

# Retained inflectional morphology in pidgins: A typological study<sup>1</sup>

Sarah J. Roberts and Joan Bresnan  
*Stanford University*

## 1. Introduction

One oft-cited characteristic of pidgins is a lack of inflectional morphology. According to Romaine (1988:24), the process of language reduction which underlies pidginization strips everything from the lexifying language “but the bare essentials necessary for communication,” eliminating redundant and non-essential categories such as grammatical gender and agreement, while employing word order conventions to express syntactic relations. As Holm (2000:127) notes, some have even claimed that pidgins and creoles are “languages without any inflectional morphology whatsoever.” Most specialists rightly reject such a sweeping and inaccurate generalization, but pidgin and creole inflections are still generally treated as isolated exceptions to general patterns of language reduction. Some regard them as the residue that sneaked past the restructuring process of pidginization because of idiosyncratic factors (McWhorter 2005:64), while others view their existence in creoles as evidence against the view that creole genesis involves the kind of “break in transmission” that occurs in pidginization (see DeGraff 2001:232, 2003:399 with respect to Haitian Creole French).

As it turns out, inflections are not uncommon at all in pidgins. In an earlier study on pidgin morphology, Bakker (2003) found that pidgins have even richer inflection than creoles though much of this may be due to the fact that most creoles are lexified by European languages. About half the pidgins surveyed in that paper have some form of inflectional morphology. But the following generalization does hold for all pidgins (as well as creoles): No pidgin has *more* inflectional morphology than its respective lexifier(s), and most (if not all) pidgins have comparatively fewer inflections. This is the basis for the claim that pidginization involves a reduction of inflectional morphology, though usually such reduction is far from total.

There are at least three ways in which inflections may become established in the synchronic grammar of a pidgin: innovation in pidginization or subsequent development, borrowing from other languages in contact, and inheritance from the lexifying language. In the first instance inflections are products of the pidginization process itself, created through grammaticalization or metatypy. One well-studied example is *-pela* in Australian and Melanesian pidgin Englishes. Derived from English *fellow*, it has come to function as a pronoun pluralizer and general classifier suffixed to adjectives, quantifiers, and demonstratives in various languages (Mühlhäusler 1996, Baker 1996). Innovated inflections may sometimes express or reinforce grammatical categories in the other languages in contact (Keesing 1988; Siegel 1998).

Inflections may also be borrowed from substrate or adstrate languages; for instance, some varieties of Kenyan Pidgin Swahili have adopted two verbal affixes from other Kenyan Bantu languages: *-anga* for habitual and *-ko* for polite imperative (Heine 1991:37). Inflections may also be borrowed at a later time from the lexifier itself once

the pidgin has emerged. This is one characteristic feature of “depidginization” and has been observed in modern varieties of Fiji Pidgin Hindustani (Siegel 1987:251).

Most pidgin inflections however are retentions from lexifying languages. The amount of retention varies from pidgin to pidgin, as the process of pidginization leads to different outcomes across different contexts. The degree to which the lexifier is morphologically reduced depends on the many linguistic and social factors governing the development of the contact language. In general terms, pidgins are isolating languages and pidginization may involve a shift from synthetic to analytic morphology (along with a shift from subordination to parataxis). But in a few cases the amount of retained inflectional morphology may be quite substantial, as evidenced by languages such as Kituba and LiNgala, which are sometimes classified as expanded pidgins (Smith 1995:357) and sometimes as koines (see the discussion in Mufwene 1997:46-48). Although reduced in comparison to their lexifiers, these languages are morphologically quite complex and do not classify easily. Rather than limit discussion to a sharply defined category of prototypical pidgins, we prefer to recognize that there is a cline of morphosyntactic reduction that spans between a significant subset of contact languages, with the greatest amount of reduction evidenced by languages traditionally classified as pidgins.

The goal of this paper is not to establish the existence of retained inflections in pidgins, which is uncontroversial and well documented in previous work (Bakker 2003), but rather to uncover certain patterns in the retention of inflectional morphology across contact languages that experienced a process of structural reduction (i.e. pidginization) in their genesis. This involves a systematic comparison between the inflectional systems of a given pidgin and its lexifier(s). The preservation of individual bound morphemes is often examined with the local linguistic situation in mind, such as the degree of typological homogeneity in the languages of the contact situation or accidental homophony between inflections in two or more of the languages (Thomason & Kaufman 1988). But there appears to be more to the preservation of inflectional morphology than just idiosyncratic circumstances, as some kinds of inflections are more likely to be retained than others across pidgin languages. The data in this paper will show that “contextual” inflections such as case marking on nouns and nominal agreement on verbs are retained slightly less often than “inherent” inflections such as number and definiteness on nouns and tense and aspect on verbs (see section 3).

This bias in reduction actually builds on a similar asymmetry found in the lexifiers themselves and thus suggests that pidginization is not indifferent to the typology of the languages involved. The asymmetry also reflects more general linguistic principles since inherent inflections exhibit greater semantic relevance to the stem than contextual inflections, as section 4 will bring out in further detail. Most past studies examined markedness as a potential principle in the simplification of the lexifier and the loss of morphology itself (Thomason & Kaufman 1988, Mufwene 1990; Siegel 1997). Haiman (1985) in particular pointed to evidence of the role of markedness constraints in the loss of pronominal inflections in pidgins and Bresnan (2004) showed how an optimality theoretic model can account for these and related phenomena. In this paper we will examine the role of markedness in the *preservation* of inflectional morphology. Our approach, informed by principles in Optimality Theory, assumes that the probability of retention is enhanced if the inflection is unmarked in certain ways.

## 2. Pidgins and language typology

Unlike languages with clear-cut genetic or areal affiliation, pidgins and creoles as a group are defined by their sociolinguistic history. Most would agree that they are languages which emerge in sustained contact situations demanding a mutually accessible means of communication, such as trade, war, colonialist expansion, and slavery. In such situations there is often a reduced motivation or opportunity to acquire full competence in the socially dominant language and speakers are instead motivated to negotiate a common linguistic medium (Baker 1997). According to Thomason (1997:76):

[T]he main goal of facilitating intergroup communication dictates a no-frills grammatical system, without (for instance) elaborate embeddings and varied stylistic resources. The process of creating a new contact language in a new contact situation involves cross-language compromise and therefore tends to eliminate unshared hard-to-learn features, such as inflectional morphology and complex syntactic structures.

Pidgins develop as auxiliary languages and thus lack native communities, at least initially. Creoles, on the other hand, serve as community vernaculars and are usually acquired as first languages. They are not structurally restricted, as they must serve the complex needs of their speakers. Some creoles (such as Pitcairn English Creole and Unserdeutch) are thought to have emerged at once as community vernaculars, while others (such as Tok Pisin, Grand Ronde Chinook Jargon, and Sango Creole) developed from formerly restricted pidgins (Grant 1996; Samarin 1997; Thomason 1997; Mühlhäusler 1997). In the later circumstance, the pidgin may vernacularize before it has nativized and undergo significant structural expansion without yet serving as a community's native language. The term *expanded pidgin* is often used to refer to such languages, but the lack of any clear-cut structural differences between expanded pidgins and creoles has led some to regard the term as introducing "a fairly empty terminological distinction" (Thomason 1997:79; McWhorter 1999, 2000).

Pidgins and creoles do not constitute a structurally unique type of language, aside from the three features suggested by McWhorter (1998, 2000) as found only in pidgins and creoles in combination. McWhorter (1998) regards the presence of these features (which include, among other things, the lack of inflectional morphology) in most creoles as a result of prior pidginization, and while this claim has proved to be highly contentious (cf. Goyette 2000; Ansaldo & Matthews 2001; DeGraff 2001, 2005; Plag 2001), most agree that pidgins are typologically analytic and depend on word order and function words to convey grammatical information. No pidgin is polysynthetic and only the "semi-Pidgin" languages of LiNjala and Shaba Swahili approach anything close to the synthetic type (Knappert 1979; de Rooij 1995).

The categorization of pidgins is slippery on several fronts. As noted above, there is a rather fuzzy boundary between pidgins and creoles which the category of "expanded pidgin" attempts to circumvent (see Bakker 2003 for a list of sociolinguistic parameters). The proposed category of "semi-pidgin" (McWhorter 1999) similarly accommodates the fuzziness between contact languages that undergo radical structural reduction and those that do not. Mufwene (1997) also points out that some classify LiNjala as a koine, revealing a slipperiness between pidgins and koinés depending on the degree to which the

“languages” in contact may be regarded as dialects of the same language. Some pidgins are also classified as “jargons” if they lack linguistic stability (Romaine 1988).

Another problem in the study of pidgins is empirical. Some pidgins (such as Tok Pisin, Chinook Jargon, and Hiri Motu) are very well documented, while others are known from a single study. Only a few scraps of data exist for Icelandic Pidgin Basque, Pidgin Haida, and Pidgin Ngarluma (Bakker et al. 1991; Grant, in press; Dench 1998), while no linguistic data (beyond isolated lexical items) exists for such varieties as Broken Slavey and Jargon Loucheux (Bakker 1996). Our examination of pidgin inflections will thus be based on only the best known varieties and not a random selection of pidgins.

The reduction of inflectional morphology occurs early in pidgin genesis through target model simplification (Romaine 1988, Siegel 1997), and thus its effects would be visible in more mature pidgins and creoles. However the leveling of retained inflections may continue through the lifespan of the pidgin/creole and so early-stage pidgins make better witnesses of the process of language reduction than more mature ones. To provide the most representative sample of pidgins, we will include examples from the four types discussed above (as well as from “semi-Pidgins” such as Kituba and LiNgala) but the emphasis will be on socially restricted pidgins and jargons.

Table 1 on the opposite page displays information on the 27 pidgins surveyed in this paper, including name, location, classification (PJ=unstable jargon, P=stable pidgin, PE=expanded pidgin, C=creole), the morphological type of its main lexifier(s), and the source of information on each respective language. The only creoles included in Table 1 are those which developed from former restricted pidgins such as Nubi and Sango. The classification is based mostly on the work of Smith (1995).

(PLACE TABLE 1 APPROXIMATELY HERE)

### 3. The retention of inflectional morphology in pidgins

Inflections tend to occur further from the stem than derivational morphemes and generally they contribute syntactic information to the sentence (Anderson 1982). Booij (1994, 1996) has posited two main categories of inflection: *inherent inflection*, which signals grammatical meanings intrinsic to the word itself and which is not governed by syntax, and *contextual inflection*, which signals syntactic relationships between words. The following is a partial but useful list of common grammatical categories indicated by verbal and nominal inflections:

- |              |    |  |
|--------------|----|--|
| (1) Inherent | V: | 1a. TENSE/ASPECT, 1b. MOOD, 1c. NEG(ATION)                   |
|              | N: | 2a. NUM(BER), 2b. GEND(ER), 2c. DEF(INITENESS)               |
| Contextual   | V: | 3a. AGR(EEMENT)-V (incl. PERS(ON)/NUM/etc.), 3b. DIR(ECTION) |
|              | N: | 4a. CASE, 4b. AGR-N  |

Tense/aspect, mood, and negation are expressed by inherent verbal inflections, as these express grammatical meanings inherent to verbs. Inherent nominal inflections include specifications for number, grammatical gender (as well as noun class), and definiteness.

Contextual inflections build syntactic relationships in the sentence. Examples of such inflections on verbal stems include agreement affixes and bound pronominals

(which mark the person, number, gender features of nominal arguments), and direct and inverse markers which signal relational information. In languages such as Swahili, the bound pronominal also specifies the grammatical function of the argument (i.e. AGR + GF). Contextual inflections on nominal stems specify the grammatical function of the nominal (i.e. case morphology). Head nouns also can bear an AGR+GF suffix when they furnish syntactic information for the noun's possessor.

Contextual inflections build syntactic relationships in the sentence. Examples of such inflections on verbal stems include agreement affixes and bound pronominals (which mark the person, number, gender features of nominal arguments), and direct and inverse markers which signal relational information. In languages such as Swahili, the bound pronominal also specifies the grammatical function of the argument (i.e. AGR + GF). Contextual inflections on nominal stems specify the grammatical function of the nominal (i.e. case morphology). Head nouns also can bear an AGR+GF suffix when they furnish syntactic information for the noun's possessor.

Morphological retention itself is somewhat gradient. Some inflections may survive in the pidgin fully intact. But others undergo some change in meaning and form. In other cases, the segment remains but without discernable meaning. The single most important criterion establishing the retention of an inflection is the survival of semantic content in the segment, as this is the defining property of morphemes. Lexifier inflections may therefore have one of the following outcomes in the pidgin:

- (2a) **Full Retention:** The morpheme is incorporated into the pidgin with little or no change.
- (2b) **Partial Retention:** The morpheme is retained in the pidgin but with either semantic reanalysis or structural change.
- (2c) **Partial Lexicalization:** The morpheme is retained in form only and remains contrastive only as an empty word class marker.
- (2d) **Lexicalization:** The morpheme is resegmented as a non-contrastive part of the stem (or another morpheme) through morpheme boundary reanalysis, resulting in loss of all semantic content of the original morpheme.
- (2e) **Full Loss:** No trace of the morpheme remains in the pidgin.

Only the first two consequences (2a, b) will be considered retentions in this paper. The other three outcomes result in substantial loss of semantic content. Lexicalization is especially common in pidgins drawn from inflectionally rich lexifiers or languages which lack citation forms of nouns, verbs, and other parts of speech. If items from a particular word class enter into the pidgin with fairly regular inflections (such as imperative or hortative for verbs, which is of common occurrence in trade or labor situations), the morpheme may continue to be contrastive as a word class marker. In Yimas-Alamblak Trading Pidgin all verbs obligatorily carry the prefix *nampu-* which likely derives from Yimas *mpan-/kampaign-*, the marker for first person agents when they act on second person patients (Williams 2000:52). In Russenorsk, nouns tend to end in *-a* or *-ka* (which derives from the Russian feminine and feminine diminutive suffixes) and verbs tend to end in *-om*, a suffix of uncertain origin but likely representing a convergence between the Russian first person present-future suffix, the Swedish hortative suffix (both *-om*), and possibly the pidgin English transitive suffix *-im* (Holm 1989; Fox 1983).

### 3.1. Retained inflections in pidgins

Viewed individually, inherent inflections are preserved about twice as often as contextual inflections in the contact languages surveyed in this paper. This section will explore the retention of inherent and contextual inflections by the word class of the stem.

*Retained inherent verbal inflections.* Inflections for tense/aspect and modality occur in most lexifiers and these are very often preserved in pidgins. Asmara Pidgin Italian retains past participle *-ato* as a general past marker (Marcos 1976), while Bilkiire preserves imperative *-u*, future *-an*, negative future *-taa*, and negative past *-aay* (Noss 1979). The Arabic nonpast indicative prefix *b-*, which occurs as a future marker in Egypt and the Levant especially (Mitchell & al-Hassan 1994:13), is retained in Kenyan Nubi as future *bi-* (Owens 1997). Nearly all Bantu-lexifier pidgins and creoles retain at least one tense/aspect or mood affix: i.e. Fanagalo past *-ile* and future *-zo-* (which functions as an analytic preverbal marker), Kenyan Pidgin Swahili non-future *na-* and future *ta-*, Kituba anterior *-á(k)a* (in part from Kikongo *á-*), and LiNgala perfective *-i* and future *-ko* (Sebba 1997; Duran 1979, Heine 1991; Mufwene 1997; Meeuwis 1998). Sango also preserves the Ngbandi use of tone to mark irrealis (Pasch 1997). Nagamese inherited present *-əse*, past *-se*, *-sile*, and future *-bo* from Assamese (Sreedhar 1985, Boruah 1993), and Taymir Pidgin Russian preserves most lexifier verbal inflections (Stern, in press). The Yimas-Arafundi Trading Pidgin retains future *-k* and non-future *-nan* (Foley 1988, p c), while the Koriki Hiri Trading Pidgin retains future, tentative *-varia* (Dutton 1983, 1985). Broken Ojibwe has also preserved future *da-*, and obligative *gaa-* (Nichols 1995).

In some lexifiers, negation is expressed with tense/aspect (i.e. Fula) while in others it occurs as a separate affix (i.e. Swahili, West Greenlandic, Yimas). Negation seems to be retained only in tense/aspect morphology (i.e. Bilkiire negative future *-taa*, negative past *-aay*).

*Retained inherent nominal inflections.* The morphological expression of number and gender/noun class is frequently retained in pidgins. Pidgins lexified by languages with elaborate gender systems exhibit varying levels of reduction: LiNgala retains half of the BoBangli system to mark animacy distinctions, Fanagalo and Kenyan Pidgin Swahili both reduce 15 classes to six (Heine 1973:185-186), and Broken Ojibwe retains two gender distinctions (Nichols, p c). The complex noun class system of agreement in Yimas is nonetheless lost in Yimas-Arafundi Trading Pidgin and Yimas-Alamblak Trading Pidgin (Williams 2000; Foley p c). In Fanagalo, Kenyan Pidgin Swahili, Kituba, and Broken Ojibwe, the inflections were principally retained for the marking of number, such as Fanagalo plurals *zi-*, *ma-*, and *ma-* from noun class 6 in Kenyan Pidgin Swahili.

Other number affixes retained in pidgins include Sango plural *á-*, Nubi-Juba Arabic plurals *-á* (from the Arabic feminine plural *-āt*), *-ín* (from the masculine plural), Gulf Pidgin Arabic plurals *-āt*, *-ín*, and Nagamese plural *-bilak* (Owens 1997; Smart 1990; Sreedhar 1985, Boruah 1993).

Definiteness is expressed inflectionally in a number of lexifiers, such as in Arabic *al-* and Assamese definitives which are fusional in terms of number, noun class, and definiteness. Nagamese *-bilak*, a generalized human/animate/inanimate plural definitive in Assamese (Goswami 1982:246), does not specify for definiteness. The North Russian definite suffix *-to* is retained in Govorka, but with some shift in meaning (Stern, in press).

*Retained contextual verbal inflections.* Most pidgins and creoles eliminate bound pronominals and agreement morphology on both verbs and nouns. The loss of such morphology tends to be categorical within a given pidgin (unlike the partial preservation of noun classes in several Bantu-lexified pidgins) and occurs regardless of whether the affixes reference the grammatical function of the signified argument. Independent pronouns usually occur in their place, as shown in the pairings of corresponding lexifiers and pidgins in (1a ,b)-(7a, b):

- |  |  |
|--|--|
| <p><b>Zulu</b></p> <p>(1a) ngi- -ya -ku -bona<br/>1SG TENSE 2SG see</p> <p>‘I see you.’ (Sebba 1997:59)</p>                              | <p><b>Fanagalo</b></p> <p>(1b) mina bona wena<br/>1SG see 2SG</p>                                |
| <p><b>Kikóngo</b></p> <p>(2a) ka- -ku -zól -elé<br/>3SG.SUBJ 2SG like ASP</p> <p>‘He/she likes you.’ (Mufwene 1997:176)</p>              | <p><b>Kituba</b></p> <p>(2b) yánda zol-a ngé<br/>3SG like 2SG</p>                                |
| <p><b>Swahili</b></p> <p>(3a) h- -a -fik -i leo<br/>NEG 3SG.SUBJ arrive NEG today</p> <p>‘She doesn’t arrive today.’ (Heine 1991:46)</p> | <p><b>Kenyan Pidgin Swahili</b></p> <p>(3b) yeye hapana fika leo<br/>3SG NEG arrive today</p>    |
| <p><b>Arabic</b></p> <p>(4a) masha le al- suug<br/>3SG.MASC.SUBJ.go to DEF- market</p> <p>‘He went to the market.’ (Owens 1991:25)</p>   | <p><b>Nubi</b></p> <p>(4b) úwo rúwa fu sú<br/>3SG go LOC market</p>                              |
| <p><b>Russian</b></p> <p>(5a) ja po- -kupaju rybu<br/>1SG.SUBJ PRF buy.1SG fish</p> <p>‘I buy fish.’ (Holm 1989:624)</p>                 | <p><b>Russenorsk</b></p> <p>(5b) moja kupom fiska<br/>1SG buy fish</p>                           |
| <p><b>Yimas</b></p> <p>(6a) na- -ka -tupul<br/>3SG.PAT 1SG.AGT hit</p> <p>‘I hit him.’ (Foley 1988:171)</p>                              | <p><b>Yimas Pidgin</b></p> <p>(6b) ama min namban kratiki -nan<br/>1SG 3SG toward hit NONFUT</p> |
| <p><b>Choctaw</b></p> <p>(7a) chi- -bashli -li -tok<br/>2SG.ACC cut 1SG.NOM PAST</p> <p>‘I cut you.’ (Drechsel 1997:302)</p>             | <p><b>Mobilian Jargon</b></p> <p>(7b) ešno eno bašle taha<br/>2SG 1SG cut PAST</p>               |

In many pidgins, inflections that facilitate agreement or function as bound pronouns in lexifying languages are lexicalized in the verb stem. The Gulf Arabic prefix *y(V)*- ‘third person masculine singular’ occurs on 54% of verbs regardless of reference. The example in (8) attests the use of a first person plural pronoun with a *y(V)*-prefixed verb, impossible in the lexifier with the intended meaning:

- Gulf Pidgin Arabic**  
 (8) . niḥna mā yifham  
 1PL NEG understand

‘We do not understand.’ (Smart 1990:97)

In the following example from Kyakhta Pidgin Russian, the verb is inflected for 3s past tense but occurs with a 1s subject:

- Kyakhta Pidgin Russian**  
 (9) mo’ya piri’shol ’esa  
 1SG come.3SG PRES

‘I come.’ (Wurm 1993:262)

Lexicalized pronominal inflections are also found in Herschal Island Trading Jargon, Greenlandic Pidgin Eskimo, and Pidgin Delaware, which are shown in (10b)-(12b) with their corresponding lexifiers in (10a)-(12a):

- |  |   |
|--|---|
| <p><b>Iñupiaq Eskimo</b><br/>         (10a) kaak-tok<br/>         hungry-3SG</p> | <p><b>Herschal Island Trading Jargon</b><br/>         (10b) ṭla kaktuña<br/>         3SG hungry.1SG</p> |
|--|---|

‘He is hungry.’ (van der Voort 1997:376)

- |   |   |
|---|---|
| <p><b>West Greenlandic Eskimo</b><br/>         (11a) oqaluttuup -pa<br/>         tell- 1SG.SUBJ.2SG.OBJ</p> | <p><b>Greenlandic Pidgin Eskimo</b><br/>         (11b) awonga igbik okaktūk<br/>         1SG 2SG talk.3SG</p> |
|---|---|

‘I told you.’ (van der Voort 1996:250)

- |   |  |
|---|--|
| <p><b>Unami Delaware</b><br/>         (12a) k- -əniḥəl -a -w<br/>         2 kill DIRECT 3</p> | <p><b>Pidgin Delaware</b><br/>         (12b) jəni entaami<br/>         3 rise.up</p> |
|---|--|

‘You killed him.’ (Goddard 1997:49)      ‘He got up.’ (Ibid, p. 67)

In (12) the verb *entaami* ‘rise up’ occurs with a third person singular subject though prefixed with first person *n-*. In (13), the Chinook Jargon verb *małayt* ‘live’ contains the second person singular prefix *m-* where Lower Chinook would instead require *t-/u-* to indicate a third person plural subject, and likely derives from the second person singular imperative form *młait*:



### Chinook Jargon

- (13) t'alap'as pi lilú łaska małayt ixt-ixt łaska xaws  
 coyote and wolf 3PL live one-one 3PL house

‘A coyote and a wolf lived with their houses side by side.’ (Thomason 1983:847)

Of the 30 pidgins surveyed in this paper, only 5 show any systematic and productive use of lexifier pronominal inflections. The least pidgin-like of these, LiNgala, retains the full inventory of Bobangi pronominal affixes. Example:

### Bobangi

- (14) Ngai, na- -ko -ke o mboka no- tonga ndako  
 1SG 1SG.NOM FUT go to village INF build house

### LiNgala

- (15) Ngai, na- -ko -kenda na mboka ko- tóna ndako  
 1SG 1SG.NOM FUT go PREP village INF build house

‘Me, I’m going to the village to build a house.’ (McWhorter 1999:13)

Sango retains the third person singular subject prefix à- for indefinite-impersonal-nonhuman subjects, which in the lexifier Ngbandi often refers to human subjects as well (Pasch 1997:232). LiNgala was one of the principal contributing languages to Sango and it contains a very similar prefix for singular human subjects.

### Ngbandi

- (16a) bì à- -vu  
 night SUBJ.3 dark

### Sango

- (16b) bì à- -vu  
 night SUBJ.3 dark

‘The darkness spread.’ (Pasch 1997:232-233)

In Govorka (Taymir Pidgin Russian), verbs are suffixed for tense and agree with subjects in number and gender:

### Taymir Pidgin Russian

- (17a) minjá pajdú túndra tarabá (17b) alén’ tibjá čúm staraná šló  
 1SG go.1SG tundra side reindeer 2SG teepee side go.PST.NEUT.SG

‘I will go north.’ (Stern, in press) ‘The reindeer went to your camp site.’ (Ibid.)

It is not altogether clear, however, whether the inflections were retained in the formative stages of Govorka or represent recent developments in the obsolescence of the language.

The Central dialect of Hiri Motu is closer to the lexifier in vocabulary and morphosyntax, retaining possessive case and optional object marking on verbs. These features are absent in Non-Central Hiri Motu. Example:

### Non-Central Hiri Motu

- (17a) lau itaita oi  
 1SG see 2SG

### Central Hiri Motu

- (17b) lau ita-mu  
 1SG see-2SG

### Motu

- (17c) na ita-mu  
 1SG see-2SG

‘I see you.’ (Foley 1986:33-35)

This feature may represent a later development in the history of the language. The dialectal distinction in Hiri Motu developed when the original pidgin expanded into new geographical regions, bringing Central Hiri Motu speakers in closer contact with speakers of the lexifier. If this is the case, then the object suffixes represent later borrowings, not retentions. However Taylor (1978) shows that object suffixes occurred occasionally in early texts of Simplified Motu (the jargon stage of the language), so this feature may have remained in Hiri Motu as a retention.

Bound pronominals are also found in Broken Ojibwe, which preserves the person prefixes from the lexifier (unspecified for grammatical function) and recasts them as subject pronouns. Independent pronouns are used for grammatical objects:

	<b>Ojibwe</b>		<b>Broken Ojibwe</b>
(18a)	gi- -da: -nis -in	(18b)	ni- -daa -nitoon giin
	2 OBLG kill INV		1 OBLG kill 2SG

‘I should kill you.’ (Nichols 1995)

Direction morphology constitutes another contextual inflection occurring on verbs. Unami Delaware and Ojibwe both possess direct and inverse markers (i.e. direct *-a* and inverse *-in* in examples 12a, 18a), but these were lost or lexicalized in Pidgin Delaware and Broken Ojibwe. In (18b), the person prefix would have been *gi-* if the inverse marker was retained in *-nitoon* ‘kill’.

*Retained contextual nominal inflections.* Inflection for nominal possessor may be found in many lexifiers, including Arabic, Assamese, Chinook, Greenlandic, and Delaware. In nearly every case these were lost in the pidgin. Example:

	<b>Fijian</b>		<b>Pidgin Fijian</b>
(19a)	na tama-mu	(19b)	na tamana koiko
	DEF name-2SG.POSS		DEF father 2SG

‘your father’ (Siegel 1987:110)

The Pidgin Fijian form also lexicalizes the Fijian third person singular possessive pronoun suffix *-na* which lacks independent meaning in the pidgin. The central dialect of Hiri Motu is the only pidgin which retains bound pronouns for possession, such as *tama-gu* ‘my father’ (Holm 1988:586).

The expression of case on nominals is most extensively retained in Nagamese, which preserves accusative *-k*, dative *-ke*, and locative *-te* (Sreedhar 1985:103). Case is lost entirely in Nubi, Gulf Pidgin Arabic, Govorka, Kyakhta Pidgin Russian, Pidgin Ngarluma, and Jargon Kurna.<sup>2</sup>

### 3.2. Quantitative patterns of inflection retentions

The above picture reveals that retentions of inherent inflections are more common than retentions of contextual inflections. There is also evidence that this pattern is quantitatively significant as well. Treating the two dialects of Hiri Motu separately and focusing on case and bound pronouns/agreement (i.e. contextual morphology) on the one hand and verbal tense-modality-aspect and nominal number marking (i.e. inherent

morphology) on the other, we find that the 6 of the 30 languages in our sample have retained contextual inflections while 14 contain inherent inflections (Table 2). However, a number of these pidgins lack these features in their lexifiers (such as verbal agreement and TMA inflections in Hawaiian), so the extent of retention is actually 6 of 27 languages (22.2%) in the case of the specified contextual inflections and 14 of the 29 languages (48.3%) in the case of inherent inflections.

(PLACE TABLE 2 APPROXIMATELY HERE)

Although the relative proportion size is small, the disparity between the two groups of inflections with respect to their retention is statistically significant (Fisher's exact test,  $P(O < E) = 0.03892$ , left-tailed). Table 3 also indicates that the proportion is still significant if we exclude jargons from the sample ( $P(O < E) = 0.056$ ), and near significant if semi-pidgins (including LiNgala and Kituba) or both are removed from the sample. However, if we group the inflections by lexical category of the stem (i.e. placing TMA in the same group as agreement), the significance disappears altogether (Table 4). This suggests that one of the factors affecting the retention of inflections is the contextual/inherent morphological type, or the semantic relevance of the inflection.

(PLACE TABLES 3 and 4 APPROXIMATELY HERE)

Another way of approaching the problem is to consider how the grammatical categories in (1) above are expressed via inflectional morphology in both the lexifiers and the resultant pidgins. Since retention may involve a partial loss of semantic content and since a single form may encode multiple categories (such as Yimas *-ka* which indicates grammatical function, person, and number), such an approach offers a more fine-grained view of patterns of retention in pidgnization. Table 5 examines the lexifiers for each of the pidgins and indicates whether grammatical categories present in lexifier inflections continue to be expressed through inflection in the contact language. To assess the extent to which inherent inflections are differentially retained with respect to contextual inflections, the features expressed by these two types of inflection are separately classified.

(PLACE TABLE 5 APPROXIMATELY HERE)

For example, Gulf Arabic marks tense/aspect and person/number via verbal inflection, e.g. *y(V)-* for 3s masculine imperfect, and definiteness and gender by nominal inflection. Although Classical Arabic has case suffixes (i.e. *-u(n)* for nominative, *-i(n)* for genitive, *-a(n)* for accusative), these do not survive in Gulf Arabic (Holes 1990:115). There are also inflections on nouns for definiteness, gender, and number. In Gulf Pidgin Arabic as described by Smart 1990, *-āt*, *-in* continue to mark plurality and gender, but the marking of tense/aspect and person/gender on verbs has been lost. Thus in Table 5 we see that a total of 5/9 grammatical categories expressed via inflection, whereas Gulf Pidgin Arabic has retained inflections that indicate only 2/9 categories.

When the number of categories expressed by inherent and contextual inflections is tabulated, we find a statistically significant difference between pidgins (including expanded pidgins/creoles like Nubi Arabic) and their lexifiers. A total of 124/251, or 49.4% of the surveyed features are expressed via inflection in the lexifiers whereas only 38/251 (15.1%) of them occur in retained inflections in the corresponding pidgins. This shows that pidgins in comparison to their lexifiers have a drastically reduced use of inflectional morphology to encode grammatical information. Moreover, inherent categories in pidgins account for a higher proportion of categories in total expressed morphology. The data in Table 5 shows that 81.6% of total categories expressed in pidgin inflections (i.e. a 31/38 proportion) occur in inherent inflections as compared to a smaller 63.7% proportion (79/124) in their lexifiers.<sup>3</sup>

In Table 6 we see that the higher proportion of inherent inflections in pidgins continues a similar disparity in the lexifying languages:

(PLACE TABLE 6 APPROXIMATELY HERE)

This indicates that the process of pidgin formation does not break from this pattern and favors a greater reduction of inherent inflections, resulting in contact languages with higher proportions of contextual inflections. Despite the heavy loss of inflection in pidgin genesis, a greater proportion of inherent reflections are retained than contextual inflections.

The two-sample proportion test can also indicate whether the disparity between expressing inherent and contextual categories via inflection in pidgins differs from the similar disparity in the lexifiers. The results show that there is indeed a significant difference ( $p < 0.004151$ ), suggesting that the distribution of categories in pidgins is not simply a duplication of the pattern in lexifying languages but an amplification of it.

#### 4. Discussion

Pidgins, commonly defined as functionally-restricted contact languages native to no one, are developed primarily to facilitate communication between speakers of different language groups when acquisition of the lexifier is unnecessary or undesirable. The lack of motivation or opportunity to learn the lexifier is the very *raison d'être* of pidgin genesis and introduces the need for structural reduction. The amount of reduction that actually occurs, however, depends on other factors in the social situation – particularly who needs to learn it and what the pidgin is designed to do in the various situations it is used in. The formation of pidgin grammar involves the resolution of these two conflicting factors. Pidgins may still therefore retain structure considered to be universally marked, typologically complex, or infrequent. There is no reason to assume that pidginization should uniformly and completely eliminate such structure.

For example, as Thomason & Kaufman (1988) point out, the degree of homogeneity between the languages in contact plays a prominent role in pidgin formation. In the case of Chinook Jargon, most of its syntactic and phonological features are readily “explained by reference to typological characteristics shared by Pacific Northwest Amerindian languages” (1988:29). Marked features such as glottalized stops

and pleonastic subject pronouns rose to prominence as a result of mutual accommodation between speakers of these various languages. Since such features were already widespread in the languages spoken by the early users of Chinook Jargon, they had less priority in the reduction process than areally less common features in the lexifier.

According to Bresnan (2004), morphosyntactic reduction in pidginization can be modeled as occurring when low-ranked markedness constraints are reranked above the higher-ranked faithfulness constraints that conflict with them. These formerly inactive constraints spring into action and begin eliminating the morphosyntactic structures they penalize. This phenomenon, called the “emergence of the unmarked,” is well-known cross-linguistically in non-pidgin languages, as Bresnan (2004) documents for pronominal forms. For another example, Lee (2000, 2001) discusses the suppression of marked word order in cases of ambiguous reference in Hindi and Korean. When viewed as involving markedness constraint promotion, pidginization no longer appears to be such an exotic and unique process and may be more readily compared to other synchronic and diachronic processes in non-pidgin languages.

Bresnan further notes that not all markedness constraints are targeted for reranking in pidgin formation. Constraints penalizing structures difficult to learn or understand are readily promoted to a higher rank, while constraints marking easily understandable forms have less priority. The marked phonological and morphosyntactic features retained in Chinook Jargon are precisely the ones we would expect because these were already well-known to many of its early speakers. Siegel (1997) points out, however, that other factors appear to be involved in the selection of features that end up in pidgin and creole grammar, including perceptual salience, semantic transparency, economy, and regularity. All these factors may actually be represented through constraints in Optimality Theory, as they relate to structural form in either production or comprehension. In fact, the compromises that occur in pidgin genesis are reminiscent of the compromises between markedness and faithfulness constraints in language in general.<sup>4</sup>

One effect of the demotion of faithfulness constraints is the loss of semantic contrasts formerly marked structurally. One dramatic example of this can be found in the pronoun inventory of Pidgin Fijian. The lexifier contains at most 135 forms of the independent pronoun, exhibiting a four-way distinction in number (singular, dual, paucal, plural), as well as distinctions in inclusiveness, person, and case. The inventory was reduced to only 6 pronouns in Pidgin Fijian, eliminating distinctions of dual and paucal number, inclusiveness, and case in the process (Siegel 1987). Prepositions also commonly lose semantic contrasts in pidginization, as evidenced by the generalized preposition *ma* in Pidgin Hawaiian (derived from the locative, but used also for ablative and direction) and *nà* in Sango which, according to Thornell (1997), is semantically vague and occurs with locative, temporal, instrumental, and comitative nouns.

According to Thomason (1997), pidginization differs from more typical processes of historical change in undergoing a break in transmission between generations. Hence it is unlikely that preponderance of unmarked structures in pidgins can be attributed to the same patterns of historical factors often invoked elsewhere to explain markedness patterns in language (Newmeyer 2003). Instead, we may assume that these patterns reflect living cognitive processes and principles (as assumed in functionally motivated OT, Bresnan & Aissen 2002) which are actively brought into play in second language

acquisition and pidginization. To the extent that functionally motivated constraints are not narrowly domain-specific, they are available even where specific linguistic evidence to the learner is absent.

One such principle is semantic relevance (Bybee 1985), which relates the order of inflectional morphemes to their semantic relation to the stem, the more relevant morphemes being positioned closer to the stem than others. The inherent morphemes are more relevant in Bybee's sense of the term and the contextual morphemes are less so. In Bybee's terms, our finding is thus that semantically relevant inflectional morphology is more likely to be retained in pidgins than less relevant morphology. But Bybee's proposed explanation for the principle of relevance is itself historical (1985:38): she proposes that the morphological ordering reflects syntactic grouping by semantic constituency, which becomes morphologized through typical historical processes. Thus, the bias toward retention of relevant morphology in pidgins may support a more cognitive, synchronic explanation (as provided by functionally-motivated OT models), rather than a purely grammar-external, historical account.

## 5. Conclusion

In the preceding survey of verbal and nominal inflection in pidgins, we have encountered evidence that the reduction of inflection is asymmetric and not always total. Inflections that contribute semantic and grammatical information pertaining to the stem are retained slightly but significantly more often than inflections which pertain more to building the syntax of the sentence outside of the word. On similar evidence, Bakker (2003:23) proposed the following implicational hierarchies of inflectional retention:

- (20) Nominal inflections: number > case > gender
- (21) Verbal inflections: TMA > valence > number > person > gender

Bybee's principle of semantic relevance provides an explanatory rationale for the asymmetries seen in the data. The pattern of language reduction seen in pidgin formation thus abides by the same general principles found elsewhere, but is distinctive in a way that sets pidgins typologically apart from the lexifiers in a consistent manner.

As noted earlier, there may also be typologically marked inflections which result from the pidginization process itself and do not represent a residue of marked lexifier structures retained in the pidgin. These may enhance communication when they reproduce structure already familiar to a significant number of speakers. This is certainly the case with borrowed inflections, and innovated ones may express substratal morphosyntactic structure. Since pidginization is primarily driven by mutual accommodation and since linguistic accommodation is sensitive to external factors that shape language contact, the results may vary along the typological space. But when examined as a whole, the reduction of inflection is not random. Some types of inflections seem to be more often targeted for loss than others.

## Endnotes

1. This article is based upon work supported by the National Science Foundation under Grant No. BCS-9818077.
2. Bakker (2003:17) notes that “Pidgin Hawaiian retained one Hawaiian case,” but the case marker was not an inflection in either the lexifier or the pidgin (and it was used as an all-purpose preposition), whereas Bilkiire has preserved dative case as a preposition.
3. The difference between these two proportions are significant at the 0.05 level ( $\chi = 4.26$ ;  $p \leq 0.05$ ).
4. Thomason & Kaufman (1988) and Mufwene (1991) also note that pidgins may develop structures that are more universally marked than structures in lexifiers. Tok Pisin for instance has developed dual and trial pronouns and an inclusive-exclusive distinction in the first person plural, universally marked categories absent in the English lexifier (Thomason & Kaufman 1988:30). These features occur in the Austronesian substrate.

## References

- Anderson, Stephen R. 1982. “Where’s morphology?” *Linguistic Inquiry* 13: 571-612.
- Ansaldo, Umberto & Stephen J. Matthews. 2001. “Typical creoles and simple languages: The case of Sinitic.” *Linguistic Typology* 5: 311-325.
- Arends, Jacques, Pieter Muysken, and Norval Smith. 1995. *Pidgin and Creoles: An Introduction*. Amsterdam: Benjamins.
- Baker, Philip. 1996. “Australian and Melanesian Pidgin English and the fellows in between.” In Baker and Syea, eds., pp. 243-258.
- and Anand Syea, eds. 1996. *Changing Meanings, Changing Functions: Papers Relating to Grammaticalization in Contact Languages*. London: University of Westminster Press.
- . 1997. “Directionality in pidginization and creolization.” In Spears and Winford, eds., pp. 91-109.
- Bakker, Peter. 1987. “A Basque nautical pidgin: A missing link in the history of *fu*.” *Journal of Pidgin and Creole Languages* 2: 1-30.
- . 1989. “‘The language of the coast tribes is half Basque’: A Basque-American Indian pidgin in use between Europeans and Native Americas in North America, ca. 1540-ca. 1640.” *Anthropological Linguistics* 31: 117-147.
- . 1996. “Eskimo Broken Slavey and Jargon Loucheux: A first exploration.” In Jahr and Broch, pp. 317-320.
- . 2003. “Pidgin inflectional morphology and its implications for creole morphology.” In Booij, Geert & Japp van Marle, eds. *Yearbook of Morphology 2002*, pp. 3-33. Dordrecht: Kluwer.

- , Gidor Bilbao, Nicolaas G. H. Deen, and Jose Ignacio Hualde. 1991. *Basque Pidgins in Iceland and Canada*. Colección Miscelánea, 23. San Sebastian, Spain: Diputación Foral de Gipuzkoa.
- Becker, Angelika & Tonjes Veenstra. 2003. "The survival of inflectional morphology in French-related creoles." *SSLA* 25:283-306
- Booij, Geert. 1994. "Against split morphology." In Booij, Geert & Japp van Marle, eds. *Yearbook of Morphology 1993*, pp. 27-49. Dordrecht: Kluwer.
- . 1996. "Inherent versus contextual inflection and the split morphology hypothesis." In Booij, Geert and Japp van Marle, eds. *Yearbook of Morphology 1995*, pp. 1-16. Dordrecht: Kluwer.
- Boruah, B. K. 1993. *Nagamese: The Language of Nagaland*. New Delhi: Mittal Publications.
- Broch, Ingvild and Ernst H. Jahr. 1981. *Russenorsk – et Pidginspråk i Norge*. Tromsø Studies in Linguistics, 3. Oslo: Novus.
- . 1984. "Russenorsk: A new look at the Russo-Norwegian pidgin in northern Norway." In Ureland, P. Sture and Iain Clarkson, eds., *Scandinavian Language Contacts*, pp. 21-65. Cambridge: Cambridge University Press.
- Bresnan, Joan. 2001. "The emergence of the unmarked pronoun." In Legendre, Géraldine, Jane Grimshaw, and Sten Vikner, eds., *Optimality-Theoretic Syntax*, pp. 113-142. Cambridge, MA: MIT Press.
- . 2004. "Pidgin genesis and optimality theory." In Siegel, Jeff, ed., *Processes of Language Contact: Studies From Australia and the South Pacific*, pp. 145-173. Saint-Laurent, Quebec: Champs linguistiques.
- and Judith Aissen. 2002. "Optimality and functionality: Objections and refutations." *Natural Language and Linguistic Theory* 20: 81-95.
- Bybee, Joan. 1985. *Morphology: A Study of the Relation between Meaning and Form*. Amsterdam: Benjamins.
- DeGraff, Michel. 2001. "On the origin of creoles: A Cartesian critique of 'Neo'-Darwinian linguistics." *Linguistic Typology* 5: 213-310.
- . 2003. "Against creole exceptionalism." *Language* 79: 391-410.
- . 2005. "Linguists' most dangerous myth: The fallacy of Creole Exceptionalism." *Language in Society* 34: 533-591.
- de Rooij, Vincent. 1995. "Shaba Swahili." In Arends, Jacques, Pieter Muysken, and Norval Smith, eds., pp. 179-190. Amsterdam: Benjamins.
- Dench, Alan. 1998. "Pidgin Ngarluma: An indigenous contact language in North Western Australia." *Journal of Pidgin and Creole Languages* 13: 1-61.
- Drechsel, Emmanuel. 1997. *Mobilian Jargon. Linguistic and sociohistorical aspects of a Native American Pidgin*. New York: Oxford University Press.
- Duran, James. 1979. "Non-standard forms of Swahili in West-Central Kenya." In Hancock, ed., pp. 129-153.
- Dutton, Tom. 1978. "Tracing the Pidgin Origin of Hiri (or Police) Motu. In Wurm, Stephen A. and Lois Carrington, eds., *Second International Conference on Austronesian Linguistics: Proceedings, Pacific, Linguistics, Series C, No. 61*, pp. 1351-1375. Canberra: Australian National University.



- . 1983. "Birds of a feather: a pair of rare pidgins from the Gulf of Papua." In Woolford, Ellen, and William Washabaugh, eds., *The Social Context of Creolization*, pp. 77-105. Ann Arbor: Karoma.
- . 1985. *Police Motu: Iena Sivarai (Its story)*. Hong Kong: University of Papua New Guinea Press.
- . 1997. "Hiri Motu." In Thomason, ed., pp. 9-41.
- and Iru Kakare. 1977. *The Hiri Trading Language of Central Papua: A First Survey*. Occasional Paper, 15. Department of Language, University of Papua New Guinea.
- Dzokanga, Adolphe. 1979. *Dictionnaire lingala-français, suivi d'une grammaire lingala*. Leipzig: VEB Verlag Enzyklopädie.
- Foley, William A. 1986. *The Papuan languages of New Guinea*. Cambridge: Cambridge University Press.
- . 1988. "Language birth: The processes of pidginization and creolization." In Frederick J. Newmeyer, ed., *Linguistics: The Cambridge survey. Vol. IV. Language: The Socio-cultural Context*, pp. 162-183. Cambridge: Cambridge University Press.
- . 1991. *The Yimas Language of New Guinea*. Stanford: Stanford University Press.
- Fox, James A. 1983. "Simplified input and negotiation in Russenorsk." In Andersen, Roger W. ed., *Pidginization and Creolization as Language Acquisition*, pp. 94-108. Rowley, MA: Newbury House.
- Goddard, Ives. 1996. "Pidgin Delaware." In Thomason, ed., pp. 43-98.
- Goswami, Golockchandra. 1982. *Structure of Assamese*. Calcutta: Gauhati University, Department of Publication.
- Goyette, Stephane. 2000. "Creole wars: Episode I: the prototype menace". Paper presented at the Annual SPCL Conference, January 7-8, 2000, Chicago.
- Grant, Anthony. 1996. "The evolution of functional categories in Grand Ronde Chinook Jargon: Ethnolinguistic and grammatical considerations." In Baker, Philip, and Anand Syya, eds., *Changing Meanings, Changing Functions: Papers Related to Grammaticalization in Contact Languages*, pp. 225-242. London: Westminster University Press.
- , in press. "Haida Pidgin (or Pidgins?)." In Hans den Besten, Mikael Parkvall, and Philip Baker, eds., *Starting From Scratch: The Nature and Significance of Pidgins*. London: Battlebridge Press.
- Haiman, John. 1985. *Natural Syntax: Iconicity and Erosion*. Cambridge: Cambridge University Press.
- Haas, Mary. 1975. "What is Mobilian?" In Crawford, J. M., ed. *Studies in Southeastern Indian Languages*, pp. 257-263. Athens, GA: University of Georgia Press.
- Hancock, Ian, ed. 1979. *Readings in Creole Studies*. Ghent: Story Scientia.
- Harris, Barbara. 1994. "Chinook Jargon: Arguments for pre-contact origin." *Pacific Coast Philology* 29: 28-36.
- Heine, Bernd. 1973. *Pidgin-Sprachen im Bantu-Bereich*. Berlin: Dietrick Reimer Verlag.
- . 1979. "Some linguistic characteristics of African-based pidgins." In Hancock, ed. pp. 89-98.

- . 1991. "The development of Kenya Pidgin Swahili." In Boretzky, N., W. Enninger and Th. Stolz, eds., *Kontakte und Simplifikation*, pp. 29-54. Bochum: Brockmeyer.
- Holes, Clive. 1990. *Gulf Arabic*. London: Routledge.
- Holm, John. 2000. *Pidgins and Creoles*. Second edition. Cambridge: Cambridge University Press.
- Huttar, George L. and Frank J. Velantie. "Ndyuka-Trio Pidgin." In Thomason, ed., pp. 99-124.
- Jahr, Ernst H. and Ingvild Broch, eds. 1996. *Language Contact in the Arctic. Northern Pidgins and Contact Languages*. Berlin: Mouton de Gruyter.
- Keesing, Roger. 1988. *Melanesian Pidgin and the Oceanic Substrate*. Stanford: Stanford University Press.
- Knappert, Jan. 1979. "The origin and development of Lingala." In Hancock, ed., pp. 153-64.
- Lee, Hanjung. 2000. "The emergence of the unmarked order in Hindi." In Hirotani, Masako, ed., *Proceedings of the North East Linguistics Society 20*, pp. 469-484. Amherst, MA: GLSA Publications.
- . 2001. "Markedness and word order freezing." In Sells, Peter, ed., *Formal and Empirical Issues in Optimality-Theoretic Syntax*, pp. 63-127. Stanford: CSLI Press.
- Manessy, Gabriel. 1977. "Processes of pidginization in African languages." In Valdman, Albert, ed., *Pidgin and Creole Linguistics*. Bloomington: Indiana University Press.
- Marcos, Habte-Mariam. 1976. "Italian." In Bender, M. Lionel, J. Donald Bowen, Robert Cooper, Charles Ferguson, eds., *Language in Ethiopia*, pp. 170-180. London: Oxford University Press.
- McWhorter, John. 1999. "A creole by any other name: Streamlining the terminology." In Huber, Magnus, and Mikael Parkvall, eds. *Spreading the Word: The Issue of Diffusion among the Atlantic Creoles*, pp. 5-28. London: University of Westminster Press.
- . 2000. *The Missing Spanish Creoles: Recovering the Birth of Plantation Contact Languages*. Berkeley: University of California Press.
- . 2005. *Defining Creole*. Oxford: Oxford University Press.
- Meeuwis, Michael. 1998. *Lingala*. Munich: Lincom Europa.
- Mesthrie, Rajend. 1989. "The origins of Fanagalo." *Journal of Pidgin and Creole Languages* 4: 211-240.
- Mitchell, T. F. and S. A. al-Hassan. 1994. *Modality, Mood, and Aspect in Spoken Arabic*. Library of Arabic Linguistics Monographs, 10. Bedford, UK: Keegan Paul International.
- Mufwene, Salikoko. 1990. "Creoles and universal grammar." *Linguistics* 28: 783-807.
- . 1997. "Jargons, pidgins, and koines: What are they?" In Spears & Winford, eds., pp. 35-70.
- Mühlhäusler, Peter. 1996. "A fellow's adventures in South Australia." In Baker and Sycia, eds., pp. 243-258.
- . 1997. *Pidgin and Creole Linguistics: Expanded and Revised Edition*. London: University of Westminster Press.

- Newmeyer, Frederick J. 2003. "Grammar is grammar and usage is usage." *Language* 79: 682-707.
- Nichols, John D. 1995. "The Ojibwe verb in 'Broken Oghibbeway'." *Amsterdam Creole Studies* 12: 1-18.
- Noss, Philip A. 1979. "Fula: a language of change." In Hancock, ed., pp. 173-188.
- Owens, Jonathan. 1991. "Nubi, genetic linguistics, and language classification." *Anthropological Linguistics* 33: 1-30.
- . 1997. "Arabic-based pidgins and creoles." In Thomason, ed., pp. 125-172.
- Pasch, Helma. 1997. "Sango." In Thomason, ed., pp. 209-270.
- Plag, Ingo. 2001. "The nature of derivational morphology in creoles and non-creoles." *Journal of Pidgin and Creole Languages* 16: 153-160.
- Roberts, Sarah J. 2003. "Reduplication in Pidgin Hawaiian." In Silvia Kouwenberg, ed. *Twice as Meaningful: Reduplication in Pidgins and Creoles*, pp. 307-318. London: Battlebridge Press.
- . in press. "The structure and early developmental history of Pidgin Hawaiian." In Hans den Besten, Mikael Parkvall, and Philip Baker, eds., *Starting From Scratch: The Nature and Significance of Pidgins*. London: Battlebridge Press.
- Romaine, Suzanne. 1988. *Pidgin and Creole Languages*. London: Longman.
- Ross, Malcolm. 1996. Contact induced change and the comparative method: cases from Papua New Guinea. In Durie, M., and M. Ross, eds., *The Comparative Method Reviewed: Regularity and Irregularity in language Change*, pp. 180-217. Oxford: Oxford University Press.
- Samarin, William J. 1970. *Sango: Langue de L'Afrique Centrale*. Leiden: E. J. Brill.
- . 1982. "Colonization and pidginization on the Ubangi River." *Journal of African Languages and Linguistics* 4, 1-42.
- . 1997. "The creolization of pidgin morphophonology." In Spears and Winford, eds., pp. 175-216.
- Sebba, Mark. 1997. *Contact languages: Pidgins and creoles*. New York: St. Martin's Press.
- Siegel, Jeff. 1987. *Language Contact in a Plantation Environment: A Sociolinguistic History of Fiji*. Cambridge: University Press.
- . 1997. "Mixing, leveling, and pidgin/creole development." In Spears and Winford, eds., pp. 111-150.
- . 1998. "Substrate reinforcement and dialectal differences in Melanesian Pidgin." *Journal of Sociolinguistics* 2: 347-73.
- Silverstein, Michael. 1972. "Chinook Jargon: Language contact and the problem of multi-level generative systems, I and II." *Language* 48: 378-406, 596-625.
- Simpson, Jane. 1996. "Early language contact varieties in South Australia." *Australian Journal of Linguistics* 16: 169-207.
- Smart, J. R. 1990. "Pidginization in Gulf Arabic: A First Report." *Anthropological Linguistics* 32: 83-119.
- Smith, Norval. 1993. "An annotated list of creoles, pidgins, and mixed languages". In Arends, Jacques, Pieter Muysken, and Norval Smith, eds., pp. 331-374. Amsterdam: Benjamins.
- Spears, Arthur K. and Donald Winford, eds. 1997. *The Structure and Status of Pidgins and Creoles*. Amsterdam: Benjamins.

- Sreedhar, M. V. 1974. *Naga Pidgin: A Sociolinguistic Study of Inter-lingual Communication Pattern in Nagaland*. CIIL Occasional Monograph Series, 8. Mysore: Central Institute of Indian Languages.
- . 1985. *Standardized Grammar of Naga Pidgin*. Mysore: Central Institute of Indian Languages.
- Stefánsson, V. 1909. The Eskimo trade jargon of Herschel Island. *American Anthropologist* 11: 217-232.
- Stern, Dieter. 2001. "The Russian Impact on Govorka (Taimyr Pidgin Russian)". Paper presented at the Westminster Creolistics Workshop, University of Westminster, London.
- . in press. "Govorka (Taimyr Pidgin Russian)." In Hans den Besten, Mikael Parkvall, and Philip Baker, eds., *Starting From Scratch: The Nature and Significance of Pidgins*. London: Battlebridge Press.
- Taylor, Andrew J. 1978. "Evidence of a pidgin Motu in the earliest written Motu materials." In Wurm, Stephen and Lois Carrington, eds., *Proceedings of the Second International Conference of Austronesian Linguistics*, pp. 1325-1350. Pacific Linguistics C-61. Canberra: Research School of Pacific & Asian Studies, Australian National University.
- Thomason, Sarah G. 1982. "Chinook Jargon in Areal and Historical Context." *Language* 59: 820-870.
- , ed. 1997. *Contact Languages: A Wider Perspective*. Amsterdam: John Benjamins.
- and Terrence Kaufman 1988. *Language Contact, Creolization, and Genetic Linguistics*. Berkeley: University of California Press.
- Thornell, Christina. 1997. *The Sango Language and its Lexicon*. Travaux de l'Institut de Linguistique de Lund, 32. Lund: Lund University Press.
- Van der Voort, Hein. 1996. "Eskimo Pidgin in West Greenland." In Jahr and Broch, eds., pp. 157-258.
- . 1997. "New light on Eskimo Pidgins". In Spears and Winford, eds., pp. 373-394.
- Williams, Jeffrey P. 1993. "Documenting the Papuan-based pidgins of insular New Guinea." In Francis Byrne and John Holm, eds. *Atlantic Meets Pacific: A Global View of Pidginization and Creolization*, pp. 355-367. Amsterdam: Benjamins.
- Williams, Jeffrey P. 1995. "A note on the pronominal system of Arafundi-Enga pidgin." *Journal of Pidgin and Creole Languages* 10: 171-175.
- . 2000. "Yima-Alamblak Tanim Tok: an indigenous trade pidgin of New Guinea." *Journal of Pidgin and Creole Languages* 15: 37-62.
- Wurm, Stephen A. 1992. "Pidgin and creole languages in the Siberian region." *Language Sciences* 14: 249-285.

## **TABLES**

Name	Location	Classification	Main lexifier	Morphological type	Sources
Asmara Pidgin Italian	Eritrea, Africa	P	Italian	fusional	Marcos 1976
Bilkiire	northern Cameroon	PE	Fula	agglutinating	Noss 1979
Broken Ojibwe	Wisconsin, USA	P	Ojibwe (Algonkian)	poly synthetic	Nichols 1995
Chinook Jargon	Pacific Northwest, USA	P, PE, C	Lower Chinook	poly synthetic	Silverstein 1972, Thomason 1982
Fanagalo	southern Africa	P	Zulu-Nguni (Bantu)	agglutinating	Mesthrie 1989
Greenlandic Pidgin Eskimo	Greenland	PJ	West Greenlandic Eskimo	poly synthetic	van der Voort 1996, 1997
Gulf Pidgin Arabic	Persian Gulf	P	Gulf Arabic	symbolic fusional	Smart 1990
Herschel Island Trading Pidgin	Alaska and the Yukon	PJ	Inupiaq Eskimo	poly synthetic	Stefansson 1909
Hiri Motu	Papua New Guinea	PE	Motu (Austronesian)	analytic/isolating	Dutton 1985, 1997
Kenyan Pidgin Swahili	Kenya (eastern Africa)	P	Swahili (Bantu)	agglutinating	Duran 1979, Heime 1991
Kituba	Zaire (central Africa)	PE	Kikongo (Bantu)	agglutinating	Mufwene 1997
Koriki Hiri Trading Pidgin	Papua New Guinea	PJ, P	Koriki (Papuan)	analytic/isolating	Dutton 1983, 1985
Jargon Kaurna	South Australia	PJ	Kaurna (Australian)	agglutinating	Simpson 1996
Kyakhta Pidgin Russian	Kyakhta (Siberia)	P	Russian	inflectional/fusional	Wurm 1992
LiNgala	Zaire, Congo	PE	BoBangi	agglutinating	Dzokanga 1979, Meeuwis 1998
Mobilian Jargon	east of Mississippi River	P	Choctaw, Chickasaw, Alabama (Muskogean)	agglutinating	Drechsel 1997
Nagamese	Nagaland (India)	PE	Assamese (Indic)	fusional	Sreedhar 1985, Boruah 1993
Nubi-Juba Arabic	southern Sudan, Uganda, Kenya (eastern Africa)	PE, C	Egyptian/Sudanese Arabic	symbolic fusional	Owens 1991, 1997
Pidgin Delaware	New England, USA	P	Unami Delaware (Algonkian)	poly synthetic	Goddard 1997
Pidgin Fijian	Fiji	P	Fijian (Austronesian)	analytic/isolating	Siegel 1987
Pidgin Haida	Pacific Northwest, USA	P	Haida	poly synthetic	Grant, in press
Pidgin Hawaiian	Hawaii	P	Hawaiian (Austronesian)	analytic/isolating	Roberts, in press
Pidgin Ngarluma	Northwestern Australia	PJ, P	Ngarluma (Australian)	agglutinating	Dench 1998
Russenorsk	northern Norway	PJ, P	Norwegian, Russian	inflectional/fusional	Broch & Jahr 1981, Fox 1983
Sango	Central African Republic	PE, C	Ngbandi	agglutinating	Samarin 1970, Pasch 1997
Taymir Pidgin Russian (Govorka)	Taymir Peninsula (Russia)	P	Russian	inflectional/fusional	Wurm 1992, Stern 2001
Toaripi Hiri Trading Pidgin	Papua New Guinea	PJ, P	Toaripi (Papuan)	analytic/isolating	Dutton & Kakare 1977
Yimas-Alamblak Trading Pidgin	Papua New Guinea	PJ, P	Yimas, Alamblak	poly synthetic	Williams 2000
Yimas-Arafundi Trading Pidgin	Papua New Guinea	PJ, P	Yimas, Arafundi	poly synthetic	Foley 1988

**Table 1.** Pidgins under consideration in this paper, with information on location, classification (according to Smith 1995; PJ=jargon, P=stable pidgin, PE=expanded pidgin, C=creole), main lexifier, the morphological type of the main lexifier, and principal sources on each pidgin.

Name	Retains AGR/bound pronouns	Retains verbal TMA, nominal NUM
Asmara Pidgin Italian	NO	past <i>-ato</i>
Bilkiire	NO	imperative <i>-u</i> , future <i>-an</i> , negative future <i>-taa</i> , negative past <i>-aay</i>
Broken Ojibwe	1 <i>ni-</i> , 2 <i>gi-</i> , 3 <i>o-</i> (< 3 obviative)	future <i>da-</i> , obligative <i>gaa-</i> , 2 sets of plural/gender suffixes
Chinook Jargon	NO	NO
Fanagalo	NO	past <i>-ile</i> , future <i>-zo-*</i> ; <i>zi-</i> , <i>ma-</i> plural
Greenlandic Pidgin Eskimo	NO	NO
Gulf Pidgin Arabic	NO	plural <i>-āt</i> , masc. plural <i>-in</i>
Herschel Island Trading Pidgin	NO	NO
Hiri Motu (non-central)	NO	NO
Hiri Motu (central)	1s obj. <i>-gu</i> , 2s obj. <i>-mu</i> , 3s obj. <i>-(i)a</i> , 1p obj. <i>-da</i> , <i>-mai</i> , 2p obj. <i>-mui</i> , 3p obj. <i>-dia</i>	NO
Kenyan Pidgin Swahili	NO	non-future <i>na-</i> , future <i>ta-</i> ; <i>m-/wa-</i> noun classes 1, 2, <i>ma-</i> plural noun class 6
Kituba	NO	anterior <i>-á(k)a</i> ; 4 plural class markers
Koriki Hiri Trading Pidgin	----	future, intensitive <i>-varia</i>
Jargon Kaurna	NO	NO
Kyakhta Pidgin Russian	NO	NO
LiNgala	large set of prefixes, i.e. 1s subj. <i>na-</i> , 3s subj. anim. <i>a-</i> , 3s subj. inan. <i>e-</i>	perfective <i>-i</i> , future <i>-ko-</i> ; large set of classifiers, i.e. class 3 sing. <i>mó</i> (anim.), class 8 <i>bi</i> (inan.)
Mobilian Jargon	NO	NO
Nagamese	accusative <i>-k</i> , dative <i>-ke</i> , and locative <i>-te</i>	present <i>-əse</i> , past <i>-se</i> , <i>-sile</i> , future <i>bo</i> ; plural <i>-bilak</i>
Nubi, Juba Arabic	NO	future <i>bi-</i> (< nonpast indicative <i>~</i> future <i>b-</i> ); plural <i>-á</i> for most nouns, <i>-in</i>
Pidgin Delaware	NO	NO
Pidgin Fijian	NO	NO
Pidgin Haida	NO	NO
Pidgin Hawaiian	----	----
Pidgin Ngarluma	----	NO
Russenorsk	NO	NO
Sango	3s indef. subj. <i>á-</i>	irrealis marked by tone; plural <i>á-</i> verbs inflected for tense/aspect
Taymir Pidgin Russian (Govorka)	AGR for person, gender, number	verbs inflected for tense/aspect
Toaripi Hiri Trading Pidgin	NO	NO
Yimas-Alamblak Trading Pidgin	NO	NO
Yimas-Arafundi Trading Pidgin	NO	future <i>-k</i> , nonfuture <i>-nan</i>

**Table 2.** Retention of AGR/bound pronouns, verbal TMA, and nominal NUM in the survey of pidgins.

	Retains bound morphology	Does not retain bound morphology	Significance
<b>Complete sample:</b>			
pronominal AGR, case	6	21	P(O < E) = 0.03892, left-tailed Fisher exact test
TMA, nominal NUM	14	15	
<b>Excluding “semi-Pidgins”:</b>			
pronominal AGR, case	4	20	P(O < E) = 0.056, left-tailed Fisher exact test
TMA, nominal NUM	12	15	
<b>Excluding “jargons”:</b>			
pronominal AGR, case	5	19	P(O < E) = 0.03589, left-tailed Fisher exact test
TMA, nominal NUM	14	12	
<b>Excluding both:</b>			
pronominal AGR, case	4	18	P(O < E) = 0.05304, left-tailed Fisher exact test
TMA, nominal NUM	12	12	

**Table 3.** Statistical significance of retention differences (between inherent and contextual inflections).

	Retains bound morphology	Does not retain bound morphology	Significance
<b>Complete sample:</b>			
nominal NUM	9	16	P(O < E) = 0.3230
TMA, pronominal AGR	14	15	
<b>Excluding “semi-Pidgins”:</b>			
nominal NUM	7	16	P(O < E) = 0.3008
TMA, pronominal AGR	12	15	
<b>Excluding “jargons”:</b>			
nominal NUM	9	13	P(O < E) = 0.3862
TMA, pronominal AGR	14	12	
<b>Excluding both:</b>			
nominal AGR	7	13	P(O < E) = 0.3603
TMA, pronominal AGR	12	12	

**Table 4.** Statistical significance of retention differences (between nominal and verbal inflections).



	Inherent					Contextual					Inherent					Contextual			
	T	N	G	D	NG	AV	DR	C	AN		T	N	G	D	NG	AV	DR	C	AN
Gulf Arabic	+	+	+	+	-	+	-	-	-	Gulf Pidgin Arabic	-	+	+	-	-	-	-	-	-
Egyptian Arabic	+	+	+	+	-	+	-	-	+	Nubi	+	+	-	-	-	-	-	-	-
Inupiaq Eskimo	+	+	-	-	+	+	-	+	+	Herschall Island Trading Pidgin	-	-	-	-	-	-	-	-	-
Assamese	+	+	-	+	-	+	-	+	+	Nagamese	+	+	+	-	+	-	-	-	+
Choctaw, et al.	+	-	-	-	+	-	-	-	+	Mobilian Jargon	-	-	-	-	-	-	-	-	-
BoBangi	+	+	+	-	-	+	-	-	-	LiNgala	+	+	+	-	+	+	-	0	-
Fijian	-	-	-	-	-	-	-	-	+	Pidgin Fijian	-	-	-	-	-	-	-	-	-
Fula	+	+	+	-	+	+	-	-	-	Bilkiire	+	-	-	-	+	-	-	0	-
Hawaiian	-	-	-	-	-	-	-	-	-	Pidgin Hawaiian	-	-	-	-	-	-	-	-	-
Italian	+	+	-	-	-	+	-	-	-	Asmara Pidgin Italian	+	-	-	-	-	-	-	-	-
Japanese	+	-	-	-	+	-	-	-	-	Yokohama Pidgin Japanese	-	-	-	-	-	-	-	-	-
Kaurna	+	+	-	0	+	0	-	+	-	Jargon Kaurna	-	-	-	0	-	0	-	-	-
KiKongo	+	+	+	-	-	+	-	-	-	Kituba	+	+	+	-	-	-	-	0	-
Koriki	+	0	0	0	+	-	-	-	-	Koriki Hiri Trading Pidgin	+	0	0	0	-	-	-	-	-
Lower Chinook	+	+	+	0	-	+	-	-	+	Chinook Jargon	-	-	-	0	-	-	-	-	-
Motu	+	-	-	-	-	+	-	-	-	Hiri Motu (non-central)	-	-	-	-	-	-	-	-	-
Motu	+	-	-	-	-	+	-	-	-	Hiri Motu (central)	-	-	-	-	-	+	-	-	+
Ngbandi	+	+	-	-	-	+	-	-	-	Sango	-	+	-	-	-	+	-	-	-
Ojibwe	+	+	+	-	+	+	+	-	+	Broken Ojibwe	+	+	+	0	-	+	-	-	-
Russian	+	+	+	-	-	+	-	+	-	Taymir Pidgin Russian	+	-	-	-	-	+	-	-	-
Russian	+	+	+	-	-	+	-	+	-	Kyakhta Pidgin Russian	-	-	-	-	-	-	-	-	-
Russian, Norwegian	+	+	+	-	-	+	-	+	-	Russenork	-	-	-	-	-	-	-	-	-
Swahili	+	+	+	-	+	+	-	-	-	Kenyan Pidgin Swahili	+	+	+	-	-	-	-	-	-
Toaripi	+	0	0	0	-	+	-	+	-	Toaripi Hiri Trading Pidgin	-	0	0	0	-	-	-	-	-
Unami Delaware	+	+	+	0	+	+	+	(+)	+	Pidgin Delaware	-	-	-	0	-	-	-	-	-
West Greenlandic	+	+	-	-	+	+	-	+	+	Greenlandic Pidgin Eskimo	-	-	-	-	-	-	-	-	-
Yimas	+	+	+	-	+	+	-	+	-	Yimas-Alamblak Trading Pidgin	-	-	-	-	-	-	-	-	-
Yimas	+	+	+	-	+	+	-	+	-	Yimas-Arafundi Trading Pidgin	+	-	-	-	-	-	-	-	-
Zulu (Nguni)	+	+	+	-	+	+	-	-	-	Fanagalo	+	+	+	-	-	-	-	-	-

**Table 5.** Comparison of pidgins and lexifiers according to expression of grammatical categories in inherent and contextual inflections (+ = presence of the feature; - = absence; 0 = status of the feature uncertain; (+) = judged present with some uncertainty; T = tense/aspect/mood, N = number, G = gender, D = definiteness, NG = negation; AV = Agreement on verbal stems, DR = direction, C = case, AN = Agreement on nominal stems).

	Inherent inflections	Contextual inflections	Significance
<b>Lexifier</b>			
number of categories expressed	79	45	
number of categories unexpressed	57	70	
<b>Pidgin</b>			P(O ≥ E) = 0.002027, left-tailed Fisher exact test
number of categories expressed	31	7	
number of categories unexpressed	105	108	
			P(O ≥ E) = 0.0001467, left-tailed Fisher exact test

**Table 6.** Statistical significance of difference between lexifiers and pidgins in the expression of grammatical categories in inflections.