1 Language contact, language learning, and language change

1.1 Introduction

Any account of human language must address a host of facts and observations about the structure and use of language varieties of the world, including non-standard varieties such as immigrant speech, pidgins, creoles, and mixed languages. Most linguists, as well as scholars who study different languages from other perspectives (e.g., psychologists, sociologists, etc.), would likely agree with Givón (1998:41) that human language combines two major ‘mega-functions’ of representation of knowledge and communication of represented knowledge. As the point of departure for a functional approach to human language, Givón (ibid.:42) proposes the evolutionary-adaptive approach in biology, in which structure (anatomy) and function (physiology) are studied not as separate from, but rather as complements to, one another. Rather than positing a single mutation in human kind that triggers the change from a protolanguage into a full human language (that is, a ‘catastrophic’ event which was the cause for the emergence of basic phrasal–clausal structure (Bickerton 2000:281)), functionalists such as Givón assume a gradual process whereby the link between proto- and full human language is gradual and incremental. Givón frames the distinction not in terms of language, but rather in terms of communication systems, differentiating between pre-grammatical and grammatical communication. He notes that ‘humans can – under a variety of developmental or neurological conditions – communicate readily without grammar, using a well-coded lexicon with some rudimentary combinatorial rules’ (1998:49). The differences between pre-grammatical and grammatical communication are expressed by Givón in terms of the structural, functional, and cognitive properties, shown in Table 1.1, which I have adapted slightly to express the differences as being a matter of degree rather than being dichotomous.

Naturally, there are counterexamples to the generalizations expressed in Table 1.1. For instance, there are languages that belong in the ‘grammatical’ category, such as Chinese, that have no morphology and are topic-prominent. Such cases notwithstanding, the lists of characteristics for pre-grammatical
and grammatical communication in Table 1.1 capture important tendencies, especially for immigrant language varieties, pidgins, and creoles.

In the creation of pidgins, the pre-grammatical code has been characterized as the incipient or unstable pidgin phase or the phase of interlanguage (Mufwene 1997:43–44) and grammatical code as the stabilized and expanded stages, two phases along a continuum of grammatical development. The incipient phase is characterized by one- or two-word utterances (holophrastic language) and pragmatic structuring (e.g., topic-comment) (Mühlhäusler 1986:135–147), whereas in the stabilized and expanded phases of development tense-aspect-mood markers, as well as other grammatical devices, develop (ibid.:147–205).

Both pre-grammatical and grammatical codes develop through communication in discourse. In both codes, frequency of use of certain items is crucial to the development of codes. That is, frequent repetition of certain patterns in discourse (i.e., in language use) is the basis of the sound–meaning mappings, pre-grammatical structures, and ultimately the development of a grammar code. In this sense, we can say that language develops structure through repetition in discourse. And although it is useful for the purpose of

1 I define a *pidgin* as a contact language variety that emerges in a situation in which speakers of two or more speech communities not sharing a common language need to speak with one another. A pidgin can be unstable or stable, typically has a lexicon from predominantly one language, and is characterized by having a morphological system that is reduced relative to its lexifier language.
understanding language to distinguish between levels, such as the lexical, the propositional, and the discursive levels (see Givón 1984), it is important to remember that children learn meaning in context (holophrastic language) and only later are able to map meaning onto sound chains independently of context (see, for example, Dromi 1987). That is, acquisition is largely a top-down process, at least initially, whereby humans make use of hippocampus-based episodic memory to learn the lexicon and pre-grammatical communication (Squire 1987; Squire and Zola-Morgan 1991; Petri and Mishkin 1994 cited in Givón 1998:45).

From the foregoing discussion, the picture that emerges is that the basis of the development of pre-grammatical as well as grammatical code is repetition in discourse. This view is consistent with Hopper’s (1987, 1988, 1998) view that discourse is the \textit{sine qua non} for the understanding of grammar. Hopper (1998:155–156) describes the basis of his Emergent Grammar model as follows:

Emergent Grammar is a conception of linguistic structure that proposes to bypass the problem of a fixed, pre discourse adult grammar, with its attendant problems of necessarily ‘degenerate’ input for both child acquisition and adult maintenance of language, by relocating structure, that is, ‘grammar’, from the center to the periphery of linguistic communication. Grammar, in this view, is not the source of understanding and communication but a by-product of it. Grammar is, in other words, epiphenomenal . . .

The notion of Emergent Grammar is meant to suggest that structure, or regularity, comes out of discourse and is shaped by discourse in an ongoing process. Grammar is, in this view, simply the name for certain categories of observed repetitions in discourse. It is hence not to be understood as a prerequisite for discourse, a prior possession attributable in identical form to both speaker and hearer.2

One crucial aspect of this approach is that frequency underlies the formation of structure, or templates. However, it also has to be acknowledged that frequency would not be as important as it is if the human mind did not function as it does. Among myriad other complex things, the human mind functions as a highly sophisticated pattern recognizer. Assuming that, in dealing with linguistic and other input, our minds work to create processing short cuts, these can be regarded in language learning as pattern generalizations over

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2 Hopper (1998:156) goes on to state that ‘[i]ts forms are not fixed templates but emerge out of face-to-face interaction in ways that reflect the individual speakers’ past experience of these forms, and their assessment of the present context, including especially their interlocutors, whose experiences and assessments may be quite different.’ I conceive of Emergent Grammar more along the lines of Goldberg (1999:200), who sees grammar as emerging primarily during initial acquisition, from a combination of linguistic input, the functional demands of communication, and general cognitive abilities and constraints. See section 1.3 for more discussion of Emergent Grammar.
linguistic elements, extracted out of the input received by speakers in discourse. If the nature of the input changes, so too may the frequency of use of a given item and, in turn, the corresponding patterns. The essential point is that language is a dynamic, ever-changing system that represents knowledge for the purpose of communication and that in such a system a varying amount of structure (i.e., templates, fixed to a greater or lesser degree) exists at any given time. In the following chapters, I explore how such an approach accounts for the formation of speech varieties such as immigrant speech, pidgins, and creoles.

Pattern recognition and its role in language form, function, and change involve the notion of prototype because with it we can understand the role of frequency of occurrence in language use and how structures and classes emerge. Givón follows the notion of Roschén prototypes: membership in a natural category is defined by a set of features, some more critical than others for category membership. Thus, there can be a gradient of membership, whereby critical features are strongly associated with membership and may imply having other, less critical features. Moreover, the vast majority of token-members of such a natural category tend to cluster around a categorial mean, i.e., around the prototype. An example of a prototype is the notion of topic (defined here as the clause-initial element) being definite in discourse. For Spanish, López Meirama (1997) reports on statistical data she collected on one-argument Spanish clauses, where roughly 85 percent of the clause-initial subjects were high on the definiteness hierarchy (noun phrases realized as proper nouns, personal pronouns, or nouns with a deictic determiner) and around 90 percent of clause-noninitial subjects were relatively low on the hierarchy (noun phrases without determiner). For Spanish, then, a prototypical topic is high in definiteness. In other words, definiteness is a critical feature for the prototype of a topic in Spanish. However, in one-argument Spanish clauses definiteness is not necessarily a feature of subjects since many indefinite noun phrases can be subjects.

It is important to note that the notion of prototypes is not categorical. There is gradient membership, which implies that there is variation. A prototype assumes at least some variation within degrees of membership in a certain category or class. Such variation is indicative of dynamicity of a linguistic system, and not surprisingly this is also the case in fields such as biology, in which variation is basic:

Variation is the heart of the scientific study of the living world. As long as essentialism, the outlook that ignored variation in its focus on fixed essences, held sway, the possibility of evolutionary change could hardly be conceived, for variation is both the product and the foundation of evolution. Few other sciences make variation as a primary focus of study as does evolutionary biology. (Futuyma 1986:82 cited in Givón 1999:92–93)
In linguistics, variation has been taken most seriously in socio-linguistics and in functionalist-oriented approaches to language. Drawing on insights from these traditions, as well as on those from evolutionary biology, Croft (2000) and Mufwene (2001) construct the notion of language as a species, defined not by one ‘essentialist’ trait, but rather by a behavioural property, in much the same way as a species is defined in biology. This idea is taken up in the next section.

1.2 Language as species

Both Croft (2000) and Mufwene (2001) approach language change from a population-genetics perspective, viewing the process within real-time situations in which socio-historical aspects of change are considered the ecology of a language. Croft (2000:13–15) explains the differences between the population-theoretical and the above-mentioned essentialist perspective: ‘In the essentialist view of a species, each species has immutable essential structural properties that identify it . . . That is, the essentialist view is that a species instantiates an abstract type.’ One major problem with this view, Croft notes, is that there are reproductively isolated populations (known as sibling species) that cannot be distinguished structurally according to the essentialist definition, as well as populations (known as polytypic species) that are structurally very different among themselves as per the essentialist definition, yet reproduce among themselves. In the population theory of species, ‘[a] species consists of a population of interbreeding individuals who are reproductively isolated from other populations’ (ibid.:13). In this view, there is no species type, defined by an abstract structure trait, but rather a fundamental property that the individuals of a given population share, namely, that they are reproductively isolated.

Corresponding to the essentialist view of a species is taxonomic classification, based on similarities and/or differences with regard to structural traits. Phylogenetic classification, on the other hand, corresponds to the population-theoretical view of a species. This type of classification is historical: ‘[A] proper phylogeny requires the differentiation of traits based on their history. If two taxa share a trait, it could be a retained trait from the parent population (a sympleksiomorphy), or it could be a shared innovation of the two taxa (a synapomorphy). Only a shared, innovated trait can justify grouping the two taxa together phylogenetically’ (Croft 2000:15).

Assuming a population-theoretic definition, languages are related phylogenetically, i.e., in terms of their historical classification. To illustrate this point, Croft points out linguistic analogues to sibling and polytypic species in biology. Two languages such as Hindi and Urdu, for example, would be sibling languages (analogous to a sibling species) in that they are phylogenetically related
to the point that many consider them dialects of the same language; yet they are perceived by at least one major group of speakers to be distinct, due most ostensibly to religious differences: Urdu speakers are Muslims, Hindi speakers are Hindus. Moreover, Urdu uses Persian and Arabic as its source for neologisms, whereas Hindi draws on Sanskrit for this. Thus, their definition of language in this case depends on cultural and lexical, as well as other, differences.

One instance of a polytypic language is Chinese, whose dialects, though often mutually unintelligible, share the same writing system and political unity, factors which suggest identification as a single language. In this respect Wardhaugh (2002:31) comments that speakers of Cantonese and Mandarin will say that they speak different dialects of the same language. However, if one speaker knows only Cantonese and the other only Mandarin, they will not be able to talk to one another, but if they both are literate they will be able to communicate with one another through their shared writing system. The insistence by speakers of these two varieties that they are dialects of Chinese is grounded not only in the shared writing system, but just as importantly in the strong shared tradition of cultural, social, and political unity. Concepts involving culture, society, and politics, then, turn out to be essential parts of their definition of language.

A possible example of a polytypic language within the Iberian Romance family may be Portuguese, whose major varieties (Brazilian and Continental Portuguese, BP and CP) are quite different from one another on various levels. Here reference is made to the oral varieties rather than the written ones. In phonology, unstressed syllables are reduced further in BP than in CP (McCune 2005), unstressed /e/ in BP raises to /i/ but not in all varieties of CP, and /t/ and /d/ are palatalized preceding front vowels in BP but not in CP (te dou o dente or dou-te o dente ‘I give you the tooth’ [či-dou-džen-či] in BP vs [dou-təu-dëñ-tə] in CP). In morphosyntax, in BP there is variable agreement of gender and number in the noun phrase, the same pronouns are used for subjects and objects in some cases (ele mató ele mesmo [lit. he killed himself ‘he killed himself’]), the conjugation system is reduced such that 2sg, 1pl, and 3pl forms are often reduced to the 3sg form (the default), and there is a greater presence of overt subject pronouns, among numerous other traits (Mello, et al. 1998; see also Guy 1989 and Naro and Scherre 1993). Moreover, the order of clitic BP pronouns is always pre-verbal with finite verbs, whereas in CP they are immediately post-verbal in declarative main clauses. BP also allows null objects more commonly than does CP (Schwenter and Silva 2002, 2003; and Schwenter 2006). Lastly, there are various differences on the lexical level and in orthographic conventions. All these differences notwithstanding, the two varieties are still seen as forming part of a single
language, due arguably to the close cultural and social ties between Brazil and Portugal.

In the case of the two Lusophone countries of Brazil and Portugal, the political differences have not led to the creation of two separate speech communities. However, the sentiment of national identity can play a role in the definition of a speech community, affecting how two similar speech varieties are defined. For instance, even though speech varieties on either side of a national border may be mutually intelligible and even belong to the same dialect, they may officially be considered different languages. That is, assuming two languages, language X and language Y, where each corresponds to a different country (see Figure 1.1), if the standard variety for X and Y is X₁ and Y₁, respectively, and if X and Y each have various varieties, and one of each is X₄ and Y₄, respectively, each of which is geographically the closest to the political border B, it may well be that, although the varieties X₄ and Y₄ are mutually intelligible, they are considered different languages due to the political boundary. There are various situations that correspond to the scenario just described. One is on the Dutch–German border, where the language varieties immediately on either side of the border are mutually intelligible, although Standard German and Standard Dutch are not. Nevertheless, the variety spoken just inside the Dutch side of the border is considered a dialect of Dutch, just as the variety spoken on the German side of the border is considered a dialect of German (see Figure 1.2). The obvious key factor in these cases is national and political identity (see Wardhaugh 2002:30–31).
Thus, a speech community is often defined not necessarily by linguistic factors, but rather by cultural, social, or political ones (see ibid.:27–32).

Given the importance of social, cultural, and political considerations in the definition of a language, and following the population-theoretic definition of a species, Croft follows Chambers and Trudgill (1980) in suggesting a social, rather than a linguistic, definition of a language. The population-theoretic definition of a language implies that ‘every speaker perceived every other speaker as someone he or she should be able to communicate with by using what they perceive as the same language’ (Croft 2000:18). An important part of this definition is the interaction between individuals in the community of speakers. Croft states that ‘[c]ommunicative interaction depends not only on the degree of structural similarity of the varieties spoken, but also on the social behavior of the speakers. Serbian and Croatian are mutually intelligible to a high degree, but many speakers do not communicate with the opposite community due to the recent political changes in former Yugoslavia’ (ibid.:19). Thus, the analogue of reproductive isolation is, in the case of language, *communicative isolation*, and interbreeding in a biological population would equate to *conversational intercourse* in a speech community.

If a biological species is defined as a set of reproductively isolated individuals and a linguistic species as a set of communicatively isolated individuals, then in Croft’s view the notions of geographical race and deme in biology correspond to a social network in a given communicatively isolated group. A geographical race is a subpopulation of a species defined geographically, and typically has diverged structurally to some extent, though not enough to impede interbreeding. A deme, less inclusive than a geographical race, is a subpopulation within a species which, as with a geographical race, has a high likelihood of interbreeding and a lower likelihood of breeding with members belonging to adjacent demes (Croft 2000:19). Analogously, a social network is ‘a group of people who are most likely to communicate with each other, and not so much with those outside the network’ (ibid.:20).

Drawing on Hull’s (1988) general model of selection, developed to shed light on the evolution of concepts in science, Croft (2000:38) proposes the linguistic analogues to those of biology and science, shown in Table 1.2. The left-hand column contains the terms of Hull’s generalized theory of selection, with an analogue of each from biology in the centre column, and from language in the right-hand column. I include Mufwene’s concepts where they correspond to and/or extend those proposed by Croft.

There are some differences between Mufwene’s and Croft’s terminology and conceptualizations. Mufwene (2001:151–152) sees a language as akin to a parasitic, symbiotic kind of species: ‘Parasitic species are a fairly adequate
Table 1.2. *Concepts involving selection in biology and language, and the generalized theory of selection*

<table>
<thead>
<tr>
<th>Generalized theory of selection</th>
<th>Paradigm instantiation of selection in biology</th>
<th>Paradigm instantiation of selection in language</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>replicator</strong> (spatiotemporally bound individual, i.e., a token; it has structure)</td>
<td>gene</td>
<td>lingueme (Mufwene’s feature)</td>
</tr>
<tr>
<td>replicators in a population</td>
<td>gene pool</td>
<td>lingueme pool (Mufwene’s feature pool)</td>
</tr>
<tr>
<td>structured set of replicators</td>
<td>string of DNA</td>
<td>utterance</td>
</tr>
<tr>
<td>normal replication</td>
<td>reproduction by interbreeding</td>
<td>utterance production in communication, i.e., communicative intercourse (see also Mufwene 2001:150)</td>
</tr>
<tr>
<td>altered replication</td>
<td>recombination, mutation of genes</td>
<td>mechanisms for innovation, causally motivated by functional factors (e.g., phonetic or conceptual factors) (Mufwene’s (2001:12) restructuring)</td>
</tr>
<tr>
<td>alternative replicators</td>
<td>alleles</td>
<td>variants</td>
</tr>
<tr>
<td>locus for alternative replication</td>
<td>gene locus</td>
<td>linguistic variable</td>
</tr>
<tr>
<td>interactor</td>
<td>organism (Croft envisages a plantish organism here, Mufwene a parasitic organism)</td>
<td>speaker (including grammar) (Mufwene’s individual speaker)</td>
</tr>
<tr>
<td>hybrid interactor</td>
<td>hybrid organism</td>
<td>bilingual speaker (including grammars) (Croft 2000:201)</td>
</tr>
<tr>
<td>environment</td>
<td>ecological environment</td>
<td>social-communicative context (Mufwene also includes here the intra-linguistic, the inter-linguistic, and the socio-historical contexts)</td>
</tr>
<tr>
<td>selection</td>
<td>survival and reproduction of organisms</td>
<td>entrenchment of convention by speakers and its propagation in communication (Mufwene’s (2001:147) group selection)</td>
</tr>
</tbody>
</table>
analog chiefly because a language does not exist without speakers, just like parasites do not exist without hosts. The life of a language is, to borrow from Brown (1995:191), “closely tied to the distribution of [its] hosts, which provide many of the essential environmental conditions necessary to [its] survival and reproduction.” In addition, Mufwene views language transmission as taking place not necessarily vertically on the parent-to-offspring model, but rather primarily in a horizontal fashion. Moreover, language transmission according to Mufwene can be variably polyploidic. Polyploidy is form of rapid speciation, most commonly found among flowering plants, which creates the incipient stages of a new species in two or three generations. The analogue for polyploidy in language change is, at the most basic level, the creation of idiolects in individual speakers, and on a higher level the creation of pidgin or creole languages within just one or two generations.

Croft agrees that the parent-to-offspring model does not capture language transmission or language change, but uses a different analogy. He suggests that languages can have multiple parents in language transmission, a process he likens to the phenomenon of introgression, whereby if two plant species hybridize, and if one hybrid organism then backcrosses with one of its parent species, it thereby introduces genes from the other species into the gene pool of the first species (Croft 2000:198, 238). Although there are differences in their respective views, both authors agree that the parent-to-offspring model falls short of capturing language transmission accurately, and that for language evolution there are more appropriate models from biology, namely plant reproduction and parasite behaviour.

An illustrative example in which the parent-to-offspring model does not adequately account for the facts is the emergence of pidgin Portuguese, to be discussed in chapter 3 below. In the latter part of the fifteenth and the first part of the sixteenth century, Africans came to make up 10–15 per cent of the population in southern Portugal (Ramos Tinhóraõ 1997:92, 102–103), and it is reasonable to assume that the portrayals of their speech found in popular plays of the era reflect roughly the manner in which Africans were then speaking Portuguese. The Portuguese used by the vast majority of first-generation Africans at that time was learned naturalistically in communication with native Portuguese speakers, most of whom we can assume to have been adults. As I will discuss, some of the key structures in the untutored L2 Portuguese are found in portrayals of African Portuguese in plays of some fifteenth- and sixteenth-century playwrights. We can reasonably assume that the varieties of Portuguese spoken by Africans in Portugal were conventionalized in adult-to-adult communication and that these served as the basis for pidgin Portuguese, which in turn became the basis for the Portuguese-based creoles. The conventionalized features of these varieties were the result of ‘negotiated’