Typologizing grammatical complexities *or*

Why creoles may be paradigmatically simple but syntagmatically average[1]

Abstract

An important theme in work attempting to situate creoles with respect to non-creoles typologically is the extent to which it can be said that creole grammars are relatively simple from a cross-linguistic perspective. Work arguing for and against this position has generally focused on an examination of the synchronic grammars of creoles in order to show that they are either simple or complex in one way or another. By contrast, there has not been a detailed examination of two important related questions: How can we typologize grammatical complexities themselves? And, once we have typologized them, will we find that different types of complexities are affected differently during creolization? This paper examines these questions and proposes that distinguishing between complexities derived from paradigmatic structure as opposed to syntagmatic structure may yield important insights into apparent patterns of simplicity within creoles, in particular with respect to which complexities we might expect to be readily transferred from source languages into an emerging creole.

Keywords: complexity, typology, creolization, jargon, paradigmatic, syntagmatic

1 Introduction

McWhorter's (2001a) provocative title, 'The world's simplest grammars are creole grammars', is emblematic of an important line of work within creole studies that suggests contact languages are often simplified with respect to the source languages from which they draw lexical and grammatical material (though McWhorter, of course, makes an even stronger claim).[2] There is no denying that this basic idea is controversial, with scholarly criticisms ranging from those which are not willing to accept it without qualification but would not necessarily reject it entirely (see, for example, Plag (2008:117, fn.4)) to those which characterize it as resting on a fundamentally invalid mode of argumentation (DeGraff 2005).

This paper, too, will take up the issue of simplicity in creole grammars. However, I hope to sidestep many of the controversies associated with it by focusing not directly on the question of whether or not one grammar is simpler than another according to some metric but, rather, on the nature of different *kinds* of complexities that may be found in grammars. My core argument will be that we should be wary of treating all complexities equally when examining the issue of simplification and that there is reason to expect some kinds of simplifications to be more common under creolization than others. The argumentation here will be largely anecdotal, relying on cases I believe to be illustrative and embedding them in an abstract model of transfer, rather than attempting to create a rich, balanced data set. Because of this, this paper should be taken as suggestive of a research program rather than as a definitive argument in its favor. An additional caveat is that the focus will be on one relatively limited problem—how complexities can be transferred into creoles—leaving many other interesting aspects of creole complexity largely unaddressed.

This paper begins by presenting an abstract model of creolization (section 2) that will inform the rest of the discussion. It then develops a two-way typology of grammatical complexities in section 3 which proposes a distinction between paradigmatic and syntagmatic complexity. How this typology is relevant to the issue of the transfer of complexity is exemplified with two short illustrative examples in section 4 and is then elaborated with examples of phenomena more relevant to the issue of creole complexity in sections 5 and 6, which focus on paradigmatic and syntagmatic complexities respectively. Section 7 discusses the limitations of the scope of explanation provided by this work, both in terms of fundamental explanatory constraints of the assumed model and of the limited nature of the surveyed data. The conclusion of this paper, section 8, attempts to position the overall argument with respect to the larger debates on the status of simplification in creolization and suggests a role that work on this and related topics may be able to have in bringing together work on creoles with work in linguistic typology.

The general orientation in this paper is descriptive, as opposed to formal, and focused on language as a social phenomenon rather than a mental one. My adoption of the latter perspective, to some extent, guides my adoption of the former one. Since most formal models of grammar are concerned precisely with modeling the knowledge of individual speakers, they are not well-suited to modeling the communal aspects of language. The focus on language as a social phenomena is not intended to detract from studies examining creoles and creolization from a mentalistic perspective, but rather to complement them (see section 7).

2 Modeling the creolization 'bottleneck'

2.1 Introducing the model

If creoles are 'simple'—or even just typologically identifiable—then this must be, in some way, due to the sociohistorical circumstances which resulted in their creation. Of particular interest here will be the idea that, at some point during a possibly prolonged process of creolization, transmission of grammars among the various populations whose descendants would ultimately speak a creole passed through some kind of 'bottleneck'. This bottleneck would have, by assumption, produced a kind of transmission that is qualitatively distinct not only from 'canonical' transmission of language between generations but also from the transmission involved in successful second language acquisition which, while not resulting in full grammatical transmission, does have an end stage wherein the transmitted grammar can be viewed as a variant of the original language.

That there is some kind of distinctive bottleneck involved in creolization is not completely uncontroversial, of course. In particular, it is not obviously consonant with the views of what can be termed the 'superstratist school' (McWhorter 2003:205)), most prominently argued for in the work of Chaudenson (1992:53–177) and Mufwene (2001) (see also Ansaldo and Matthews (2007)). Nevertheless, understood broadly, it has been widely adopted in various forms, constituting an important part of the Language

Bioprogram Hypothesis (Bickerton 1984), the Relexification Hypothesis (Lefebvre 1998), the more recent Interlanguage Hypothesis (Plag 2008), and, of course, work done in the context of the idea that creole grammars are unusually simple (McWhorter 2001a:125–126)). It is perhaps best known via Thomason and Kaufman's (1988:10) terminological distinction between *normal* and *imperfect* transmission.[3]

Each of these lines of research conceives of the bottleneck differently, but they nevertheless adopt a view that some kind of reduced transmission is involved in creolization. I use the bottleneck metaphor here because it will prove particularly apt for later discussion wherein a central question will be which kinds of complexities would be expected to pass through a particular kind of imperfect transmission process and which would not—though, in using it, I do not mean to suggest it is the only way to conceptualize the process. The idea that there could be such a bottleneck is agnostic in and of itself regarding the precise source of that bottleneck—whether, for example, it is due primarily to limited access, as in the Language Bioprogram Hypothesis model, or whether sociolinguistic constraints may also be involved (see, for example, Baker (1990, 2001) and Smith (2006) regarding precisely what 'target' populations participating in creolization intended, not necessarily consciously, to achieve with respect to the ambient superstrate).

Using familiar creolist terminology, one possible label for this bottleneck is *pidginization*, assuming we adopt an imperfective reading of the term focusing on the process through which a pidgin develops (as opposed to perfective reading focusing on a resulting stable pidgin) (Hymes 1971:70)). However, I wish to avoid that label here since I am most interested in the earliest stages of pidginization before a normalized pidgin has developed. While *pidginization* encompasses this stage of the development of a contact variety, it also goes past this to cover the process through which a particular contact variety becomes subject to community norms (regardless as to whether or not it becomes a full-fledged language) (see, among others, Bakker (2003:4–5) for a brief overview of properties typically attributed to pidgins, including the idea that they are normalized—more detailed discussion can be found in Thomason and Kaufman (1988:167–174)).

Accordingly, when focusing on the early stages of pidginization, before norms become firmly established, I adopt the term *jargonization* here. In using this term, I build on the sense of *jargon* wherein it is used to refer to a stage in the development of a contact variety preceding the development of a pidgin, 'in which people experiment with forms and structure, before any norms establish' (Bakker 2003:4)).[2] My primary aim in exploring the process of jargonization will be to model the *structure* of the contact varieties it is susceptible to producing and to, thereby, see what sort of predictions we might make regarding the sorts of languages that might ultimately emerge when this process applies.

To make the discussion clearer, figure 1 schematizes a three-stage model for creolization, involving a jargon stage, a pidgin stage, and a creole stage. The model is heuristic in nature, deliberately abstracting away from many known complexities, and is meant to establish useful points of reference rather than to be treated as a full-fledged theory. A discrete pidgin stage is included for completeness, though nothing crucial in the following argumentation hinges on whether or not a jargon passes through an identifiable pidgin stage or shifts directly into becoming a creole (see, for example, Dahl (2004:110–111) for discussion of this point in the context of simplification). The key distinction in the present context is between normalized varieties like pidgins and creoles against the non-normalized jargon. In presenting the model in figure 1, I do not mean to suggest that it is particularly innovative as it is quite clearly a variant of the classic life-cycle model of pidgins and creoles (see Bakker (2008:131–132) for overview discussion). I also do not mean to suggest that this is the only pathway through which a language with creole-like properties can develop, as it is clear that there are alternate routes to such a state (see, for example, McWhorter (2007) as well as section 8.2).

[Insert figure 1 about here]

A key claim expressed in figure 1 is that grammatical simplification—at least of the extreme kind argued for in McWhorter (2001a)—is not a product of pidginization or

creolization in their narrowest possible senses but, rather, of the jargonization phase of the process—that is, simplification takes place before the contact variety has been normalized. The logic behind this will be made clearer immediately below in section 2.2. However, as we will see, the range of possible simplifications to be examined below will be rather narrower than the apparently global notion simplicity discussed by McWhorter (2001a)—and implied by the figure—in two ways. First, the focus will be on *limitations on the transfer of complexities* rather than other possible kinds of simplification effects. Second, it will be argued that a model like figure 1 predicts simplification only for one class of complexities, which, here, will be labeled *paradigmatic* (see section 3).

To give sufficient context to the discussion below, it is important that I make clear what is meant by *transfer* in the following discussion, given the fact that, as pointed out by Siegel (2008:106–108), the term has been used in a variety of ways across various subfields of linguistics. Here, I adapt a very broad sense of the term as 'transmission of material or elements from one language to another' (van Coetsem 2000:51) to the present domain of focus and use it to refer to transmission from any of the languages in a contact situation into an emerging jargon. In using this term, I do not presuppose that transmission must always be completely successful in the sense that the relevant elements from the source language are fully replicated in the jargon. Rather, I am interested in coming to a more precise understanding of the logical prerequisites under which some degree of successful transmission can possibly occur—whether or not it actually does.

The application of the notion of *bottleneck* in the context of this sense of transfer is tied to the fact that the social situation in which a jargon forms will be much less conducive to successful transfer than environments supporting normal first-language—or even second-language—acquisition. A key question to be raised in this regard here is which kinds of linguistic material would be expected to be able to pass successfully through such a bottleneck and, thereby, enter a jargon in ways that would allow them to eventually become part of a pidgin or creole, and which kinds would not.

2.2 What is a jargon?

In order to understand the kinds of simplification that may occur during jargonization, it is important to develop a relatively concrete definition of a jargon in structural–grammatical terms. Ideally, such a definition could be set in clear opposition to comparable definitions of a pidgin and 'full-fledged' language (the latter encompassing, of course, creoles), though, given the obvious difficulties in defining these terms, that will not be possible here. However, we can say that the process of normalization gives both pidgins and creoles a relatively high degree of structure—in the sense that their grammars would be characterized in part by the presence of paradigmatic oppositions among their constituent units.

This is not true of jargons, where the crucial properties of a given linguistic element revolve around whether or not it is useful in a given context. The characterization of 'pidgin genesis' (here: jargonization) in Thomason (1993:286), for example, is helpful in this regard: 'all the participants are making guesses, and "right" guesses are those that are understood by everyone.' This characterization suggests an initial definition of a jargon as simply 'whatever is understood', though it will be necessary here to not simply give a definition of a jargon in terms of its social use, but, rather, its grammatical content and structure—to the extent that it has any.

In order to do this, I believe that a useful notion is that of the *lingueme*, as developed by Croft (2000:200–205), which can be defined as, 'a unit of linguistic structure, as embodied in particular utterances, that can be inherited in replication (Croft 2000:239))' (see also Croft (2003) for a discussion of this notion specific to language contact phenomena).[5] In Croft's characterization, linguemes can either be substantive, i.e., constituted of a form-meaning pairing, as in, for example, a word, or schematic, i.e., constituted of only form or meaning, as in, for example, a phonological category like *labiovelar stop* or an abstract syntactic construction like *ditransitive*. Croft's sense of *replication* is quite broad, encompassing intergenerational transmission of linguistic units under so-called 'normal' language transmission and borrowing, among other possibilities.

Here, I will be primarily concerned with only one possible kind of replication: transfer (in the sense discussed in section 2.1).

Using the notion of the lingueme, we can give a relatively straightforward definition of a jargon as *an enumeration of the substance linguemes that are understood in a given jargon's sociolinguistic setting*. In informal terms, we can think of a jargon as being akin to a traveler's phrasebook: It comprises descriptions of utterances that do something rather than a system for generating and interpreting an open-ended set of utterances expressing an open set of conceptualizable meanings as found in a full grammar (whether understood in its descriptive or mentalistic sense). Importantly, I use a term like *jargon*, not to claim that there is now—or ever has been—a contact variety which perfectly fits the definition just given. Rather, it is intended to be an idealized reference point (useful for linguistic analysis), clearly distinguishable from idealized pidgins and creoles.

Two distinctive properties of jargons, in particular, here will be of interest: The fact that they are not normalized and the fact that they are not grammatically structured but merely consist of an *enumeration* of linguemes. The idea that they are not normalized has already been discussed insofar as what makes a communicative act 'correct' in a jargon is simply that it is understood. Notions like grammaticality and ungrammaticality are irrelevant, and what is relevant instead are interpretability and uninterpretability. What is meant by 'structured' builds on the sense of *structure* as found in, for example, Saussure (1995[1916]:166–169), rather than the typical generative conception of the term. That is, I am not interested in abstract mental structures but rather a system of grammatical oppositions.

Of course, it is easy to imagine a contact variety which seems closer to an idealized jargon than a pidgin or creole but which, nevertheless, contains some structural oppositions. For example, perhaps, it is relatively easy to imagine that a consistent (and even normalized) strategy for negating a proposition could develop in a jargon-like variety, creating a structural opposition between positive and negative statements, where, otherwise, structural oppositions would be difficult to find. This is why a term like *jargon* here must be understood as a linguist's idealization, intended to aid conceptual

discussion, rather than as a bounded category into which we can cleanly place a specific subset of contact varieties.[6]

We should also keep distinct the idea that a jargon itself, as a social object, may not have structure, from whether or not speakers of a jargon intend to produce a structured object or whether hearers of it structurally analyze the linguemes they encounter. It seems hard to imagine that this would not occur, at least to some extent. However, the individual production and perception of grammatical structure in a jargon is a distinct concern from the extent to which the speaker community of any contact variety shares a common conception of its structure. By definition, in a jargon, the speaker community has no such common structural model of the variety.

Having defined the term jargon, as understood here, in the next section, I will introduce a two-way typology of grammatical complexities. A key claim of the rest of the paper will be that, if we assume that creolization involves a jargonization stage, then different outcomes should be expected for each class of complexity in terms of their transferability into a jargon and, thereby, ultimately, a creole.

3 Two kinds of complexity: Syntagmatic and paradigmatic

Work like McWhorter (2001a) (see also McWhorter (2007) and Parkvall (2008)) has focused on comparing different sets of languages for complexity across varying dimensions of grammar rather than theorizing on the nature of complexities themselves (though, see Karlsson, Miestamo, and Sinnemäki (2008:vii-ix) for brief application of a general theory of complexity to some notions of linguistic complexity and Nichols (2009) for a development of a metric of grammatical complexity which bears some similarities to the approach taken here). Here, I focus largely on this latter problem—looking at the nature of different kinds of complexities—insofar as it may shed light on how we go about the former problem—cross-language comparison—in the context of creoles. Following ideas found in Moravcsik and Wirth (1986:7)), I believe one useful typology of linguistic complexities when looking at issues of creole typology, can be delineated as in (1), which gives definitions of two types of structural complexities in grammars.

(1) a. **Syntagmatic complexity:** Complexity deriving from the structure of a given linguistic object.

b. **Paradigmatic complexity:** Complexity deriving from the range of subdistinctions available within a particular, grammaticalized (in a broad sense) linguistic category.

The two kinds of complexities introduced in (1) by no means exhaust the typological space of complexity in language. A third possible candidate is the typological rarity or abnormality of the kind that is sometimes subsumed under the label *marked* (Haspelmath 2006:33–37)). There are also cases of clearly non-structural complexities. For example, the actual phonetic substance associated with a given phoneme in some language may be more complex in its articulation than the phonetic substance associated with some other phoneme—for example, voiced fricatives are more articulatorily complex than voiceless ones (Ohala 1999). We could, therefore, also speak, in principle, of *substantive* complexities in addition to structural ones.

In this paper, only the two kinds of structural complexities in (1) will be the focus of the discussion. I believe they are particularly relevant to understanding the possible nature of creole 'simplicity' because, under a model of creolization involving a bottleneck in transmission (see section 2), they can be predicted to be affected by processes of transfer in quite distinct ways. I will discuss and exemplify each of these types of complexity in more detail, using examples relevant to the study of creoles, in section 5 and section 6, which discuss paradigmatic and syntagmatic complexities respectively. First, I introduce them briefly in this section using concrete examples for the purposes of clarity and, in section 4, informally model what would be required for each class of complexity to be transferred into a creole in two relatively simple cases.

In the paradigmatic domain, the simplest possibility is where, within a given grammatical category, the relevant paradigm contains only one form, while paradigms with more forms can be considered more complex. For example, if we look at number marking on nouns, we find a paradigmatic complexity in English wherein nouns can have

two forms, singular and plural, while Edo shows no such complexity, since it generally lacks plural marking on nouns (Dunn 1968:207). Of course, the case of the English singular/plural opposition is still not particularly complex, and one can find much more extreme cases, for example, as in the inflectional categories of Latin nouns where case, number, gender, and declension class all play a role in the overall system, resulting in more than seventy different form classes (Blake 2001:4) (though, for any given noun, the number of distinct inflectional forms will be closer to ten or so).

In the syntagmatic domain, we can understand a simple structure to be one wherein there is a straightforward one-form–one-meaning correspondence. Thus, a word like *cats*, which can be unproblematically morphologically segmented into *cat* and *s* would be simpler syntagmatically than, say, *children*, where such simple segmentation is not possible because of the shift in the stem vowel from the singular o the plural form. Similarly, negation in a language like French, which is marked discontinuously in the *ne* VERB *pas* construction, would represent a syntagmatically more complex structure than one where negation is marked with a single element. Though these examples are drawn from morphosyntax, syntagmatic complexity, as understood here, should not be conflated with syntactic complexity, since it can encompass syntagmatically complex aspects of phonological structure as well (as will be made clear in section 6.2.2).

I refer to patterns like those just exemplified as *complexities* because of the focus of this paper on patterns of simplification. However, they could just as well be referred to with different terms such as syntagmatic and paradigmatic *structures*. Calling them complexities is intended to highlight that what is of interest in the present context is the way a given structure may be more or less complex than some other comparable structure. Thus, even the relatively simple English singular/plural distinction can be considered a complexity insofar as it represents a more complex situation than one where number is not coded on the noun. The word 'complexity' then is used to refer to a way of looking at a linguistic pattern wherein its deviations from logically possible simpler structures are in focus, rather than as a kind of judgement that some structure has surpassed the threshold beyond which it cannot be reasonably considered to be 'simple'.

4 How to transfer complexity

4.1 Introduction

There are a number of imaginable ways for creoles to develop complexity in a particular area of their grammar. For example, they can simply acquire complexity through pathways of historical change that can affect any language. Complexity which develops in this way would not be expected to be qualitatively different for creoles since it would not be a product of creolization itself. Another route to developing complexity more specific to creolization would involve the transfer and reanalysis of structures and processes traceable to a creole's source languages which are then reassembled in ways that create innovative complexities not found directly in the source languages. This seems to be the case, for example, with word-level prosody in Papiamentu (see section 5.3), the patterns of allomorphy found in the Haitian determiner (see section 5.4.3), or serial verbs in Saramaccan (McWhorter 2008a).

In this paper, however, I am interested in another possible route to the development of complexity in a creole: The transfer of a complexity from a source language into a creole during its jargon stage. In section 3, two classes of complexities were introduced, syntagmatic and paradigmatic. In (2), I outline scenarios through which each of these kinds of complexities would be transferable into a developing jargon. These scenarios will be initially exemplified in sections 4.2 and 4.3 and discussed in more detail with regard to phenomena of more relevance to creoles in sections 5 and 6.

(2) a. **Syntagmatic complexity:** An input lingueme's complex syntagmatic properties are introduced into the jargon and correctly interpreted by the jargon community.

b. **Paradigmatic complexity:** A *set* of linguemes evincing a paradigm's (in a broad sense) structure is introduced into the jargon and the members of the set are correctly interpreted in ways which are sufficient to allow them to be analyzed as paradigmatically opposed during pidginization or creolization.

The scenarios in (2) immediately reveal an asymmetry holding between the two classes of complexities. Paradigmatic complexities can only be transferred if the right *set* of linguemes is transferred. Syntagmatic complexities only require successful transfer of one lingueme. This is not to say that transferring a syntagmatic complexity is necessarily easy. For instance, the discontinuous nature of the French *ne* VERB *pas* negation construction would render it less likely to be successfully transferred than a negation construction without such discontinuous marking. However, this does not change the fact that the major exponents of the construction, *ne* and *pas*, would be present within a single lingueme evincing clausal negation while, by contrast, there is no comparable grammatical construction in English which inherently requires the use of a singular and plural form of a noun at the same time.

4.2 Paradigmatic transfer: The English plural

The English singular/plural distinction represents a fairly simple case of paradigmatic complexity and can, thus, serve as a useful example in understanding how different types of complexity may be more or less readily transferred. The distinction is simple for at least three reasons: (i) its morphological exponence is generally quite regular, consisting of the suffix *-s* with relatively limited, phonologically-predictable allomorphy, (ii) the size of the paradigm is as small as logically possible, containing only two opposing categories, and (iii) it is an instance of what has been termed *inherent* inflectional morphology (see Booij (1996)) meaning the conditions under which it appears are not connected to any one syntactic environment but, rather, the semantics one wishes to express. (This kind of inflection will be opposed to the more complex case of *contextual* inflection below in section 5.2.2.)

How could such inflectional morphology be transferred into a jargon? We can heuristically model the process as in (3). Two linguemes, each representing a different member of the paradigm, enter the jargon successfully—i.e., they are used by a given set of speakers and understood by the speakers in the right way. Such successful introduction requires successful transfer both of two forms (e.g., *cat* and *cats*) and the appropriate

semantics of the forms (e.g., *cat* as singular and *cats* as plural). (For the sake of illustration, one should further assume that the other basic semantic properties of these words are properly transferred as well.) The '⋈' symbol is being used in (3) to indicate cases where, for successful transfer, different characteristics of a given lingueme must be symbolically paired together into a single sign or construction.

(3) a. **Lingueme pool:** *cat* and *cats*

b. **Distinction:** *cat* ⋈ singular, *cats* ⋈ plural

c. **Generalization:** *-s* marks the category plural

One should clearly distinguish here between the successful transfer of two linguemes, as depicted in (3b), and the transfer of an inflectional distinction instantiated by those linguemes, as in (3c). In an idealized jargon, there is no inflection per se, since that assumes the presence of grammatical structure. What is represented in (3b), therefore, is a minimal set of conditions required for the transfer of this inflectional distinction, not a guarantee of transfer of the distinction itself. Additionally required is abstract morphological analysis of the transferred linguemes either within the jargon community (as a whole) itself—in which case that particular jargon would deviate from the ideal—or by an emerging pidgin or creole community which might detect morphological patterns that had been transferred into a jargon and generalize them into true grammatical oppositions.

Obviously, we can imagine real-world scenarios in which the heuristic scenario in (3) would be more or less likely to come to pass. For example, if many instances of singular and plural nouns enter the jargon, the inflectional pattern instantiated in those linguemes would be more salient than if only one relevant pair were present, facilitating its transfer. Furthermore, looking at the particular phonological form of the plural in the English case, if the native languages of all of the speakers of the jargon community independently allowed complex codas, more instances of word-final *s* would be likely to be transferred

into the jargon than if this were not the case, again facilitating transfer of the inflectional distinction.

Nevertheless, for the sake of exposition, I will focus here only on the minimal requirements for the transfer of a paradigmatic complexity into a jargon. In the case, of the English plural, they are that two substance linguemes be transferred into the jargon with the 'right' forms and meanings. While this does not seem a particularly difficult task, it is nevertheless more difficult than transferring a syntagmatic complexity, as we will see, insofar as it presupposes a set of linguemes is transferred rather than just one.

4.3 Syntagmatic transfer: Phrasal word order

We can contrast a scenario for the transfer of the English singular/plural distinction into a jargon with that for one of the simplest imaginable syntagmatic complexities: fixed phrasal word order, for example fixed order between a numeral and a noun. This kind of syntagmatic complexity is so common that it hardly seems to represent anything particular 'complex'. However, in descriptive terms, fixed word order among elements represents an additional degree of specification in a grammar against a scenario where word order is free and, therefore, can be considered to be a kind of complexity—moreover one that could potentially be transferred.[7]

It is still fairly easy to see that such a syntagmatic complexity could be more easily transferred into a jargon than a paradigmatic complexity. This is because it does not require transfer of a whole paradigm of forms but, rather, one syntagm evincing a particular order between a numeral and a noun. Should one such syntagm enter a jargon, it could then serve as the basis through which grammatical generalizations about numeral and noun order are formed in an emerging creole. In parallel to (3), we can heuristically model this transfer process as in (4).

(4) a. **Lingueme pool:** *two cats*

b. **Distinction:** *two* ⋈ 'two', *cats* ⋈ 'cat'

c. **Generalization:** numerals must precede noun

As schematized in (4) if one phrase consisting of a numeral and a noun enters a jargon—assuming that speakers can recognize that the phrase consists of two words and can identify which corresponds to the numeral and which to the noun—it is possible for a specification of fixed order between a numeral and a noun to be transferred into a lingueme in the jargon. Such a lingueme could, thereby, serve as the basis for the generalization of this fixed order in a pidgin or creole emerging from the jargon. Crucially, the necessary size of the lingueme pool for this to occur is simply one, rather than two for the paradigmatic example of the English plural discussed above.

Of course, if a lingueme like the one in (4) were to enter a jargon, there is no guarantee that it would prompt generalization to something like strict numeral–noun word order. If significant speaker populations in the emerging community, for example, spoke native languages with free numeral–noun word order, then it seems unlikely that a resulting creole would show fixed word order. The crucial observation being made here centers around how a syntagmatic complexity compares to a paradigmatic complexity when considered from the perspective of the possibilities of grammatical transfer: Syntagmatic complexities can be transferred, in principle, with the successful transfer of just one lingueme, while paradigmatic complexities require transfer of a set of linguemes. Of course, as discussed at the end of section 4.1, this is not to say that transferring syntagmatic complexities is necessarily easy or that all syntagmatic complexities are equally transferable. This global difference holding between syntagmatic and paradigmatic complexities is only one factor among many relevant to transferability. Thus, the claims being made here are not intended to apply to any specific syntagmatic or paradigmatic complexity but, rather, to these two broad classes as a whole.

Given a model like the one in section 2, a probabilistic prediction can be made that paradigmatic complexities are less likely to be transferred during creolization than syntagmatic ones. This is not the strongest kind of prediction that can be made, but, nevertheless, is still of potential significance in explaining grammatical patterns in

creoles. The explanatory limitations of this sort of probabilistic prediction are discussed in more detail in section 7.

5 Paradigmatic complexities in creoles: Three case studies

5.1 Overview

In this section, three examples of paradigmatic complexities will be examined that are relevant to understanding how the distinction between paradigmatic and syntagmatic complexity can be applied to the study of apparent simplicity effects in creoles. The discussion will begin with one of the more complicated cases of a paradigm, a noun class system (section 5.2). It will then move to the issue of the conditions required for transfer of a paradigm of tonal distinctions (section 5.3). Finally, morphophonological paradigms will be discussed in order to make clearer how the overall points being made here apply to potential issues of phonological complexity (section 5.4).

These case studies are intended to be illustrative in nature rather than 'proof' of any particular set of claims. The logic behind choosing these three cases is somewhat opportunistic, involving phenomena which I believe support the general arguments, though not completely random insofar as each relates to 'simple' patterns in creoles as discussed in recent work like McWhorter (1998, 2001a) to justify the claim that creole grammars, overall, tend to be simple.

5.2 Noun class systems

5.2.1 Kikongo versus Saramaccan

Noun classes (or genders; see Corbett (1991) for a typological overview) are a good example of a kind of paradigmatic morphology that is not found in creoles (McWhorter 2001a:139)).[8] Of course, noun class systems, while not particularly uncommon, are not overwhelmingly present in non-creoles either. (For example, in Corbett's (2005) survey only around forty-percent of the languages in the sample showed noun class systems.) Nevertheless, given that noun class systems are not rare cross-linguistically, it is

surprising that, at least in the Atlantic, where one finds noun classes in the superstrates as well as in a number of substrates (as seen in Corbett (2005)), one does not find any creole with a substantial noun class system.

Consider for example, the noun class prefix system for Kikongo, given in table 1, adapted and simplified from Bentley (1887:544), which exemplifies the elaborate noun class systems for which Bantu languages are famous. (The numbering of noun classes in table 1 attempts to follow standard Bantuist conventions—see, e.g., Maho (1999:247) for general discussion and Carter and Makoondekwa (1987) for its application to Kikongo. The given singular/plural pairings are not exhaustive.) The sentences in (5) exemplify agreement patterns associated with this noun class system, both within the noun phrase (5a), which shows the agreement patterns for nouns in class 9/10, and between a subject and a verb (5b), which shows alternating subject agreement (class 1 versus class 9) in an active sentence and its passive variant.[9]

[Insert table 1 about here]

(5) a. *nti ambote/ nti miambote*
9.tree 9.good 10.tree 10.good
'good tree'/'good trees' (Bentley 1887:556)

b. *O nleke **w**abaka e nkombo./E nkombo **y**abakwa.*
1.DEF 1.boy 1.PST.catch.FV 9.DEF 9.goat 9.DEF 9.goat 9.PST.catch.PASS.FV
'The boy caught the goat./'The goat was caught.' (Bentley 1887:620)

By contrast, consider Saramaccan, a language known to have received significant lexical input from Kikongo (see, e.g., Daeleman (1972) and Smith (2009)). There is no noun class system in Saramaccan in the standard sense—that is, there are no cases where one finds agreement classes controlled by nouns which trigger alternations in elements (e.g., adjectives, verbs) that a noun may have a syntactic or semantic relationship with (Corbett 1991:1). The only phenomenon one finds remotely resembling a noun class

system are a large number of nouns appearing with an initial *a-* (see, for example, Rountree, Asodanoe, and Glock (2000)), reminiscent of what one finds in languages like Fongbe (see, for example, Lefebvre and Brousseau (2002:193–194))—another prominent Saramaccan substrate (see Smith (1987)). In a language like Fongbe, such elements are generally considered to represent relics of an elaborate noun class system present in Proto–Niger-Congo (Williamson & Blench 2000:30).

In Saramaccan, *a-* initial words have a variety of sources, some of which, at least, result from transfer of substrate words containing initial formatives with that shape—for example, the word *ahún* 'grass' from Gbe *axɔ̃* 'grass type'.[10] There is some evidence for the synchronic relevance of initial *a-* to Saramaccan grammar insofar as there are a handful of words with 'prefixed' and bare variants, for example, *(a)kulí* 'Hindustani', *(a)masíni* 'machine', *(a)tengútengú* 'limping', and *(a)dikpókpo* 'mushroom' (Rountree, Asodanoe, and Glock 2000). The first two of these words have non-African etymologies, with *(a)kulí* deriving from the same element as English *coolie* (which is ultimately of Indian provenance according to the Oxford English Dictionary) and *(a)masína* deriving from the same element as English *machine*. This suggests that the presence of *a-* at the beginning of some nouns in Saramaccan was salient enough to be analogically extended to words where it was not present etymologically.

However, even if we were to admit that there was some kind of synchronic morphological reality to this *a-* formative, perhaps as a kind of marker that something is a noun (with extremely limited productivity), it would fail to classify as a noun class marker since it is not associated with any agreement pattern distinct from that found for other nouns. More importantly in the present context, there is no evidence that a potential *a-* 'noun class' marker reflects a transferred paradigmatic complexity. It does not participate in any inflectional paradigm, whether restricted to marking on nouns or connected to agreement and, therefore, does not seem to represent an instance of a paradigmatic complexity at all, let alone a transferred one. This is not to say it does not represent a complexity, nor that its properties are not, at least partially, the result of transfer. Rather, what we don't see is evidence for anything like the paradigmatic

complexities embodied in the Kikongo noun class system in Saramaccan. In the next section, I explore how the model schematized in section 2 predicts this sort of asymmetry between a non-creole and creole.

5.2.2 The difficulty of transferring noun classes

As discussed in section 4.2, transferring even a simple two-way inherent inflectional distinction into a jargon requires some luck, insofar as it requires successfully transferring the forms and meanings of at least two linguemes. As we move to more complicated inflectional patterns, the prerequisites for the transfer, of course, can quickly become quite daunting. This is especially the case when we move from inherent to contextual inflectional morphology—that is, inflectional morphology dependent on morphosyntactic context (see Booij (1996) for discussion of the distinction). Consider for example noun class agreement of the sort found in Swahili as seen in (6), which like Kikongo, shows a typical Bantu noun class system.[11]

(6) a. ***M****-toto* ***m****-dogo* ***a****-me-fika*.
1-child 1-little 1-TNS-arrive.FV
'The little child arrived.'

b. ***Ki****-kapu* ***ki****-dogo* ***ki****-me-fika*.
7-basket 7-little 7-TNS-arrive.FV
'The little basket arrived.' (Katamba 2003:111)

Two kinds of agreement are exemplified in (6), agreement between a noun and an adjective and agreement between a subject noun phrase and a verb In addition, the noun itself shows overt indication of its noun class in the form a prefix, which in (6b) has the same form as both agreement prefixes and has the same form as the adjective agreement prefix in (6a).

Some of the difficulties involved in transferring an entire Bantu-type noun class system into a jargon should already be clear. In a system with more than a dozen distinct noun classes, instantiation of the full paradigm requires transfer of at least as many

linguemes as needed to show the full agreement pattern, which would be quite high once one accounts for the entire range of morphological distinctions and participating syntactic constructions.[12] Some of the noun classes would likely be lost simply due to chance even in cases of extensive transfer of linguemes showing the noun class patterns. Setting that 'numerical' issue aside, however, transferring any kind of contextual inflectional morphology is certainly more difficult than transferring inherent inflectional morphology, as exemplified by the English plural in section 4.2.

There are two reasons for this. First, by its nature, contextual allomorphy involves syntagmatic complexity—for example, head-dependent relationships—which, depending on the speech communities involved in jargon formation, may be difficult for them to produce or perceive, thus presenting an additional layer of complexity beyond the paradigmatic one. More relevant at present, however, is the fact that contextual inflectional morphology carries with it a fair amount of paradigmatic 'baggage' going well beyond the morphemes involved. In a distinction between, say, singular and plural nouns, the relevant paradigm involves oppositions simply between words. However, contextual allomorphy involves paradigmatic oppositions both between words and between constructions—i.e., schematic linguemes (see section 2.2). Consider, first, for example, the linguemes that must be transferred into a jargon for the full set of agreement relations illustrated in (6b) to be transferred, as schematized in (7).

(7) a. *kikapu* 'basket'

b. *kidogo* 'little'

c. *kimefika* 'arrived'

d. *Kikapu kidogo kimefika*. 'The little basket arrived.'

In order for the noun class contrasts embedded in (6b) to enter a creole, each of the words in the source lingueme must be further analyzed along the lines of (8).[13] Specifically, there must be some recognition that distinct parts of speech are involved,

that the initial *ki* is associated with noun class marking, and that head–dependent relations are somehow connected to a pattern of agreement. The '⊕' is used to indicate a relationship of linear concatenation, and the '↔' is used to indicate an agreement relation with the controller and target unspecified. (See the discussion surrounding (3) for description of the use of the '⋈' symbol here.)

(8) a. *kikapu* ⋈ noun ⋈ class 7

b. *kidogo* ⋈ adjective ⋈ class 7

c. *kimefika* ⋈ verb ⋈ class 7

d. [[subject] ⊕ [verb]] ⋈ *statement* ⋈ dependent ↔head

e. [[noun] ⊕ [adjective]] ⋈ *modification* ⋈ head ↔dependent

These distinctions, as embodied in (6b) would then have to be generalized as in (9), which specify that the noun (or noun phrase) is the controller of the agreement relation in each case (despite being the head of one construction and the dependent in the other). The '→' is used to indicate an agreement relation with the controller specified as the element to the left of the arrow.

(9) a. *ki-* marks the category class 7

b. *ki-* is inherent to the noun meaning 'basket'

c. [[subject] ⊕ [verb]] ⋈ *statement* ⋈ dependent → head

d. [[noun] ⊕ [adjective]] ⋈ *modification* ⋈ head → dependent

As indicated in (8) and (9), for a lingueme like the one in (6b) to be transferred in ways which allow the paradigmatic complexities it contains to enter into a creole, first each of its individual words must be represented in a jargon with more or less appropriate form and semantics. In addition, the noun class information for each lingueme must also

be represented in the jargon in some form. This particular aspect of the transfer is not qualitatively all that different from the example of transfer of inherent morphology discussed in reference to (3) in section 4.2. Where the transfer becomes clearly more difficult is in the two additional linguemes that must be transferred, a 'subject-verb' lingueme and a 'noun-adjective' lingueme.

Transfer of such schematic linguemes into a creole cannot be assumed to be achieved simply via transfer of individual sentences like those in (6). First, categories like 'subjects' or 'nouns' themselves only make sense in the context of larger paradigms, for example subjects must be opposed to objects and nouns to verbs. So, these distinctions require a certain additional set of linguemes to be transferred. Furthermore, the overall structure seen in (6), for example, can only be fully understood if opposable to other, comparable, schematic linguemes which would illustrate, among other things that there is an agreement relationship holding specifically among subjects and verbs and not just any argument and the verb. Recall that, by definition here, a jargon is unstructured (see section 2.2). So, none of this is to say that these oppositions themselves must be transferred into the jargon. Rather, what is needed is a set of linguemes containing sufficient information to represent the full range of relevant oppositions within the jargon so that, during normalization, those oppositions could, in principle, be 'reconstructed' in the emerging pidgin or creole community (whether or not they actually are reconstructed in full or part).

In looking at examples like those in (6) it may seem at first that one only needs two linguemes to be transferred for at least some contextual inflection to be reconstructible. After all, the basic agreement patterns are found in those two examples. However, this would only work in a contact situation where speakers of the different source languages would all arrive at more or less the 'right' syntagmatic analysis of those linguemes given only limited data. If the languages in contact were Swahili and Kikongo, this would not be an unreasonable conjecture. But what about English and Swahili, where agreement of any kind is only marginal to an English speaker's native grammar? Even a speaker of French or German may not readily recognize the Swahili pattern given the different way

Bantu noun class systems are structured as compared to Indo-European gender systems. And the Swahili speaker, as well, would presumably have difficulty unraveling the 'covert' gender system of European languages, despite being accustomed to many more noun classes than what is found in European languages.

But, there's more at issue here than simply the difficulty of detecting agreement patterns. Grammatical relations like subject and object vary substantially enough across languages that their validity as universal categories has been questioned (Dryer 1997). Whether such a view is adopted as theoretical principle or as a descriptive fact, this variability means that transfer of a category like 'subject' into a jargon is also far from trivial. Rather, one would expect more general notions like *topic* or *actor* to be transferred instead with many of the peculiarities of subject and objects in the source languages being lost or 'compromised' in the sense that they would be renegotiated within the jargon community to have distinctive properties from what is found in the source languages.

In short, transferring contextual inflection into a jargon requires transfer of linguemes evincing an entire grammatical subsystem that governs that inflection—i.e., a complex set of paradigmatic oppositions, both morphological and syntactic. In the context of agreement, for example, using Corbett's (2006) terminology, it requires transfer of linguemes establishing what controls agreement (e.g., a subject), what the target of agreement is (e.g., an adjective or a verb), what the domain is of agreement (e.g., a noun phrase or sentence), and what features are involved in agreement (e.g., gender or number). The bottleneck of jargonization simply makes it unlikely for all the right 'pieces' to be represented in the jargon in a way that would allow the whole system to reemerge during pidginization or creolization. Some stray bits of such a system may make it through the bottleneck—but the whole system requires a transmission process much richer than jargonization would generally be expected to allow.

Therefore, a model like the one in figure 1 would seem to predict the lack of contextual inflectional allomorphy like noun class systems in creoles, except perhaps in very limited form, stripped of paradigmatic complexity (like what we see in the case of

Saramaccan *a-*) or unless very strict conditions were met (e.g., strong typological similarities in the noun class systems of languages whose speakers were contributing to the creole's development). And, as is well-known, creoles are not known to show contextual inflectional allomorphy (Plag 2008:119)). So, the prediction seems to be borne out (see also section 7).

5.3 The paradigmaticity of tone

McWhorter's (1998) creole prototype gives tone a special place within creole typology. Specifically, McWhorter (1998:793–796) suggests that one of the defining features of creoles is their lack (or almost lack) of lexical and grammatical tone.[14] I share some of the skepticism of Ansaldo and Matthews (2001:316–317) regarding the empirical basis of this aspect of the creole prototype given that many logically possible kinds of contact among tone languages of different types simply did not take place en route to the development of the world's attested contact languages. Nevertheless, there is something quite interesting about the tonal criterion in the present context: Broadly speaking, tonal phonetics contrasts with segmental phonetics along precisely the paradigmatic/syntagmatic opposition of interest here. I treat tone in this section. Segment inventories are treated in section 6.2.

Unlike segmental contrasts which, at least to a large extent, are associated with consistent acoustic cues—for example, a burst for stops and noise for fricatives—tonal contrasts are realized by an acoustic cue—namely, F_0—which is gradient in nature and whose 'baseline' varies widely from speaker to speaker.[15] Because of this, determination as to whether or not a language makes use of tone for lexical or grammatical marking inherently requires paradigmatic comparison to discover abstract oppositions rather than working purely with phonetic correlates. Therefore, except in cases of contact among languages with particularly similar tone systems (in both phonetic and phonological terms), it is essentially impossible for a tone system of any sort to be transferred into a jargon without a tonal *paradigm* being transferred within the linguemes of a jargon. To

make the discussion more concrete, consider the hypothetical 'tonal' contrasts in the constructed data in (10).

(10) a. [tata ˩˥]

b. [tata ˧˥]

c. [tata ˩˧]

Each of the words in (10) contains a phonetic rise. If all three were transferred into a jargon with the phonetics of their rises more or less maintained, then, during creolization one might arrive at the 'ideal' phonological analysis of the oppositions given in (11). (In (11), an acute accent is for high tone, a grave for low tone, and a macron for mid tone.)

(11) a. /tàtá/

b. /tātá/

c. /tàtā/

Not only would transfer of such a system logically entail transfer of a *set* of words representing the relevant contrasts, it also entails that, in each case, the relative contrasts be correctly perceived by paradigmatic comparison within each lingueme, adding an additional layer of difficulty for transfer. For example, (10a) must enter the jargon with a higher rise than (10b) or, even if both linguemes are successfully transferred with some kind of rise, the distinction between the low-rise and the mid-rise will not be. This is, of course, a tall order—especially given the inherent variation within and across speakers in the deployment of F_0 to mark tonal contrasts.

In short, you cannot transfer a single tone, the way you can transfer a single segment. A [k] can enter a jargon within one lingueme (see section 6.2). A high tone can only enter a jargon if it can be directly contrasted with a low tone, either with both tones appearing

within the same lingueme or across linguemes.[16] This inherent paradigmaticity of tone should make it susceptible to loss during jargonization in much the same way that inflectional morphology is.

Of course, creoles are not devoid of lexical and grammatical tone. Saramaccan, for example, shows lexical tone and, apparently, more limited grammatical tone (Good 2004).[17] In that case, Good (2003, 2009) offers historical accounts of the development of tone in Saramaccan which suggest that its more complex properties may actually be post-creolization developments. Papiamentu, too, has a fairly well-developed system of tones or tone-like prosodic contrasts (Kouwenberg 2004, Rivera-Castillo & Pickering 2004, Remijsen & Heuven 2005). Indeed, it shows undeniable complexity in its prosodic system, being one of the only well-substantiated cases of a language with independently contrastive stress and tonal features. However, like Saramaccan, the Papiamentu tone system does not appear to represent a transferred complexity from a specific source language during creolization. Its most remarkable feature—the existence of contrasting stress and tonal features—would seem to have emerged as a result of "mixing" of elements from accentual European languages and tonal African languages, not transfer (in the sense given in section 2.1) of a complex system from a particular language. This, of course, does not explain how this complexity developed. Rather, it mean that it falls outside the explanatory scope of the model developed here (see section 7).

The discussion given here, therefore, should not be understood as predicting that creoles will never have tone. Rather, it predicts that tone systems should be especially susceptible to reduction or loss during creolization because tone's phonetic substance requires it to be transferred via paradigmatic comparison with other tones, unlike many of the features associated with segments.[18] Languages like Saramaccan or Papiamentu would appear to be consistent with this prediction insofar as their tonal complexities do not seem to result from transfer from a single language during creolization. An Atlantic creole, however, which had a tone system relatively close to that of one of its African substrates would be inconsistent with it, but no such creole has been reported. Even in cases like Sango (Samarin 1967:39–43) and Kituba (Fehderau 1966:46–47) where one

finds contrastive tone which does seem to arise via transfer from a single source language, the contact varieties have tone systems which are apparently reduced as compared to the contributing languages (see Samarin (2000:313–314) for Sango and Mufwene (2003:200) for a general discussion of tone in Bantu-based contact languages, including Kituba). This is consistent with the idea that tone's inherent paradigmaticity makes its transfer difficult given something like a jargonization bottleneck (see also section 8.2).

5.4 Morphophonological paradigms in Nyakyusa and Haitian

5.4.1 Simplicity and 'phonology'

As will be discussed in section 6.2, there has been some indication in the literature on creole simplicity that any simplifying effects taking place during creolization may not affect phonology as strongly as morphology and syntax. Here, I would like to claim something different: The 'showcase' example of phonology in the creole literature, segment inventories, has involved transfer of syntagmatic complexities not paradigmatic complexities and, therefore, comparing say, noun classes (see section 5.2) to segment inventories is in effect setting phonological apples against morphosyntactic oranges.

As a first step in illustrating this, in this section, I discuss two examples of paradigmatic morphophonological complexity, one from a non-creole, Nyakyusa, and one from a creole, Haitian. Two issues will be highlighted in the discussion. First, there are attested morphophonological paradigms showing degrees of complexity that are simply not reported for any creole. Second, even one of the more celebrated morphophonological complexities drawn from a creole, Haitian determiner allomorphy, does not appear to be a transferred complexity (in the sense discussed in section 2.1) but rather an innovated one. Section 6.2 will continue the phonological discussion by examining creole segment inventories which, rather than being 'simple', appear to be 'average'. I will argue that this is because their process of transfer is fundamentally different from the processes of transfer required for paradigmatic complexity as described here.

5.4.2 Nyakyusa

The data from the Bantu language Nyakyusa in table 2 shows a system of morphophonological patterning with a high degree of paradigmatic complexity. (See Hyman (2003:74–76) and Good (2007:214–215) for more detailed discussion. The data was originally reported by Schumann (1899) and Meinhof (1932). Forms are adapted from Meinhof (1932:147–149); daggers indicate forms constructed on the basis of the description.)

[Insert table 2 about here]

The data in table 2 gives causativized and applicativized forms for a number of verb roots in Nyakyusa. Causativized verbs in the language are marked with a suffix of form *-y-* (here labeled the *Transitive*; see Good (2005:12–16)), which, additionally, triggers a fricativization process on certain preceding consonants falling under the rubric of what is generally referred to as spirantization in the Bantuist literature (see Bostoen (2008:305–308)). Applicativized verbs are marked with an Applicative suffix of form *-il-* (subject to vowel harmony with mid vowels). When both the Transitive and Applicative suffixes appear on the same verb, a striking pattern emerges regarding the form of the root and the shape of the Applicative.

Following a general Bantu pattern (see Good (2005)), the Transitive suffix follows the Applicative suffix in Nyakyusa. In this position, it triggers spirantization on the Applicative's final consonant causing it to surface as *-is-* rather than *-il-*. Due to this morphological ordering, the Transitive no longer directly follows the verb root. One would, therefore, expect that spirantization would no longer affect the verb root and it would appear in its basic form. However, the attested pattern is more complex: It is the case that the final consonant of the verb root is not longer spirantized, but, rather than shifting back to its underlying form, it is replaced uniformly with a *k*. Thus, for example, instead of the expected causativized-applicativized form for the verb 'pass' of **-ki**nd**-is-*

y-, one finds *-ki**k**-is-y-*—spirantization is 'undone', but not to the etymological final consonant.

In verbs ending in labial consonants undergoing spirantization, the pattern is even more complex. The form of the Applicative is *-if-*, rather than expected *-is-*, showing the same consonant the root would have surfaced with if it were followed immediately by the Transitive. Superficially, at least, it is as if the final consonant of the root is being transferred to the end of the stem (see Hyman (2003:75) for a historical analysis of these facts). Finally, *m*-final roots offer an additional complication. Such roots are not affected by spirantization triggered by the Transitive, always appearing with final *m*. However, when they appear with both the Applicative and Transitive, a meaningless *-ik-* formative appears after the verb root. What appears to be motivating the appearance of this formative is a restriction in the language that all causativized-applicativized verbs must contain a sequence like *-kis-* or *-kif-* (Hyman 2003:75–76). Roots ending in *m* do not produce such a sequence 'naturally', but the appearance of the *-ik-* formative allows the restriction to, nevertheless, be maintained.

The kind of pattern seen in table 2 represents a fairly ornate paradigmatic complexity. As far as I am aware, no creole has been reported as showing morphophonological patterns structured into a paradigm even remotely as complex as this one, whether intertwined with morphological processes or largely allophonic in nature. The model of creolization developed here is consistent with this: Even if a language contributing to the development of creole showed such complexity, the size of the necessary lingueme pool (containing something over twenty distinct members) would make its transfer very difficult given anything like a jargonization bottleneck. The most plausible root to the development of this sort of complexity would seem to be through a complex set of historical processes involving sound change and analogy (see Hyman (2003)), which was able to take place during the development of Nyakyusa but which has not yet had time to take place in any known creole.

We can compare the Nyakyusa case to a clear case of morphophonological complexity in a creole, Haitian, in the next section.

5.4.3 Haitian

Patterns of allomorphy in the Haitian definite determiner have attracted attention not only in the creolist literature but also in work in theoretical phonology (see, for example, Nikiema (1999), Klein (2003), Bhatt & Nikiema (2006), Bonet, Lloret & Mascaró (2007)). The basic patterns of allomorphy are illustrated in (3) using data drawn from Nikiema (1999:70–71). The underlying form is generally treated as something like *la*, following the noun, with a series of allomorphs sensitive to the preceding consonantal and vocalic environment.

[Insert table 3 about here]

It seems reasonable to interpret the allomorphy illustrated in table 3 as complex, if not as complex as the Nyakyusa pattern in table 2. Not only are there a fairly high number of allomorphs, there is even some sensitivity to phonological context that is not strictly local, as seen in the vowel nasalization of the *lã* allomorph. More striking perhaps is that, as noted in the phonological literature (Klein 2003, Bonet, Lloret & Mascaró 2007), the allomorphy patterns appear to exhibit an 'anti-markedness' effect due to the fact that the vowel-initial allomorph occurs not after consonant-final words as might be expected but, rather, after vowel-final words, creating surface patterns involving coda consonants and vowel hiatus, both of which are generally considered to be universally dispreferred.

Haitian determiner allomorphy is undoubtedly interesting in coming to an overall understanding of creole complexity (see also McWhorter (2006:151–153)). However, it is not of direct relevance here because it does not appear to represent a transferred complexity but, rather, an innovated one. While French clearly gives a plausible source for the form of this definite article, not only is this element not a definite article in French, it also does not show anything like this pattern of allomorphy (see Lefebvre (1998:79–84) for relevant historical discussion). The claim here is that paradigmatic complexities should be less susceptible to transfer than syntagmatic complexities, not that the processes involved in the development of contact varieties can not produce new kinds

of complexities. Clearly they can, as already seen above in section 5.3 in the discussion of Papiamentu prosody. The Haitian case, therefore, underscores the relatively limited nature of the claims being made here, a topic I will come back to in section 7.

Before moving on, it is worth noting that, if we view the apparent 'anti-markedness' effects of Haitian determiner allomorphy as a kind of complexity, this is a distinct kind of complexity from syntagmatic or paradigmatic complexity, instead appearing to be a case of typological abnormality (see section 3). It is clearly of potential interest to examine what predictions a model like the one in section 2 might have with respect to the transfer or development of typological abnormalities in creoles. However, this is outside the scope of the present study.

6 Syntagmatic complexities in creoles: Two Case studies

6.1 Overview

In this section, I offer discussion of two phenomena, segment inventories (section 6.2) and semantic restrictions on the interpretation of concatenation (section 6.3), which, I will argue, represent transfer of syntagmatic complexities in creoles. The point of these case studies will be to show that, unlike instances of paradigmatic complexities, creoles do not appear to be especially simple when the relevant complexity can be transferred via analysis of syntagmatic rather than paradigmatic structures.

As with the paradigmatic complexities, the phenomena discussed here have been chosen both because they support the overall argument and because they have had already played a role in discussion on the extent to which creoles are 'simple'.

6.2 Segment inventories

6.2.1 Saramaccan versus Rotokas

Unlike, say, noun class systems (see section 5.2)—which appear to be unattested in creoles—creole segment inventories do not 'stand out' as representing an extreme in terms of simplicity or complexity. As Klein (2006:18) points out, '[T]he segmental inventories of Creole languages are not simple, notwithstanding a very small number of exceptions. On the other hand, they do not tend to be very complex either. Instead, Creole inventories have a strong affinity to the typological middle.' For example, consider the Saramaccan consonant inventory in table 4 and the Saramaccan vowel inventory in table 5. (Consonants of unclear phonemic status are indicated in parentheses. Saramaccan additionally has two degrees of contrastive length and contrastive nasalization in its vowel system.[19])

[Insert table 4 about here]

[Insert table 5 about here]

Following the classificatory system of Maddieson (2005a), the Saramaccan consonant inventory is on the borderline between average and moderately large, depending on how one counts the more marginal segments. (An average consonant inventory in that survey was taken to be one with nineteen to twenty-five consonants, and Saramaccan has from twenty-five to twenty-eight consonants.) Following the classificatory system of Maddieson (2005e), the Saramaccan vowel inventory just passes into the large category, which is defined as seven or more vowels, while average is five to six vowels.

As discussed in Klein (2006), this pattern is not unique to Saramaccan among creoles. In general, creole segment inventories cluster around the worldwide average in terms of numbers of consonants and vowels. Furthermore, in the Saramaccan case, one even finds consonant types (i.e., prenasalized stops, labiovelars, and, possibly, implosives) which are uncommon from a worldwide perspective—i.e., which are typologically abnormal.

We can contrast the Saramaccan consonant inventory with that of Rotokas, a Papuan language, as described by (Firchow & Firchow 1969:273)). The Rotokas consonant inventory is given in table 6 and the vowel inventory in table 7. While the vowel inventory of Rotokas is average, and not that much smaller than Saramaccan's, its consonant inventory is less than one fourth the size of Saramaccan's, making it much simpler by any obvious metric.

[Insert table 6 about here]

[Insert table 7 about here]

One response to the relative lack of simplicity in creole segment inventories has been to attribute it to some asymmetry between phonology and morphosyntax—that is, creole morphosyntax may be 'simple' but, for whatever reason, creole phonology is immune to the simplification processes associated with creolization. Thus, McWhorter (2001b:391) writes, 'While I still believe that older languages are more complex overall than a crucial subset of creoles, if it is found that older languages can have less complex phonologies than creoles, then it will be interesting and fruitful to seek a principled reason why this should be so in this particular module of language but not others.' Klein (2006:5) has similarly posited the *Creole typicality hypothesis* with respect to phonology which suggests that creoles, 'exhibit typical phonological systems that center on the typological middle ground.' And, as we saw above in section 5.3, creole tone systems, while perhaps simplified, are not uniformly simple.

However, in the model being developed here, this sort of argument—that phonology is 'different' from morphosyntax—would only hold if it could be shown that segment inventories represented a kind of paradigmatic complexity which would mean that they would not be predicted to pass easily through the jargonization bottleneck. In section 5.4, a morphophonological paradigm from Nyakyusa was specifically cited as the sort of

pattern which would not be expected to survive jargonization, but are segment inventories the same kind of thing?

Perhaps counterintuitively, it will be argued here that, while segment inventories clearly do form a paradigm in a language, they enter a creole via syntagmatic, not paradigmatic, transfer. As a result, we should not expect them to particularly simplified as predicted for complexities which do require transfer of a paradigm.

6.2.2 From segment enumeration to phoneme inventory

As typically presented in modern descriptive grammars, segment inventories are treated as a paradigmatic complexity insofar as, in principle, they represent the system of segmental phonemic oppositions in its totality. In a jargon, however, while one can speak of a segment inventory, this would only refer to an enumeration of the phones that happen to be present in the elements used in the jargon, rather than a set of phonemes in structured opposition. Of course, the various members of the jargon community may impose their own phonemic analyses on the items in the jargon, but the jargon itself—as a socially embodied communicative system—does not have phonemes. Rather it only contains the phones as instantiated in its substance linguemes. Because of this—and, crucially, for the present arguments—a phone can, in principle, enter a jargon via the transfer of just one lingueme, rather than a set of linguemes. The reason for this is that the structuring of phones in a lingueme represents a syntagmatic complexity, not a paradigmatic one, and, therefore, they can be detected via syntagmatic structural analysis.

Thus, for example, if a word like *cat* enters a jargon, it will be associated with some range of phonetic realizations which can be interpreted by the jargon community as that word, for example [kæt˺], [kæʔ], or [kɛ], with the phonetic analysis being connected to a jargon speaker's ability to process the syntagmatic segmental structure of the word. Only when the jargon becomes normalized will that range of phonetic realizations become associated with a phonemic representation, say, /kæt/. Before normalization, the segment 'inventory' of a jargon will simply consist of an enumeration of the segments present in the phonetic realizations of the jargon's linguemes. In the case of a jargon containing the

word *cat*, that could include, say, a segment like [k] and a vowel like [æ], among possible others.

This simplistic example glosses over clear problems regarding how the phonetics of linguemes from various source languages will be adapted by speakers of other languages as they enter the jargon and beyond (though see Plag (2009) for relevant discussion). However, this is not a central concern here since the main issue is not how to model the route from the phonetics of a source language to the phonology of a contact variety but, rather, to model how segmental complexities in a source language could be transferred into a jargon, and this is somewhat easier to understand: Simply put, for a segment with particular phonetics to be transferred from a source language into a jargon, all that is required is for that segment to be successfully transferred in a lingueme of the jargon. If a click, an ejective, or a labiovelar can survive in a single lingueme in the jargon, then it is a candidate to become part of the segment inventory of a normalized variety based on that jargon. This does not even require successful transfer of the lingueme's semantics into the jargon. Nor does it require successful transfer of an entire segmental or prosodic form from a source language as long as that one segment is transferred.

What does this mean, then, for the overall segment inventories of a pidgins and creoles? Here, I can only give a negative answer, not a positive one: *There is no reason to expect them to be particularly simple*. The jargon 'bottleneck' may keep out a particularly low-frequency phoneme from a source language (e.g., the voiced alveopalatal fricative in English) since such a phoneme may, by chance, not make its way into a lingueme in the jargon. But, there is no a priori reason to expect, *as a general outcome*, jargon segment inventories to be particularly 'stripped down'.

Given this, Klein's (2006) results for creole segment inventories should not be too surprising. If the segment inventories of contact languages are determined by the segment enumerations that are formed during jargonization, then one would expect that any segments shared among the source languages would enter the jargon as well as segments not shared among the source languages but which, for one reason or other, are salient enough (for linguistic or sociological reasons) to speakers of the other languages that they

can be successfully transferred into the jargon without being lost entirely or merged with another segment. Such a compromise process would not be expected to necessarily produce small segment inventories (unless all the source languages had small segment inventories) or large inventories—rather, one should get something in between, as Klein (2006) finds. In other words, since transferring segments requires transfer of a syntagmatic complexity, unlike phenomena involving paradigmatic complexities, there is no reason to expect them to be strongly affected by a jargonization bottleneck.

In this context, the case of typologically abnormal consonants in Chinook Jargon is worth mentioning. Chinook Jargon's consonant inventory includes ejectives, lateral obstruents, and a distinction between a velar and uvular series of obstruents (Thomason & Kaufman 1988:259–260). As Thomason and Kaufman point out, these consonants, 'though exotic from an Indo-European viewpoint, are…quite ordinary when considered in the context of Northwest Amerindian languages.' (See Maddieson (2005b), (2005c), (2005d) for worldwide overviews of the distribution of such consonants illustrating that they are common to the northwestern parts of the United States and adjacent regions of Canada.) In this case, the segment inventory resulting from contact was not average from a worldwide perspective, but was not so deviant from a local perspective, consistent with the idea that, since segment transfer in a contact variety happens as the result of transfer of a syntagmatic complexity, extreme reduction should not be necessarily expected.

6.3 Restrictions on the interpretation of concatenation

Gil (2008) (see also Gil (2007, 2001)) has looked at the simplicity of the syntagmatic relation par excellence, concatenation. His results reveal a gradience in the meaning associated with concatenation across languages from less specified semantically to more specified—or, to use Gil's (2008) terms, from *compositionally associational* to most *compositionally articulated*.

Example (12) gives data from a highly compositional associational language, Riau Indonesian (Gil 2008:114–115). What is striking about Riau Indonesian, from the perspective of speakers of a language like English, is the flexibility of interpretation

permitted when two words are concatenated. In this particular case, concatenating 'chicken' with 'eat' essentially allows for any plausible interpretation involving both of these two concepts.

(12) a. ayam makan

chicken eat

b. 'The chicken is eating.'

c. 'Someone is eating the chicken.'

d. 'Someone is eating for the chicken.'

e. 'the chicken that is eating'

f. 'where the chicken is eating'

g. …

On Gil's (2008) classification, English, by contrast, is highly compositionally articulated since a sentence like *chickens eat* only allows one interpretation with respect to 'chicken' and 'eat', namely that *chickens* is an actor with respect to an *eating* action.

It seems reasonable to assume that a compositionally associational language is simpler than a compositionally articulated one. This is because a compositionally associational language would seem to require a simpler overall grammar in descriptive terms since one need not posit multiple distinct constructions to account for the differing semantics of concatenation in different contexts. For example, while English might require one to posit a subject–verb construction to account for the meaning of *chickens eat* and an adjective–noun construction for *eaten chicken*, in Riau Indonesian, one simply has one construction with the semantics associated with the comparable English constructions determined by context. Of course, a compositionally associational language

might put extra burdens on the hearer to interpret what a speaker might mean—but this is not a complication of the grammar itself.

So, what do we find for creoles with respect to the associational/articulated discussion? Table 8 summarizes results presented in Gil (2007:88), ranking a number of languages from most associational to most articulated based on the results of an experiment designed to test associationality.[20] The three creoles in Gil's study, Papiamentu, Sranan and Bislama, are bolded.[21] The basic experimental design involved giving subjects a sentence in their native language and then asking them whether a given picture is described by that sentence. (For example, they might be shown pictures of a chicken eating and people eating chicken and asked if *chickens eat* describes either of the pictures.)

[Insert table 8 about here]

Two points of interest emerge from table 8. The first is that the three creoles do not fall at the simplest end of the scale—thus, once again, as with the case of segment inventories, we see a case where creoles are not syntagmatically simple. At the same time—and, again, like segment inventories—they fall in the middle of the scale, not the extremes. Given that concatenation is the most prominent type of syntagmatic relation, the fact that we once again see apparent 'averaging', rather than simplifying, effects is striking. As with segment inventories, the model introduced in section 2 does not predict extreme simplification of the interpretation of concatenation under creolization, which otherwise one might expect given the claims in work like McWhorter (2001a). Thus, the results in table 8, though preliminary in nature (Gil 2007:89, fn. 8), are largely in line with the general claims made here that there is no reason to expect extreme syntagmatic simplification during creolization. It is only paradigmatic complexity which should be so affected.

To understand why the pattern in table 8 might be the way it is, it is helpful, again, to consider how a syntagmatic complexity like this can be transferred. If the English phrase

chickens eat were to enter a hypothetical jargon successfully, its associated semantics would presumably have to involve *chickens* serving as the actor of *eat* rather than, say, the undergoer given English constraints on the meaning of the phrase. This constrained meaning would result in a lingueme in the jargon where concatenation was not fully associational but, at least partly, articulated. Such a lingueme could then serve as the basis for the development of creole where concatenation, in general, would involve articulation in the meaning of concatenated elements. Of course, we would not expect all of the semantic nuances of this English lingueme to survive the transfer process, but at least some compositional articulation would seem likely to remain.

Obviously, this is only the beginning of the needed analysis, but it should be sufficient to show, once again, why syntagmatic complexities would not be expected to undergo drastic simplification under creolization—at least given the model developed here. As with predicting segment inventories, determining precisely what meaning might be assigned to instances of concatenation in a creole is a difficult problem and will presumably reflect some sort of compromise related to the different meanings associated with concatenation in the different source languages of the creole. This is clearly an interesting problem, but one well beyond the scope of the present paper.

7 The scope of the explanation

The arguments presented in this paper are, in the end, somewhat limited in scope: They suggest that, of two classes of complexities, paradigmatic and syntagmatic, one should be especially prone to simplification under creolization, due to a jargonization bottleneck, while the other should not be so prone to simplification.

This is a weak type explanation insofar as it predicts only an overall asymmetry, not any specific outcome in a given creole grammar. It also only covers a subset of possible simplifications. Nevertheless, even given its limited scope, it may still help us understand some of the grammatical properties of creoles. If nothing else, I hope I have shown that it may help us understand an asymmetry already pointed out in the creole literature that, while creoles may lack certain kinds of complexities, for example, noun classes, in other

grammatical domains, for example segment inventories, they are apparently not particularly simple. What is proposed here is that, in at least some cases, this is due to the nature of the complexities involved rather than, say, a difference between 'phonology' and 'morphosyntax'.

Given the relatively limited nature of the explanation, it may be useful to point out at least some claims it makes that are distinct from other current approaches to 'simplicity' in creoles, and I highlight two here. First, as we have seen, it does not predict global simplicity in creoles but only simplicity in terms of paradigmatic complexities. This makes it different from an approach like McWhorter (2001a), as was made clear in the discussion of segment inventories in section 6.2.

Second, since the notions of paradigmatic and syntagmatic complexity are independent from any one particular class of grammatical phenomena, the account developed here attempts uses a single principle to explain certain patterns of creole phonology, morphology, and syntax where other approaches may make use of multiple principles. For example, the Interlanguage Hypothesis of (Plag 2008, 2009) invokes different sets of principles, derived from work on second language acquisition, to account for patterns of creole morphosyntax and phonology. Of course, this does not necessarily oppose the current work to work on the Interlanguage Hypothesis. Rather, it can complement it: The model here predicts that a certain class of complexities (paradigmatic) should be missing, on the whole, from creoles, but leaves open many other issues that the Interlanguage Hypothesis may be able to address. A potentially interesting question for future work, then, would be exploring precisely how the predictions here interrelate with those of the Interlanguage Hypothesis, given that the latter is primarily concerned with language as a mental phenomenon unlike the present work. The same could be said for other models focusing on mentalistic aspects of creolization as well, such as the Relexification Hypothesis (Lefebvre 1998).

Before moving on, it seems important to reiterate another major limitation on the scope of the explanation developed here: Its empirical basis is clearly weak. The argumentation has been largely anecdotal in nature, laying out a research program rather

than offering a careful, balanced survey. This work on typologizing complexities can, thus, perhaps, be compared to other typologically oriented studies employing so-called convenience samples (see Nichols (2007:233–234) for relevant discussion) intended not to conclusively establish the contours of a given area of typological investigation but, rather, to lay the conceptual groundwork for more systematic future investigations.

8 Conclusion

8.1 The world's most paradigmatically simplified grammars are jargonized grammars

The largely programmatic nature of this paper, of course, precludes the possibility of being able to firmly establish any falsifiable claim of general import for the study of contact languages. However, the arguments above do point to a refinement of the claim made in the title of McWhorter (2001a). Specifically, rather than claiming that the world's simplest grammars are creole grammars, perhaps, instead, the appropriate claim is a narrower one: 'The world's most paradigmatically simplified grammars are jargonized grammars'.

This more cumbersome statement has the clear advantage of being more precise and, given work like Klein (2006), it perhaps has the more important advantage of being more accurate, as well. Not only does it attempt to narrow the range of simplification effects in creoles to loss of paradigmatic complexity, thereby remaining agnostic on the issue of syntagmatic complexity, it also delimits the grammars under its scope to those which have undergone a particular process rather than those which are, at least by today's classification, believed to occupy a certain state (i.e., 'creole' as opposed to, say, 'pidgin' or 'regular language'). This reflects better the fact that, to the extent that creoles may be simple, this is the result of the historical forces that shaped them rather than any synchronic deficiencies of the languages or their speakers, which is clearly the intended interpretation of McWhorter (2001a).

This distinction between process and state has a noteworthy analog in the typological literature in Greenberg's state-process model of language typology, which examines both

the possible synchronic states that languages can occupy and the diachronic processes which mediate transitions between states (Greenberg 1978, 1995). Bybee (2008:108) even goes so far as to suggest that 'the focus for establishing the explanations for cross-linguistic similarities should be on the mechanisms of change…', thus unambiguously giving process a privileged position over state in explaining cross-linguistic patterns.

I will explore this idea, and its consequences for the relationship between creole studies and typology, in more detail in the following section.

8.2 Creoles and sociohistorical effects on language typology

The perception that creoles are 'exceptional' in some sense has been a driving force both for advances within the study of contact languages and in making scholarly work on these languages relevant to the larger linguistic community. One factor in Schuchardt's investigations into creoles was the role they could play in illuminating language contact more generally (see Fought (1982:425), Holm (2000:27–34), and Kouwenberg (2010:174–177) for relevant discussion). And, he was quite explicit in believing that creole languages had much to offer the study of general linguistics specifically because of the sociohistorical circumstances under which they arose (Schuchardt (1914:iii)/Schuchardt (1914/1980:91)), rather than adopting the view that these exceptional sociohistories were irrelevant for gauging the extent to which creoles can contribute to a deeper understanding of language (DeGraff 2005:577)).

Continuing in this tradition, the now classic work of Thomason and Kaufman (1988) made extensive use of pidgins and creoles in developing a general model of language contact, highlighting the ways in which their development is and is not like other forms of language contact. Again, the exceptional status of such languages was key for their research. In particular, an important contribution of their work was to establish a framework for language contact which allowed one to distinguish, in general, the difference between languages that had undergone normal transmission, even if greatly affected by contact, from those which had undergone imperfect transmission. The motivation behind making such a distinction is not merely pedantic. Rather, it underlies

the ability of linguists to develop principles for determining when the results of the comparative method can be said to support a hypothesis of a genetic relationship between two languages. Here, pidgins and creoles are playing a crucial role in allowing us to understand the limits of one of the most important methodologies ever developed in linguistics.

Probably the most famous vein of research building on the notion of creole exceptionality is Bickerton's (1984) Language Bioprogram Hypothesis (see Veenstra (2008) for overview discussion of the hypothesis and its impact). While the research program emanating from this hypothesis is no longer actively pursued within creole linguistics, there is no denying it had a substantive impact on the field. In addition to spurring a good deal of research attempting to disprove it, it also established a framework for integrating creole studies with generative syntactic theory, building another bridge between creole studies and wider linguistics.

McWhorter (2001a), too, made use of the idea that creoles are, in some sense, exceptional, thereby linking creole studies to the broader study of typology. The bulk of McWhorter's discussion rested on the *state* of creole typology rather than the *processes* of creole typology, and, unsurprisingly, the bulk of reaction to McWhorter has been on whether or not his claims about the state of creole grammars are accurate. However, if our interests are not simply deciding whether or not this or that claim about creoles is 'correct' but, rather, using different models to explore the nature of creoles and see how creole phenomena connect to the broader linguistic picture, then this focus on the state of creole grammars is likely to be relatively uninteresting, in my view. Ultimately, such debates will founder on terminological quibbles on what counts as 'simple', what counts as 'complex', what counts as a 'creole', etc. And, the more the debate centers around terminological particulars, the less it will result in development of substantial new generalizations. (See also Siegel's (2007) discussion of how the opposition between superstratist and non-superstratist creolists may appear to be starker than it is in reality due to terminological disagreements.)

I would like to suggest here, therefore, that when considering the issue of creole 'simplicity', one way forward may be to set aside matters of the state of creoles and, instead, focus on processes that result in simplified patterns. Focusing on process is not a new idea of course (see, for example, Hymes (1971:65)), but it does not appear to have taken center stage in debates on creole *typology*. The reasons for this suggestion are not simply to avoid reiteration of stale debates but because they offer a new way for the exceptionality of creoles to contribute to the general study of language. In particular, the beginning of the twenty-first century is seeing a renewed interests in the interactions between language, culture, and history. On the one hand, this is a result of a shift within the field of typology where the questions of interest are increasingly shifting from 'what's possible' to 'what's where why' (Bickel 2007:39). Such a shift in focus implies an increasing examination of the historical factors—e.g., language spread and language contact—which explain present-day distributions of language types. On the other hand, the field has also seen a marked renewal of interest in typologically-informed work exploring the impact that culture can have on grammar (see, for example, Enfield (2002) and Evans (2003)).

Just as it was recognized by Schuchardt that creoles had important lessons for the historical development of languages in the context of a field that was particularly interested in genetic historical linguistics, today we should recognize that they have important lessons for a field which has become increasingly aware of the complex connections that can hold between a language and its sociohistory.[22] To be sure, the key ideas behind such research questions are not new. Thomason and Kaufman (1988:4), for example, explicitly situate their approach with respect to social considerations, and Trudgill has looked at the relationship between social structure and language typology for more than two decades (see Trudgill (2009) for a recent summary of his views). The difference now is, as well-summarized by Bickel (2007:40), interest in this area has increased to the point where the time seems right for increased dialogue between creolists and typologists about the historical processes—in a broad sense—which shape grammars.

The relevance of creoles to these issues is two-fold. On the one hand, results of studies of creoles whose history is relatively well-known can guide the reconstruction of the historical circumstances of languages for which no records are available. McWhorter (2008b) offers one such application of this idea, suggesting that certain languages must have undergone significant imperfect transmission in their past purely on the basis of their typological profile. While this kind of reasoning has precedents going back decades (see, e.g., Polomé (1996) for discussion of work trying to explain divergences between Germanic and the rest of Indo-European by appealing to special historical considerations), it is clear that creole studies have a special contribution to make because of the extent of the research that has gone into clarifying the sociohistories of so many contact languages (see Arends (2008) and Singler (2008) for relevant overviews). On the other hand, the sociolinguistic events that produced creoles and other contact languages are so distinctive from those governing so-called normal transmission, that they offer useful contrasting cases for models of the impact culture and history on language that have been constructed for non-creoles.

In focusing on historical process, rather than 'explaining away' non-prototypical contact languages like Sango or Kituba (McWhorter 2005:19–20), the fact that they are different from, say, Saramaccan, is a positive thing since it expands our database of possible results of contact, thereby permitting further testing and refinement of our models of the interrelationship between sociohistory and grammar.[23] It also permits us to look at results like those of Bakker (2003), where pidgins apparently show more complex morphology than creoles, not simply as surprising 'oddities' but as invitations to explore the sociolinguistic processes that could result in such patterns. Presumably, for example, there are alternate routes toward 'creolization' than the one depicted in figure 1, without a jargonization stage and, therefore, without radical paradigmatic simplification. It would be intriguing, too, for example, to determine if deliberate simplification of the sort described by Thomason and Kaufman (1988:174–175) leaves a distinctive 'signature' on a contact variety from paradigmatic simplification via jargonization as described here.

Ultimately, I believe, work on creoles has much to gain by taking the wealth of material it has gathered on how sociohistory has shaped creole grammars and seeing how it applies it to more general work on the relationship between a language's history and its grammar being engaged in by typologically-oriented linguists. At the very least, this would seem to present an interesting new bridge to build between the fields. Here, a first attempt has been made in this regard in the claim that languages which have historically undergone jargonization will show a particular type of simplification—and, thereby, a detectable typology—but this is clearly not the end of the story.

References

Ansaldo, Umberto, Matthews, Stephen & Lim, Lisa (eds.). 2007. *Deconstructing creole*. Amsterdam: Benjamins.

Ansaldo, Umberto & Matthews, Stephen J. 2001. Typical creoles and simple languages: The case of Sinitic. *Linguistic Typology* 5. 311–325.

Ansaldo, Umberto & Matthews, Stephen J. 2007. Deconstructing creole: The rationale. In Ansaldo, Matthews & Lim (2007), 1–18.

Arends, Jacques. 2008. A demographic perspective on creole formation. In Kouwenberg & Singler (2008), 309–331.

Baker, Philip. 1990. Off target? *Journal of Pidgin and Creole Languages* 5. 107–119.

Baker, Philip. 2001. Theories of creolization and the degree and nature of restructuring. In Ingrid Neumann-Holzschuh & Edgar W. Schneider (eds.), *Degrees of restructuring in creole languages,* 41–63. Amsterdam: Benjamins.

Bakker, Peter. 2003. Pidgin inflectional morphology and its implications for creole morphology. In Geert Booij & Jaap van Marle (2003), 3–33.

Bakker, Peter. 2008. Pidgins versus creoles and pidgincreoles. In Kouwenberg & Singler (2008), 130–157.

Bentley, W. Holman. 1887. Dictionary and grammar of the Kongo language as spoken at San Salvador, the ancient capital of the Kongo Empire, West Africa. London: Baptist Missionary Society. (Reprinted 1967. Farnborough: Gregg.)

Bickel, Balthasar. 2007. Typology in the 21st century: Major current developments. *Linguistic Typology* 11. 239–251.

Bickerton, Derek. 1984. The language bioprogam hypothesis. *The Behavioral and Brain Sciences* 7. 173–188.

Bhatt, Parth & Nikiema, Emmanuel. 2006. Empty positions in Haitian Creole syllable structure. In Bhatt & Plag (2006), 85–105.

Bhatt, Parth & Plag, Ingo (eds.). 2006. *The structure of creole words: Segmental, syllabic and morphological aspects*. Tübingen: Niemeyer.

Blake, Barry J. 2001. *Case* (second edition). Cambridge: Cambridge University.

Bonet, Eulália, Lloret, Maria-Rosa & Mascaró, Joan. 2007. Allomorph selection and lexical preferences: Two case studies. *Lingua* 117. 903–927.

Booij, Geert. 1996. Inherent versus contextual inflection and the split morphology hypothesis. In Geert Booij & Jaap van Marle (eds.), *Yearbook of morphology 1995*, 1–16. Dordrecht: Kluwer.

Booij, Geert & van Marle, Jaap (eds.). 2003. *Yearbook of Morphology 2002*, 105–134. Dordrecht: Kluwer.

Bostoen, Koen. 2008. Bantu Spirantization: Morphologization, lexicalization and historical classification. *Diachronica* 25. 299–356.

Bybee, Joan L. 2008. Formal universals as emergent phenomena: The origins of structure preservation. In Jeff Good (ed.), *Linguistic universals and language change*, 108–121. Oxford: Oxford University.

Carter, Hazel & Makoondekwa, João. 1987. *Kongo language course: A course in the dialect of Zoombo, northern Angola*. Madison, Wisconsin: African Studies Program, University of Wisconsin.

Chaudenson, Robert. 1992. *Des îles, des hommes, des langues: Essai sur la créolisation linguistique et culturelle*. Paris: L'Harmattan.

Coetsem, Frans van. 2000. *A general and unified theory of the transmission process in language contact*. Heidelberg: Winter.

Corbett, Greville G. 1991. *Gender*. Cambridge: Cambridge University.

Corbett, Greville G. 2005. Number of genders. In Haspelmath, Dryer, Gil & Comrie (2005), 126–129.

Corbett, Greville G. 2006. *Agreement*. Cambridge: Cambridge University.

Corbett, Greville G. 2007. Canonical typology, suppletion, and possible words. *Language* 83. 8–42.

Croft, William. 2000. *Explaining language change: An evolutionary approach*. Harlow, England: Longman.

Croft, William. 2003. Mixed languages and acts of identity: An evolutionary approach. In Yaron Matras & Peter Bakker (eds.), *The mixed language debate: Theoretical and empirical advances*, 41–72. Berlin: Mouton.

Daeleman, Jan. 1972. Kongo elements in Saramacca Tongo. *Journal of African Languages* 11. 1–44.

Dahl, Östen. 2004. *The growth and maintenance of linguistic complexity*. Amsterdam: Benjamins.

DeGraff, Michel. 2005. Linguists' most dangerous myth: The fallacy of Creole Exceptionalism. *Language in Society* 34. 533–591.

Devonish, Hubert. 1989. *Talking in tones: A study of tone in Afro-European Creole languages*. London: Karia.

Devonish, Hubert. 2002. *Talking rhythm stressing tone: The role of prominence in Anglo-West African Creole languages*. Kingston, Jamaica: Arawak.

Dryer, Matthew S. 1997. Are grammatical relations universal? In Joan L. Bybee, John Haiman & Sandra A. Thompson (eds.), *Essays on language function and language type: Dedicated to T. Givón*, 115–143. Amsterdam: Benjamins.

Dryer, Matthew S. 2005. Order of subject, object, and verb. In Haspelmath, Dryer, Gil & Comrie (2005), 362–365.

Dunn, Ernest F. 1968. *An introduction to Bini*. East Lansing, Michigan: African Studies Center, Michigan State University.

Enfield, N. J. 2002. Ethnosyntax: Introduction. In N. J. Enfield (ed.), *Ethnosyntax: Explorations in grammar and culture*, 1–30. Oxford: Oxford University.

Evans, Nicholas. 2003. Context, culture, and structuration in the languages of Australia. *Annual Review of Anthropology* 32. 13–40.

Fehderau, Harold Werner. 1966. The origin and development of Kituba (lingua franca Kikongo. Ithaca, N.Y.: Cornell University Ph.D. Dissertation.

Firchow, Irwin & Firchow, Jacqueline. 1969. An abbreviated phoneme inventory. *Anthropological Linguistics* 11. 271–276.

Fortune, George. 1957. *Elements of Shona: Zezuru dialect*. Cape Town: Longmans Southern Africa.

Fought, John. 1982. Review: The reinvention of Hugo Schuchardt (review article). *Language in Society* 11. 419–436.

Gil, David. 2001. Creoles, complexity, and Riau Indonesian. *Linguistic Typology* 5. 325–371.

Gil, David. 2007. Creoles, complexity, and associational semantics. In Ansaldo, Matthews & Lim (2007), 67–108.

Gil, David. 2008. How complex are isolating languages? In Miestamo, Sinnemäki & Karlsson (2008), 109–131.

Good, Jeff. 2003. Tonal morphology in a creole: High-tone raising in Saramaccan serial verb constructions. In Booij & van Marle (2003), 105–134.

Good, Jeff. 2004. Tone and accent in Saramaccan: Charting a deep split in the phonology of a language. *Lingua* 114. 575–619.

Good, Jeff. 2005. Reconstructing morpheme order in Bantu: The case of causativization and applicativization. *Diachronica* 22. 3–57.

Good, Jeff. 2007. Slouching towards deponency: A family of mismatches in the Bantu verb stem. In Matthew Baerman, Greville G. Corbett, Dunstan Brown & Andrew Hippisley (eds.), *Deponency and morphological mismatches*, 203–230. Oxford: Oxford University.

Good, Jeff. 2009. A twice-mixed creole? Tracing the history of a prosodic split in the Saramaccan lexicon. *Studies in Language*. 459–498.

Grant, Anthony. 2007. Admixture and after: The Chamic languages and the Creole Prototype. In Ansaldo, Matthews & Lim (2007), 109–139.

Greenberg, Joseph H. 1978. Diachrony, synchrony, and language universals. In Joseph H. Greenberg (ed.), *Universals of human language*, 61–91. Stanford: Stanford University.

Greenberg, Joseph H. 1995. The diachronic typological approach to language. In Masayoshi Shibatani & Theodora Bynon (eds.), *Approaches to language typology* 145–166. Oxford: Clarendon.

Haspelmath, Martin. 2006. Against markedness (and what to replace it with). *Journal of Linguistics* 42. 25-70.

Haspelmath, Martin, Dryer, Matthew S., Gil, David & Comrie, Bernard (eds.). 2005. *World atlas of language structures*. Oxford: Oxford University.

Hildebrandt, Kristine. 2007. Tone in Bodish languages: Typological and sociolinguistic contributions. In Matti Miestamo & Bernhard Wälchli (eds.), *New challenges in typology: Broadening the horizons and redefining the foundations*, 77–100. Berlin: Mouton.

Holm, John. 2000. *An introduction to pidgins and creoles*. Cambridge: Cambridge University.

Hyman, Larry M. 2003. Sound change, misanalysis, and analogy in the Bantu causative. *Journal of African Languages and Linguistics* 24. 55–90.

Hyman, Larry M. 2006. Word-prosodic typology. *Phonology* 23. 225–257.

Hymes, Dell H. 1971. Introduction (to part III). In Dell H. Hymes (ed.), *Pidginization and creolization of languages*, 65–90. Cambridge: Cambridge University.

Karlsson, Fred, Miestamo, Matti & Sinnemäki, Kaius. 2008. Introduction: The problem of language complexity. In Miestamo, Sinnemäki & Karlsson (2008), vii–xiv.

Katamba, Francis. 2003. Bantu nominal morphology. In Nurse & Philippson (2003), 103–120.

Klein, Thomas B. 2003. Syllable structure and lexical markedness in creole morphophonology: Determiner allomorphy in Haitian and elsewhere. In Ingo Plag (ed.), *Phonology and morphology of creole languages*, 209–228. Tübingen: Niemeyer.

Klein, Thomas B. 2006. Creole phonology typology: Phoneme inventory size, vowel quality distinctions and stop consonant series. In Bhatt & Plag (2006), 3–21.

Kouwenberg, Silvia. 2004. The grammatical function of Papiamentu tone. *Journal of Portuguese Linguistics* 3. 55–69.

Kouwenberg, Silvia. 2010. Creole studies and linguistic typology: Part I. *Journal of Pidgin and Creole Languages* 25. 173–186.

Kouwenberg, Silvia & Singler, John Victor (eds.). 2008. *The handbook of pidgin and creole studies*. Chichester, West Sussex: Blackwell.

Lefebvre, Claire. 1998. *Creole genesis and the acquisition of grammar: The case of Haitian creole*. Cambridge: Cambridge University.

Lefebvre, Claire & Brousseau, Anne-Marie. 2002. *A grammar of Fongbe*. Berlin: Mouton.

Maddieson, Ian M. 2005a. Consonant inventories. In Haspelmath, Dryer, Gil & Comrie (2005), 10–13.

Maddieson, Ian M. 2005b. Glottalized consonants. In Haspelmath, Dryer, Gil & Comrie (2005), 34–37.

Maddieson, Ian M. 2005c. Lateral consonants. In Haspelmath, Dryer, Gil & Comrie (2005), 38–41.

Maddieson, Ian M. 2005d. Uvular consonants. In Haspelmath, Dryer, Gil & Comrie (2005), 30–33.

Maddieson, Ian M. 2005e. Vowel quality inventories. In Haspelmath, Dryer, Gil & Comrie (2005), 14–17.

Maho, Jouni. 1999. *A comparative study of Bantu noun classes*. Göteburg: Acta Universitatis Gothoburgensis.

McWhorter, John H. 1998. Identifying the creole prototype: Vindicating a typological class. *Language* 74. 788–818.

McWhorter, John H. 2001a. The world's simplest grammars are creole grammars. *Linguistic Typology* 5. 125–166.

McWhorter, John H. 2001b. What people ask David Gil and why: Rejoinder to the replies. *Linguistic Typology* 5. 388–412.

McWhorter, John H. 2003. Pidgins and creoles as models of language change: The state of the art. *Annual Review of Applied Linguistics* 23. 202–212.

McWhorter, John H. 2005. *Defining creole*. Oxford: Oxford University.

McWhorter, John H. 2006. What the creolist learns from Cantonese and Kabardian. *Diachronica* 23. 143–184.

McWhorter, John H. 2007. *Language interrupted: Signs of non-native acquisition in standard language grammars*. Oxford: Oxford University.

McWhorter, John H. 2008a. Hither and thither in Saramaccan Creole. *Studies in Language* 32. 163–195.

McWhorter, John H. 2008b. Why does a language undress? Strange cases in Indonesia. In Miestamo, Sinnemäki & Karlsson (2008), 167–190.

Meinhof, Carl. 1932. *Introduction to the phonology of the Bantu languages*. Translated by N.J. van Warmelo. Berlin: Dietrich Reimer. First published 1910.

Miestamo, Matti, Sinnemäki, Kaius & Karlsson, Fred (eds.). 2008. *Language complexity*. Amsterdam: Benjamins.

Moravcsik, Edith A. & Wirth, Jessica R. 1986. Markedness: An overview. In Fred R. Eckman, Edith A. Moravcsik & Jessica R. Wirth (eds.), *Markedness*, 1–11. New York: Plenum.

Mufwene, Salikoko S. 2001. *The ecology of language evolution*. Cambridge: Cambridge University.

Mufwene, Salikoko S. 2003. Contact languages in the Bantu area. In Nurse & Philippson (2003), 195–208.

Nichols, Johanna. 2007. What, if anything, is typology? *Linguistic Typology* 11. 231-238.

Nichols, Johanna. 2009. Linguistic complexity: A comprehensive definition and survey. In Sampson, Gil & Trudgill (eds.) (2009), 110–125.

Nikiema, Emmanuel. 1999. De la variation du déterminant /la/ dans les créoles haïtien et st-lucien. *Lingua* 107. 69–93.

Nurse, Derek & Philippson, Gérard (eds.). 2003. *The Bantu languages*. London: Routledge.

Ohala, John J. 1999. Aerodynamics of phonology. In *Linguistics in the morning calm 4*, 92–97. Seoul: Hanshin.

Parkvall, Mikael. 2008. The simplicity of creoles in a cross-linguistic perspective. In Miestamo, Sinnemäki & Karlsson (2008), 265–285.

Plag, Ingo. 2008. Creoles as interlanguages: Inflectional morphology. *Journal of Pidgin and Creole Languages* 23. 114–135.

Plag, Ingo. 2009. Creoles as interlanguages: Phonology. *Journal of Pidgin and Creole Languages* 24. 119–138.

Polomé, Edgar. 1996. How Indo-European is Germanic. In Irmengard Rauch & Gerald F. Carr (eds.), *Insights in Germanic linguistics II: Classic and contemporary*, 197–206. Berlin: Mouton.

Remijsen, Bert & van Heuven, Vincent J. 2005. Stress, tone, and discourse prominence in Curaçao Papiamentu. *Phonology* 22. 205–235.

Rivera Castillo, Yolanda & Faraclas, Nicholas. 2006. The emergence of systems of lexical and grammatical tone and stress in Caribbean and West African creoles. *Sprachtypologie und Universalienforschung* 59. 148–169.

Rivera-Castillo, Yolanda & Pickering, Lucy. 2004. Phonetic correlates of stress and tone in a mixed system. *Journal of Pidgin and Creole Languages* 19. 261–284.

Rountree, S. Catherine. 1972. The phonological structure of stems in Saramaccan. In Joseph E. Grimes (ed.), *Languages of the Guianas*, 22–27. Norman, Oklahoma: SIL.

Rountree, S. Catherine, Asodanoe, Jajo & Glock, Naomi. 2000. *Saramaccan word list (with idioms)*. Paramaribo: Instituut voor Taalwetenschap (SIL).

Samarin, William J. 1967. *A grammar of Sango*. The Hague: Mouton.

Samarin, William J. 2000. The status of Sango in fact and fiction: On the one-hundredth anniversary of its conception. In John H. McWhorter (ed.), *Language change and language contact in pidgins and creoles*, 301–334. Amsterdam: Benjamins.

Sampson, Geoffrey, Gil, David & Trudgill, Peter. (eds.). 2009. *Language complexity as an evolving variable*. Oxford: Oxford University.

Saussure, Ferdinand de. 1995[1916]. *Cours de linguistique générale (édition critique préparée par Tullio de Mauro)*. Paris: Payot.

Schuchardt, Hugo. 1914. Vorbericht. In *Die Sprache der Saramakkaneger in Surinam*, iii–xxxv. Amsterdam: Johannes Müller.

Schuchardt, Hugo. 1914/1980. The language of the Saramacca negroes in Surinam (1914c, i–xxxvi) (translated by Glenn Gilbert). In Glenn G. Gilbert (ed.), *Pidgin and creole languages: Selected essays by Hugo Schuchardt*, 89–126. Cambridge: Cambridge University.

Schumann, C. 1899. Grundriss einer Grammatik der Kondesprache. *Mitteilungen des Orientalische Seminars zu Berlin* 2. 1–86.

Siegel, Jeff. 2007. Transmission and transfer. In Ansaldo, Matthews & Lim (2007), *Deconstructing creole*, 167–201.

Siegel, Jeff. 2008. *The emergence of pidgin and creole languages*. Oxford: Oxford University.

Singler, John Victor. 2008. The sociohistorical context of creole genesis. In Silvia Kouwenberg & John Victor Singler (2008), 332–358.

Smith, Norval. 1987. Comparative word list of Gbe and Saramaccan. Ms. University of Amsterdam.

Smith, Norval. 2006. Very rapid creolization in the framework of the restricted motivation hypothesis. In Claire Lefebvre, Lydia White & Christine Jourdan (eds.), *L2 acquisition and creole genesis*, 49–65. Amsterdam: Benjamins.

Smith, Norval. 2009. Simplification of a complex part of grammar or not? What happened to KiKoongo nouns in Saramaccan. In Enoch O. Aboh & Norval Smith (eds.), *Complex processes in new languages*, 51–73. Amsterdam: Benjamins.

Smith, Norval & Haabo, Vinije. 2007. The Saramaccan implosives: Tools for linguistic archaeology? *Journal of Pidgin and Creole Languages* 22. 101–122.

Thomason, Sarah G. 1993. On identifying the sources of creole structures: A discussion of Singler's and Lefebvre's papers. In Salikoko S. Mufwene (ed.), *Africanisms in*

Afro-American language varieties, 280–295. Athens, Georgia: University of Georgia.

Thomason, Sarah G. & Kaufman, Terrence. 1988. *Language contact, creolization, and genetic linguistics*. Berkeley: University of California.

Trudgill, Peter. 2009. Sociolinguistic typology and complexification. In Sampson, Gil & Trudgill (eds.), *Language complexity as an evolving variable*, 98–109.

Veenstra, Tonjes. 2008. Creole genesis: The impact of the Language Bioprogram Hypothesis. In Kouwenberg & Singler (2008), 219–241.

Voorhoeve, Jan. 1959. An orthography for Saramaccan. *Word* 15. 436–445.

Williamson, Kay & Blench, Roger M. 2000. Niger-Congo. In Bernd Heine & Derek Nurse (eds.), *African languages: An introduction*, 11–42. Cambridge: Cambridge University.

Winford, Donald. 2006. Reduced syntax in (prototypical) pidgins. In Ljiljana Progovac, Kate Paesani, Eugenia Casielles & Ellen Barton (eds.), *The syntax of nonsententials: Multidisciplinary perspectives*, 283–307. Amsterdam: Benjamins.

Notes

1. I would like to thank audience members at the International Colloquium on the Typology of Creole Languages held in August 2008 at the University of Toronto and at the Society for Pidgin and Creole Linguistics Conference held in January 2010 in Baltimore, as well as John McWhorter and three anonymous reviewers, for their comments on the work leading up to this paper.

2. Throughout this paper, I will generally employ the terms *simple* and *simplification* following my impression that these are the most common labels used for the purported phenomenon wherein creoles are seen to be less complex than non-creoles in some way. Other labels are possible, of course, for example 'reduced' (Bakker 2008:138)) and, perhaps, in the long run, even more suitable to the extent that they may be associated with less problematic connotations.

3. Siegel (2007) provides clarifying discussion suggesting that the opposition between superstratists and non-superstratists with respect to what is referred to here as the creole bottleneck may not be quite as stark as it at first appears.

4. There are other terms for this stage, as well, in the literature, for example the Stage 1 pidgin of Winford (2006:296–298).

5. The similarities between Croft's (2000) notion of the lingueme and Mufwene's (2001) notion of *feature* in the context of the *feature pool* are immediately apparent. Mufwene's notion of feature (2001:1–2) would appear to be significantly broader than notion of lingueme, however. Since the former, I believe, is sufficient to characterize the structure of a jargon, I adopt it here in the interests of precision.

6. I use the term idealization rather than prototype, in the sense of McWhorter's (1998) creole prototype, in order to avoid any implication that the definition of jargon is intended to refer to any attested entity. In that sense, it is reminiscent of the so-called canons found in work within the canonical approach to typology (see Corbett (2007)). Arguing from an idealization, of course, weakens the empirical foundations of any of the claims to be made below. At the same time, however, it allows one to deduct a set of

logical consequences deriving from an assumed model more straightforwardly, which is why it is employed here.

7. As indicated by the survey in Dryer (2005), free word order holding between a numeral and a noun, though uncommon, is not especially rare, occurring in about five percent of the sampled languages. There is also no strong preference in the sample for numeral–noun order over noun–numeral order (the former comprises somewhat over forty percent of the sample and the latter somewhat over fifty percent). Thus, a specific fixed order among these elements appears to be something that is stipulated within grammars rather than falling out of some universal principle.

8. There is a descriptive tradition within work on Niger-Congo languages which sometimes labels phenomena involving only affixal marking on the noun, without associated agreement alternations, as a kind of noun class (see Lefebvre and Brousseau (2002:193–195) for relevant discussion in the context for Fongbe). This runs counter to typological work which reserves the term noun class only for cases where there is evidence for the class in patterns of agreement (Corbett 1991:146). I adopt the latter sense of noun class here given that this paper is not specifically focused on Niger-Congo languages.

9. Glossing abbreviations employed in the examples in (5) are as follows: 1,9,10–noun class; DEF–definite; FV–inflectional final vowel; PASS–passive; PST–past tense.

10. This etymology is drawn from Smith (1987), and the cited form is from Ewe.

11. Glossing abbreviations employed in the examples in (6) are as follows: 1,7–noun class; FV–inflectional final vowel; TNS–tense marker.

12. Consider, for example, the presentation of the noun class prefixes and associated concord elements (e.g., for adjectives, numerals, demonstratives, etc.) for the Zezuru dialect of the Bantu language Shona, as given by Maho (1999:101), based on Fortune (1957:173), which gives a table with over 100 forms to exhaustively summarize the paradigmatic distinctions in the noun class system.

13. Of course, none of this is to suggest that, for the basic semantics of a lingueme like that seen in (6b) to be interpreted by speakers of a contact variety, it is necessary for them to successfully analyze it following the schematization in (8). Such analysis would be required only for the transfer of the agreement patterns associated with the lingueme, not its overall semantics.

14. Here, by tone, I refer to cases where, 'an indication of pitch enters into the lexical realisation of at least some morphemes (Hyman 2006:229)'.

15. In the discussion here I refer only to so-called 'pure' tone, as opposed to 'amalgam' tone (Hildebrandt 2007:88), the latter of which is marked by a combination of F_0 and phonation type.

16. I speak here of surface tonal patterns, not underlying systems. A surface H vs. L contrast may, of course, be analyzable via a privative opposition (e.g., H vs. Ø). Such an opposition, however, could only be transferred, in the sense of transfer adopted here (see section 2.1), if linguemes evincing, in one way or another, the relevant oppositions in their surface forms were also transferred—and this requires transfer of a set of tonally marked elements, whether from lingueme-internal tone-bearing units or across linguemes.

17. For relevant comparative studies of creole prosody, see also Devonish (1989, 2002) and Rivera Castillo & Faraclas (2006).

18. Of course, there are gradient segmental features, like aspiration, which would seem to similarly require paradigmatic comparison in order for contrasts to be detected. The opposition made here between 'tone' and 'segments' is clearly oversimplified. See section 6.2 for more detailed discussion of the transfer of segment inventories under jargonization.

19. See Voorhoeve (1959) and Rountree (1972) for standard analyses of the Saramaccan segmental system. Smith and Haabo (2007) further discuss the presence of apparent phonemic labial and alveolar implosives. A voiceless labiovelar approximant *hw* is found

in a handful of words in some sources (see, e.g., Rountree et al. (2000)), though its precise status is unclear and it is, at best, a marginal phoneme.

20. The ranking in table 8 was derived by averaging the associationality scores across the two tests found in Gil (2007), namely the availability of a bare peripheral and a bare patient preceding reading. While it is not obvious that this is the best way to achieve a unified ranking like the one presented in table 8, the general points to be made here regarding the associational/articulated distinction in creoles would seem to hold under any reasonable way of determining such a ranking. In particular, the relative ranking of the creoles appears fairly robust as does the fact that they are not found at the 'extreme' ends of this typology. However, we must bear in mind that Gil (2007) represented a report of work in progress (see Gil (2007:89, fn. 8)) not a definitive final study.

21. Comparable data is presented in Gil (2008:121). The results of Gil (2007) are discussed here since they include Sranan figures, which are not reported in Gil (2008).

22. Kouwenberg (2010) has pointed out that it has been difficult for typologists to find a place for creoles in the somewhat 'static' presentations found in a work like Haspelmath, Dryer, Gil, and Comrie (2005), which is due to an emphasis on languages whose histories are attributable to 'normal' historical forces as opposed to 'exceptional' creoles. This is obviously less of a problem in typological work specifically interested in how historical forces shape grammars.

23. Cases of apparently 'creolized' non-creoles, like what Grant (2007) provides, offer comparably interesting test cases.

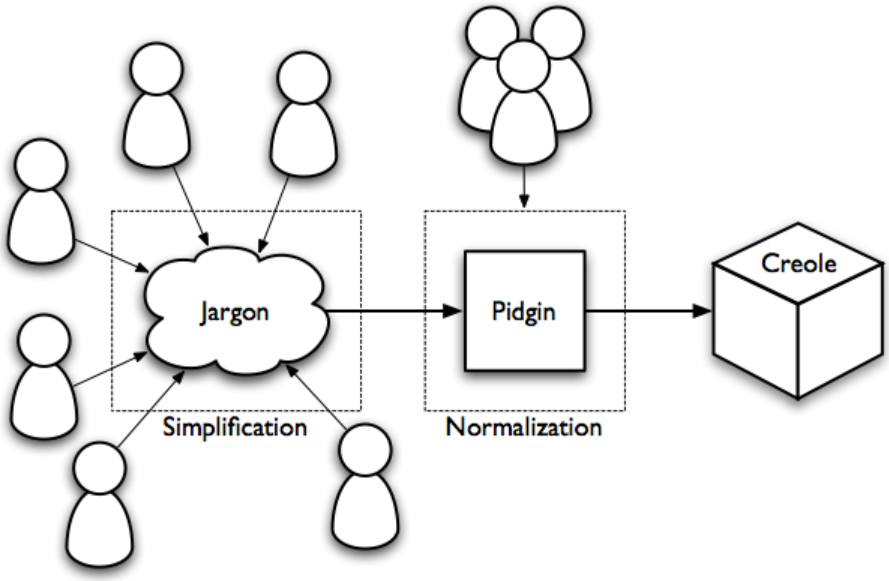

Figure 1: Schematization of structural stages of creolization

SINGULAR		PLURAL	
1	mu	2	a-
3	mu-	4	mi-
5	di-/e-	6	ma-
7	ki-	8	i-
9	n-	10	n-
11	lu-	13	tu-
14	u-		
15	ku-		
16	va-		
17	ku-		
18	mu-		
19	fi-		

Table 1: Kikongo noun class prefixes

ROOT	TRANS	APPL	APPL-TRANS	ROOT GLOSS
-sok-	*-sos-y-*	*-sok-el-*	*-sok-es-y-*	‘go out’
-lek-	*-les-y-*	*-lek-el-*	*-lek-es-y-*	‘let go’
-syut-	*-syus-y-*	*-syut-el-*	*-syuk-es-y-*	‘swing’
-kind-	*-kis-y-*	*-kind-il-*	*-kik-is-y-*	‘pass’
-jong-	*-jos-y-*	*-jong-el-*	*-jok-es-y-*	‘run away’
-ag-	*-as-y-*	*-ag-il-*	*-ak-is-y-*	‘come to an end’
-tup-	*-tuf-y-*	*-tup-il-*	*-tuk-if-y-*	‘become stout’
-pub-	*-puf-y-*	*-pub-il-*	*-puk-if-y-*	‘get used to’
-lim-	*-lim-y-*	*-lim-il-*	*-lim-ik-is-y-*	‘cultivate’
-lum-	*-lum-y-*	*-lum-il-*	*-lum-ik-is-y-*	‘bite’

Table 2: Causativized and applicativized verb forms in Nyakyusa

EXAMPLE	TRANSLATION	ALLOMORPH	ENVIRONMENT
[malad-la]	‘the sick person’	[la]	after oral consonant
[bãk-lã]	the bank’	[lã]	after oral consonant preceded by nasal vowel
[madam-nã]	the lady’	[nã]	after nasal consonant
[papa-a]	the dad’	[a]	after oral vowel
[laã-ã]	the money’	[ã]	after nasal vowel
[lapli-ja]	the rain’	[ja]	insertion of [j] after front vowel
[bato-wa]	the boat’	[wa]	insertion of [w] after front vowel

Table 3: *Haitian Determiner Allomorphy*

p	t	tj	k	kp~kw	
b (ɓ)	d (ɗ)	dj	g	gb~gw	
mb	nd	ndj	ng		
m	n	nj			
f	s				h
v	z				
	l	j		w (hw)	

Table 4: *Saramaccan consonant inventory*

i	u
e	o
ɛ	ɔ
a	

Table 5: Saramaccan vowel inventory

p	t	k
ƀ	ř	g

Table 6: Rotokas consonant inventory

i	u
e	o
a	

Table 7: Rotokas vowel inventory

MOST ASSOCIATIONAL
Minangkabau
Sundanese
Yoruba
Vietnamese
Fongbe
Bislama
Sranan
Twi
Papiamentu
Hebrew
English
MOST ARTICULATED

Table 8: Associational versus articulated languages (adapted from Gil (2008:121))