowing (or interference for that matter) is possible only between structurally similar languages. Campbell reviews a large number of cases in which typologically different languages have been in contact, with the resulting exchange of grammatical material from one another. In concluding Campbell states that

Such examples as those presented here show that the structural-compatibility requirement in any absolute sense is incorrect. It is as a general tendency or preference that we may expect the claim to hold, but how is it to be framed? To be very useful in a theory of change, it would require an explicit notion of what “shared syntactic [grammatical] similarity” is and how one determines it. Essentially at stake here is how social factors can overcome structural resistance to borrowing” (Campbell 1995: 125).

The statement is crucial for the position granted to social factors without the exclusion of structural conditions. As shown in the previous chapter, social factors not only downplay other factors when it comes to borrowing but also trigger language change in a more general sense. At the same time, structural (typological) factors remain a backdrop before which changes are displayed and signal potential ways of development for language change. While the non-universal validity of the criterion of structural similarity is well documented in the literature, the failure to characterize this criterion in more specific terms led to its invalidation as a powerful predictor.

The ambiguity in the treatment of structural compatibility is best exemplified by Weinreich (1953: 64-5) in his assessment of structural constraints on interference. After a thorough discussion supported with empirical evidence, Weinreich summarizes his findings in a table of structural factors that stimulate or hinder interference at the phonological, morphosyntactic and lexical levels. The result is a collection of general criteria that have lost all of their predictive capacity: stimuli for interference are broadly characterized as “any points of difference between two systems” (1968: 64); inhibitors, on the other hand, are system stability and intelligibility without further specification. While these constraints are general

enough to be valid for all types of interference, not less general are the factors corresponding to different levels of language organization. Consider for example the type of interference that Weinreich calls “abandonment of obligatory categories” in grammar. He does not mention inhibiting factors but only one stimulating factor, i.e. the co-existence of “very different grammatical systems”. From recent studies of creolization we know that phenomena such as grammatical simplification and restructuring are the result of a very long chain of socio-historical events that unchain a complex of linguistic processes.¹⁷ In cases of lexical interference such as the “the specialized retention of an ‘indigenous’ word after borrowing of an equivalent” (Weinreich 1968: 64), the avoidance of semantic confusion and the elimination of “superfluous terms” are considered stimulating and resisting factors, respectively. Still, some studies of couplets (borrowed item vs. native item) have shown that motivations and factor influencing their formation and use go beyond semantic vagueness and language economy (e.g. Montes de Oca 2004: 70-84).

Structural similarity may take different shapes depending on the structure used as measuring stick. In morphology, for instance, structural criteria are agglutination or polysynthesis but also bound and free morphemes. In the lexicon, lexical categories, parts of speech and semantic categories are structural parameters. Therefore, it is necessary to specify the kind of structure we have in mind when speaking of structural compatibility.

To make the notion of compatibility a predictive device for this study, I restrict myself here to the criteria of a) morpheme type and b) parts of speech, and articulate recent proposals in this field with the notion of structural compatibility. The concept of parts of speech concerns lexical borrowing. In turn, the concept of morpheme type as a structural criterion for cross-linguistic compatibility bears relevance for lexical and grammatical borrowing. Both concepts are discussed below on basis of two different studies (Field 2002; Hengeveld *et al* 2004).

3.6.1. Morphological typology and structural compatibility

The Humboldtian classification of languages according to morpheme types has been often criticized for its failure to capture the real complexity of languages. Yet, it remains a useful parameter to attempt a preliminary classification of languages provided several other criteria are taken into consideration. The classification of languages into isolating, agglutinative and fusional languages proves especially valuable in the field of contact linguistics because it marks the boundaries of change and the outcomes of contact. Field (2002) has recently introduced morpheme types

¹⁷ The case of Ecuadorian Quechua is illustrative in this respect. The language lost in the last four centuries several obligatory categories that are preserved nowadays only in central Peruvian varieties. For an insightful study of this process of gradual restructuring, see Muysken (forthcoming).

as criteria for the identification of typological constraints on contact outcomes. I summarize hereunder the two principles of his proposal and bring them under the light of the main topic of this section: the relation between borrowability and structural compatibility.

According to Field (2002: 27f) the classification of languages based on morpheme types¹⁸ takes as points of departure: 1) an index of synthesis which shows the lesser or greater correlation between morpheme and word (i.e. how many morphemes build a word); and 2) an index of fusion which shows the amount of lexical or grammatical information contained in one morpheme (i.e. how semantic information is mapped on morphological material). When both indexes are considered, languages are of three types, namely: *isolating-analytic*, i.e. those languages which exhibit a univocal correlation between morpheme and word (one morpheme per word) as well as one semantic unit per morpheme; *agglutinating-synthetic*, i.e. those languages which exhibit a many-to-one correlation between morpheme and word (two or more morphemes per word) but still assign one semantic unit per morpheme; and *fusional-synthetic*, i.e. those languages which not only exhibit a many-to-one correlation between morpheme and word but also assign several semantic units per morpheme. Each language type has its own form-meaning units: isolating-analytic languages have independent words; agglutinating-synthetic languages have independent words, roots and agglutinating affixes; and fusional-synthetic languages have all of the above plus fusional affixes. The type of form-meaning units that may be borrowed from one language depends on the inventory of units of the recipient language. According to Field (2002: 42) this can be captured in two complementary principles:

The Principle of System Compatibility (PSC)

Any form or form-meaning set is borrowable from a donor language if it conforms to the morphological possibilities of the recipient language with regard to morphological structure.

The Principle of System Incompatibility (PSI)

No form or form-meaning set is borrowable from a donor language if it does not conform to the morphological possibilities of the recipient language with regard to morpheme types.

These principles allow us to chart all the possible form-meaning units that are borrowable from one language to another depending on the morphological typology of the recipient language. The following table adapted from Field (2002: 42) summarizes all compatible and incompatible units of a donor language with respect to the recipient language.

¹⁸ This classification is inspired originally in Comrie (1989).

Table 3.6. Morphological Typology and Borrowability of form-meaning units

| Typology of recipient language | Compatible forms of donor language | Incompatible forms of donor language |
|--------------------------------|--|--|
| Fusional-synthetic | Independent words, roots, agglutinating affixes, fusional affixes | Zero (all forms of donor language are compatible) |
| Agglutinating-synthetic | Independent words, roots, agglutinating affixes | Fusional affixes of donor language only |
| Isolating-analytic | Independent words, roots (analyzed as discrete words in an isolating recipient language) | Any affix of donor language (including agglutinating and fusional forms) |

Table 6 shows that borrowable form-meaning units range from free and bound morphemes, when the borrowing language is fusional-synthetic, to free morphemes and one set of affixes, when the borrowing language is agglutinating-synthetic, and free morphemes, when the borrowing language is isolating-analytic. The case of roots is somewhat ambiguous as they are bound morphemes but analyzed as independent words when the recipient language is isolating.

Summing up, the morphological profile of the borrowing language constrains the type of form-meaning units that may be incorporated from a source language. In principle no restrictions apply for the borrowing of lexical or grammatical items provided they match the morpheme type of the recipient language. The principles of system compatibility and system incompatibility set the limits of borrowing and antecede scales of borrowability. In other words, these principles provide the general rules for borrowing while the scales make specific predictions about lexical and grammatical categories within the space delimited by the principles. The constraints on borrowing based on morpheme types and lexical-grammatical categories may be further refined if the systems of parts of speech of the borrowing languages are included. The next section discusses the contribution of the theory of parts of speech to the refinement of the notion of structural compatibility and the resulting constraints on borrowing.

3.6.2. Parts-of-speech typology and structural compatibility

In section 3.2 I presented the theory of parts of speech developed by Hengeveld (1992) and Hengeveld *et al* (2004) and showed how languages are classified according to their parts-of-speech systems on the basis of two criteria: a) the undifferentiated use of lexical classes; b) the use of alternative strategies to replace absent lexical categories. Accordingly, languages may be classified in three basic

types: flexible languages which use one lexical class in different syntactic slots; differentiated languages which use one lexical class in one syntactic slot; and rigid languages which use morphosyntactic strategies instead of lexical items to fill one or more syntactic slots. Intermediate systems are expected when derived lexemes cannot be used in all the syntactic slots in which their base lexemes are used, in the case of flexible languages; or when the last class of lexemes on the hierarchy is a small closed class of items, in the case of rigid languages.

The general implications of Hengeveld's theory of parts of speech for borrowing were discussed in section 3.3 and are summarized as follows:

The parts-of-speech systems of the languages involved in the borrowing process are relevant to determining the type of borrowed lexical classes and the functions to which they are put in the recipient language. More specifically, the parts-of-speech system of the recipient language co-determines the borrowing of lexical classes from the source language and their functional adaptation in the recipient system.

Like the principle of system (in)compatibility, the implication of parts-of-speech theory for borrowing is based on the typology of the recipient and the donor languages. While the system of parts of speech of the donor language determines the lexical classes *available* for borrowing, the system of parts of speech of the recipient language determines what lexical classes are *borrowable*.

The matching of the principle of system (in)compatibility with the implications of the theory of parts of speech may help to predict what types of lexical borrowing are permitted across typologically different languages in the following terms:

- 1) Lexical flexibility in the parts-of-speech system of the recipient language increases borrowability to its maximum when this language is fusional-synthetic.
- 2) Lexical rigidity in the parts-of-speech system of the recipient language decreases borrowability to its minimum when this language is isolating-analytic.
- 3) Lexical flexibility or rigidity in the parts-of-speech system of the recipient language increases or decreases borrowability when this language is agglutinative-synthetic.

That is, lexical flexibility increases the borrowability of lexical items determined by the morphological type of the recipient language while lexical rigidity reduces the borrowability of these items. Flexibility and rigidity act therefore as factors promoting or inhibiting borrowability of lexical items from the source language in accordance with the morphology of the recipient language.

3.7. Summary

Linguistic constraints on lexical and grammatical borrowing can be ordered according to their applicability from the more general to the more specific: the principles of system compatibility and incompatibility, which determine the borrowable types of lexical and grammatical units on the basis of their conformity to the morphological profile of the recipient language; the scales of borrowability, which make predictions about the borrowing of word classes in terms of precedence in time and frequency; and the theory of parts of speech, which determine what content words are borrowable depending on the parts-of-speech systems of the recipient language.

These complementary sets of constraints are systematized in principles, hierarchies and hypotheses and are all interconnected. Hypotheses on lexical borrowing are applicable only in the framework of borrowing continua established by hierarchies. Hierarchies of borrowability are applicable only in the framework of the morphological profile of the recipient language. The following chapters show how these constraints interact and how I incorporate them in the analysis of the data.