preprint version of
Plag. Ingo. 2011. Creolization and admixture: Typology, feature pools, and second language acquisition. *Journal of Pidgin and Creole Languages* 26(1). 89-110.

Creolization and admixture: Typology, feature pools, and second language acquisition

Ingo Plag

June 2, 2009

Abstract

Proponents of a 'feature pool' approach to creolization (e.g. Mufwene 2001, Aboh Ansaldo 2006) have claimed that the emergence of the new grammar is driven by the syntax-discourse prominence, markedness and frequency of available features, with typological similarity or dissimilarity of the languages involved playing a crucial role in the competition and selection process. This paper takes a closer look at the predictions of a feature pool-based approach to creolization and tests whether these predictions are borne out by the facts. Three case studies from the Surinamese creoles and Sri Lanka Malay show that the feature pool approach suffers from a number of conceptual, theoretical, and empirical problems. The typology alone of the languages involved in the contact is not a good predictor for the outcome of language contact. The feature pool approach neglects processing constraints: one can only select from what one can process. 'Creolization', as in the case of the emergence of the Surinamese Creoles, is not 'exceptional', but happens in contact situations in which second language acquisition plays a significant role. The processing restrictions inherent in second language acquisition play an important role in shaping the structural outcome.'Admixture', as in the case of Sri Lanka Malay, is not 'exceptional' either, but happens in different situations and shows different processes at work. And these processes allow structural outcomes that are very different from those found under the conditions of second language acquisition. [1]

Draft version
Please do not quote

1 Introduction

In recent years the idea has gained ground that creolization is a special kind of second language acquisition (SLA), or, at least, that SLA plays a crucial role in creolization (see, e.g., the recent columns by Plag 2008a,b, 2009a,b in this journal, or publications such as Lefebvre & Jourdan 2006, Siegel 2008). An alternative to the SLA approach is one that makes reference to the notion of 'feature pool' and views different kinds of language creation in general as emerging from a process of selection from such a 'feature pool' (e.g. Mufwene 2001). Under this approach, "[t]he composition of the feature pool determines the extent to which xenolectal elements influence the structure of the new, outcome system." (Mufwene, `http://humanities.uchicago.edu/faculty/`

[1] Acknowledgements to be added to final version

mufwene/classes/CreoleVernacularsAndCultures.html). This approach has important implications for the problem of the role of typology in language creation and for the question whether it is useful to distinguish between different types of language creation, such as creolization and admixture. The following two quotations from Aboh & Ansaldo (2006) illustrate these implications.

> If we have sufficient information about the *typological input* in a contact environment, we are in a position to *explain the structural output* by looking at how features of the input varieties are *selected, discarded and exapted* into the new grammar. ... [S]ections 3 and 4 present data from two different contact environments, which, in the literature, would be assigned to different exceptional phenomena, namely creolization and admixture, respectively. As we show, these labels are not useful in suggesting evolutionary processes, as *the same principles apply to both cases* of typologies in contact. Aboh & Ansaldo (2006:39) [...] We are therefore led to conclude that the phenotype of creole ... cannot be said to derive from processes such as acquisition/restructuring and loss/reconstruction but rather from a *general recombination of the linguistic features* from the competing language that made it to the F[eature] P[ool]."(Aboh & Ansaldo (2006:50), italics mine)

This paper takes issue with these claims. I will test the usefulness of a feature-pool-based approach with the help of some case studies and contrast the feature pool approach with an SLA-based approach. I will show that processes of SLA must be taken into account in those settings where SLA plays an important role, and creolization is one of them. These individual-level processes of SLA can help to explain the emergence of certain structures in particular creoles as well as certain facts that cross-linguistically seem to hold in creole languages, irrespective of the typologies of the languages involved. The discussion will also show that it is useful to distinguish different contact environments, since different individual-level processes may prevail in different settings. Finally, it will be shown that typology plays a less pronounced role than authors like Aboh & Ansaldo (2006) would have it. Typological information does not suffice to understand the emergence of new structure.

The paper is structured as follows. The next section looks in more detail at the conecpt of feature pool and the mechanisms of selection. Section 3 will sketch in more detail some basic tenets of Processability Theory and its implications for an understanding of an SLA-based account of the phenomena to be investigated. In sections 4 and 5 I present an analysis of the data presented in Aboh & Ansaldo (2006), comparing the feature pool approach with an SLA-based approach. A final discussion is presented in the concluding section.

Draft version
Please do not quote

2 The feature pool and selection

In this section I will first take a closer look at the notions of feature pool and selection in order to understand the underpinnings of this approach. What is meant by 'feature pool'? Mufwene defines the feature pool as "the 'arena' where features associated with the same or similar grammatical functions came to compete with each other. While interacting with

each other, speakers contribute features to a pool" (Mufwene 2001:4). The feature pool "is analogous to a gene pool in population genetics. ... Regardless of their origin the features compete with each other"(Mufwene 2001:30f). With regard to the nature of the entities represented in the feature pool, Aboh & Ansaldo give the following clarification: "[A] feature pool can be taken to represent the population of utterances OR features available to speakers in a contact environment" (Aboh & Ansaldo 2006:44). This is an important remark because it stresses the fact that the notion of 'feature' presupposes the analysis of the available linguistic signals at an abstract level. In other words, processing must play a crucial role in determining what is available to the speakers. Entities that cannot be processed cannot participate in any selection process. Given the necessary processing resources, the feature pool may contain variants from all language varieties involved, i.e. from all first languages (superstrate, substrate, adstrate etc.), all interlanguages (at all levels), and all L1 learner varieties (at all levels).

How does selection work? The term 'selection' may refer to two different, but related processes. First it can mean the adoption of a particular variant into the idiolect of a speaker. This is the so-called 'individual' level. The choices at this level are determined by constraints on language acquisition, on processing and on the resulting representations. Selection may, however, also happen at the level of the speech community, i.e. at the so-called 'population level'. In this case, selection means the adoption of a particular variant into the new variety, as determined by sociolinguistic pressures such as accommodation and prestige. The problem is that the two levels are very hard to distinguish, with the individual being the major locus at both levels, since sociolingustic factors also need to work in the individual. This problem has been acknowledged also by authors like Mufwene, who, as a consequence, focus on the idiolect (cf., e.g., Mufwene 2001:26).

The interesting question is of course, which features make it into the new variety and why it is these features that are selected and not other ones. According to Mufwene, not all features are created equal:"The term *competition* refers to the condition of inequality that obtains among variants in a feature pool, with some factors of their internal or external ecologies (dis)favoring some of them for dominance."(Mufwene 2005). The factors involved are listed in (1).

(1) Factors at work in competition and selection (e.g. Mufwene 2001:57, Aboh & Ansaldo 2006:44):
   a. syntax-discourse prominence
   b. markedness/transparency
   c. frequency
   d. typological (dis-)similarity

It should be noted that the factors a-c are all factors that work at the level of the individual because they imply certain kinds of phonological, morphogical, syntactic, semantic, and lexical processing by the speaker. Presumably this also holds for the factor in (1d) since typological distance between two languagues A and B would probably either hinder or foster the processing of certain patterns of language A by a speaker of language B.

Draft version
Please do not quote

3 Processability in SLA and creoles (e.g., Pienemann 1998, 2005)

Processability Theory is a theory of interlanguage development that builds on psycholinguistic models of speech production as developed by, for example, Levelt (1989), or Kempen and Hoenkamp (1987). According to the theory, there is a universal, implicational hierarchy of processing procedures derived from the general architecture of the language processor. In addition and related to that, there are specific procedural skills needed for the production of utterances in the language to be learned, the target language. Based on these assumptions, predictions can be made for second language development which can be tested empirically. Research in this paradigm has shown, for example, that, irrespective of the native and target languages involved, the morphosyntax of interlanguages develops in certain implicational stages that reflect the processing procedures available to the learner at a given time. The morphosyntactic phenomena that are relevant in the context of the present paper are listed in (2) and discussed below. They are all characteristic of early stages of interlanguage development.

(2) Morphosyntactic traits of early interlanguages
   a. Loss of inflection, contextual inflection in particular
   b. presence of possessive pronouns
   c. Simplified sentence structure:
      (i) SVO or SOV
      (ii) loss of case marking (i.e. contextual inflection) on full NPs
      (iii) 'Subject'/'Object'-distinction on pronouns
      (iv) 'Unmarked alignment' of position, thematic roles and syntactic functions (i.e. no structural case assignment)

Interlanguages of an early stage largely lack inflectional morphology. Starting out with one-word utterances, learners gradually acquire more complex structures in a specific order. The first type of inflection that emerges is inherent inflection, i.e. "the kind of inflection that is not required by the syntax but has syntactic relevance. Examples are the category number for nouns, comparative and superlative degree of the adjective, and tense and aspect for verbs" Booij (1995:2). Of these, number on nouns is the first to be observed in English interlanguage. Notably, inherent inflection can work without access to complex phrasal structures and therefore precedes the development of so-called 'contextual inflection' in acquisition. In contrast to inherent inflection, contextual inflection is "dictated by syntax, such as person and number markers on the verbs that agree with the subject and/or objects, agreement markers for adjectives, and structural case markers on nouns" (op. cit.). In SLA this type of inflection is acquired rather late, which is why we, for example, find subject-verb agreement morphology only much later, i.e. at more advanced stages.

Let us turn to the syntactic development. The first stage beyond the one-word stage is characterized by a simplified sentence procedure which shows either SOV or SVO order, with no case marking on full NPs, but already with a 'Subject'/'Object'-distinction on pronouns. The inverted commas are used to indicate that at this stage the notions of subject and object are not yet developed but are merely used as convenient symbols

Draft version
Please do not quote

for what Pienemann calls 'unmarked alignment'. Unmarked alignment is the one-to-one mapping of position, thematic roles and syntactic functions by the learner at this stage of development (see Pienemann et al. (2005:229) for detailed discussion).

Plag (2008a, 2008b) applied Processability Theory to creoles, comparing the universal stages of second language development to the structures that typically occur in creole languages. He found that the scarcity of inherent inflection, the general lack of contextual inflection, and the prevalent presence of unmarked syntactic structures in creole languages (i.e. in basic word order, question formation, and negation) closely match the corresponding traits of early interlanguages. Plag argues that the emergence of the said creole structures can be explained as resulting from the processing constraints known to be at work in SLA. Evidence from the domains of phonology and word-formation, as discussed in Plag (2009a,b), seems to corroborate this conclusion.

In the following sections we will test how such a processing-based SLA approach compares to the feature pool approach. We start with the NP in the Surinamese Creoles.

4 Case study 1: The NP in the Surinamese Creoles

In this case study I will compare Aboh & Ansaldo's (2006) account of the emergence of certain properties of the NP in the Surinamese Creoles with an SLA-based account that makes use of the concepts and insights described in the preceding section. The properties at issue are the encoding of definiteness and specificity, plural marking, possessive marking, and case marking on pronouns.

4.1 Definiteness and specificity

Table 1, taken from Aboh & Ansaldo (2006:49), summarizes the pertinent properties of the NP in the three languages involved. Note that the authors of that study are well aware that the concentration on only three languages involved is a simplification, since there were obviously more than just three languages (and their respective varieties) contributing to the feature pool. For the purposes of their paper, as well as for this one, we take it that this simplification is unharmful.

Draft version
Please do not quote

Table 1: General properties of the NP in English, Gbe and the Surinamese Creoles (SCs), from Aboh & Ansaldo (2006:49)

	1	2	3	4	5	6	7
	noun marked as definite	generic bare nouns	(in)-definite bare nouns	dis-course deixis	pre-nominal DET	post-nominal DET	demonstrative reinforcer
English	yes	yes	no	yes (*this/that*)	yes	no	yes (*this man here*)
Gbe	no	yes	yes	yes	no	yes	no
SCs	no	yes	yes	yes	yes	no	yes

For our discussion it is important to focus on the parallels and mismatches between the languages. The Surinamese Creoles and Gbe encode definiteness in much the same way, as can be seen in columns 1 and 3. However, the Surinamese Creoles behave unlike Gbe, but similar to English with regard to word order (cf. columns 5-6). For the kind of selection shown in table 1 Aboh & Ansaldo (2006:49f) offer the following explanations:

> [T]he syntax and the function of functional categories are subject to different constraints in a situation of competition. ... [T]he syntax and the semantics of functional categories are disassembled and reassembled in various ways that do not necessarily match the combinations found in the source languages ... This creates a noun system ... that has the semantic properties of noun phrases in Gbe, but the syntax of English noun phrases (see Aboh 2004b, 2006a). We are therefore led to conclude that the phenotype of creole ... cannot be said to derive from processes such as acquisition/restructuring and loss/reconstruction but rather from a general recombination of the linguistic features from the competing languages that made it to the F[eature] P[ool]." (my emphasis)

This raises a number of questions. First, it is left unspecified why the mixed properties of the Surinamese NP cannot derive from acquisition processes. No evidence or argument is provided for this claim. Second, which principles would govern the alternative processes of 'reassemblage' and 'general recombination', and how would that work? The reader is not told. A third problem is the analysis of the systems itself, since table 1 (columns 1 and 3) gives an undercomplex impression about the encoding of definiteness across the different languages. Taking into account the morphosyntactic properties and the way they are encoded in the three languages, we arrive at table 2, in which Gungbe and Sranan represent Gbe and the Surinamese Creoles, respectively.

Draft version
Please do not quote

Table 2: Feature combinations and determiner expression in Gungbe, English and Sranan, based on Aboh & Ansaldo (2006:50)

row	D-features	Gungbe	English	Sranan
1	[+specific, +definite, +plural]	ló lé	the	den
2	[+specific, +definite, -plural]	ló	the	na
3	[+specific, -definite, +plural]	dé lé	some/certain	zero/wantu
4	[+specific, -definite, -plural]	dé	a	wan
5	[-specific, +definite, +plural]	lé	the	den
6	[-specific, -definite, +plural]	zero	zero	zero
7	[-specific, +definite, -plural]	zero	the	zero
8	[-specific, -definite, -plural]	zero	a	zero

Draft version
Please do not quote

If we look at the similarities and differences we can again state that there are two kinds of similarities. First, those involving only the Surinamese Creoles and Gbe, and second those that involve all three languages. The Surinamese Creoles and Gbe encode non-specific singulars in the same way, namely by zero marking, which leads to a definiteness syncretism (cf. Table 2, rows 7 and 8). Specific definites are also encoded by the same means, namely with two different forms for singular and plural (as against a single syncretic form in English, cf. Table 2 below, rows 1 and 2). In contrast, all three languages have the same kinds of marking for specific singulars (differential marking, cf. Table 2, rows 2 and 4), non-specific plurals (zero for indefinfites, determiners for definites, cf. Table 2, rows 5 and 6), and specific plurals (differential marking, cf. Table 2, rows 1 and 3). In sum, we get a much more intricate picture of similarities and dissimilarities when looking more closely at one of the properties, definiteness. This in turn calls into question Aboh & Ansaldo's analysis that we are dealing with a "a noun system that has the semantic properties of noun phrases in Gbe, but the syntax [i.e. word order, IP] of English noun phrases" (Aboh & Ansaldo 2006:50). But even if we adopt that simplifying analysis, does that mean that this kind of mixed system is what we would typically expect under a feature pool approach? Quite to the contrary, it is exactly what a relefixication account would have predicted (e.g. Lefebvre 1998).

To summarize, it is unclear how the feature pool approach accounts for the combination of properties and forms in the creoles. On the other hand, relexification, which is a mechanism also known from SLA, seems to provide a more convincing explanation of the facts, although it has to be stated that no theory seems to be available that could explain, let alone predict, all the intricacies involved in reaching the final outcome.

4.2 Plural marking

Let us consider the marking of plural. Aboh & Ansaldo (2006:52) summarize the facts as in 3.

Table 3: Number marking in the NP in English, Gbe and the SCs, from Aboh & Ansaldo (2006:52)

	1	2	3	4	5	6	7
	number on definite DET	number on deictic DET	number on noun	pre-N deictic + number	post-N deictic + number	number on DET and N	number on DET only
English	no	yes (*these/ those*)	yes	yes	yes	yes	no
Gbe	no	no	no	no	yes	no	yes
SCs	no	yes	no	yes	no	no	yes

Again we concentrate on the parallels and mismatches between the languages. Unlike English, the Surinamese Creoles and Gbe have no inflection on the noun, and no number agreement inside the NP (3, columns 3 and 6). Unlike Gbe, however, English and the Surinamese Creoles mark number on the deictic determiner and have the same order of determiner and noun (cf. table 3, columns 2 and 4).

To explain these patterns, Aboh & Ansaldo (2006) in general evoke the mechanisms shown in (1), but at least three of these mechanisms work on the level of the individual, and not on the population level. The authors maintain, however, that their account works on the population level (Aboh & Ansaldo (2006:45)). But let us look at their discussion of salience and the other mechanisms they mention.

With regard to salience, one could assume that lack of salience may have led to the loss of plural inflections. However, Aboh & Ansaldo (2006:52) dismiss this on the gorunds that collective nouns like *shoes* or *news* (*susu* and *nynsu* in Sranan) have preserved the plural morpheme. These authors attribute the loss of plural inflection to semantic markedness instead. They write that "plural inflection on the noun was lost because it is semantically vacuous and because a pre-nominal deictic determiner *den* could express plurality ... only semantically active inflection is visible for selection in a situation of language contact" (Aboh & Ansaldo 2006:53). This explanation is both ad hoc and unclear. Why should plural inflection be considered "semantically vacuous"? It is a prime example of inherent inflection, hence of a type of inflection that does carry meaning and not only serves configurational purposes. And why would only "semantically active" inflection be "visible" in a situation of language contact? What would be the underlying principle for this?

As an alternative, a processing account in terms of SLA is readily available. Inflections get lost in early second language acquisition due to the limited L2 processing capacities of the learners, to the effect that the loss of plural markings across the board is typical of early stages of SLA. Note that SLA can also account for the fact that some *pluralia*

Draft version
Please do not quote

tanta (such as *njusu* <E. *news*) and some plural forms of plural-dominant words (such as *susu* <E. *shoes*) made it into the Surinamese Creoles. These words were adopted as unanalyzed forms, i.e. as monomorphemic words. The reason for the non-adoption of many more words with an English plural *-s* is rather trivial. Most nouns are heavily singular-dominant (with much lower frequencies for their plural forms), and frequency is a crucial factor in the learning (or adoption) of non-native words.

4.3 Possessive marking

We start again with Aboh & Ansaldo's table, given here as table 4.

The Surinamese Creoles and Gbe are similar in that they (unlike English) have no inflectional marking of possession (see table 4, columns 1 and 2), while the Surinamese Creoles and English share the same word order, which is different from that of Gbe (see columns 2,5 and 6). A reanalysis of non-inflectional genitive marking, systematizing different words orders, as shown in table 5, reveals, however, more similarities than differences between the different languages. Column 1 of table 5 shows that all languages have a possessor initial structure in which the possessor is followed by a genitive marker and the possessee. Column 2 shows that all languages have possessee-initial structures with English and the creoles sharing the same order of genitive marker and possessor. Finally, in column 3 one can see that all languages have genitive a construction without overt marking, with again the same word order in English and in the creoles. We can thus see that, if we disregard mere word order differences, all constructions shared by the two input varieties survive, preserving the English word order.

How can these facts be accounted for under the feature pool approach? Aboh & Ansaldo (2006:54) again evoke their idea of 'semantically active inflection': "We take the loss of genitive inflection in the Surinamese Creoles to be additional evidence that only semantically active inflectional morphology is visible and (maybe) subject to transfer in a situation of language contact". This raises similar questions as above. Why should inflectional possession marking be semantically not 'active'? What is the principled basis for the role or non-role of semantics? When is something 'semantically active', when not? And why is the English word order 'selected'?

Draft version
Please do not quote

Table 4: Possessive marking in English, Gbe and the SCs, from Aboh & Ansaldo (2006:54)

	1	2	3	4	5	6
	POSSor-GEN-POSSee	POSSee-PREP-POSSor	POSSor-POSSee	POSSee-PREP-POSSor-GEN	POSSor-PRO-POSSee	POSSee-POSSor-GEN
English	yes *John's book*	yes *a friend of John*	yes *a horse leg, my leg*	yes *a friend of John's*	yes *for Jesus Christ his sake*	no
Gbe	yes *Jan sín wémà*	no	yes *sò fò*	no	no/?	yes *wémà Jan ton* [book John GEN] *wémà cè* [book my]
SCs	no	yes *(n)a buku fu mi*	yes *datra oso, mi oso*	no	yes *a moy frigi en tere*	no

Draft version
Please do not quote

Table 5: Possessive marking in English, Gbe and the SCs, disregarding word order and inflection

	1	2	3
	POSSor-**GEN**-POSSee	POSSee-[**GEN**-POSSor] POSSee-[POSSor-**GEN**]	POSSor-POSSee POSSee-POSSor
English	yes *for Jesus **his** sake*	yes *a friend **of** John*	yes *a horse leg, **my** leg*
Gbe	yes *Jan **sín** wémà*	yes *wémà Jan **ton***	yes *sò fò* *wémà **cè*** [book my]
SCs	yes *a moy frigi **en** tere*	yes *(n)a buku **fu** mi*	yes *datra oso, **mi** oso*

In contrast, a processing account in terms of SLA seems readily available. As shown by Pienemann, possessive pronouns are processable at an early stage in SLA (see column 3 in table 5), while English genitive inflection is contextual inflection, hence only processable in very advanced stages of acquisition, hence prone to loss.[2].

4.4 Case marking on pronouns

Let us now turn to the case marking on pronouns. Given the fact that all languages involved in the contact situation under discussion are morphologically rather poor, Aboh & Ansaldo (2006:54) predict "that contact between these languages is not likely to produce a new language that has extensive case morphology". In this respect, the predictions of feature pool approach and the SLA approach are basically the same. It is nevertheless interesting to look at the details. Aboh & Ansaldo (2006:55) provide the summary given in tables 6 and 7 for weak and strong personal pronouns, respectively.

[2]Even with advanced learners, who have acquired the inflectional genitive, there is still a remarkable quantitative preference for the analytic genitive construction in their interlanguage production, cf. Fischbach (2007)

Draft version
Please do not quote

Table 6: Subject-object case marking distinction, personal pronouns, based on Aboh & Ansaldo (2006:55)

	person	English	Gungbe	SCs
singular	1	yes	yes	no
	2	no	yes	no
	3	yes/yes/no	yes	yes
plural	1	yes	no	no
	2	no	no	no
	3	yes	no	no

Table 7: Subject-object case marking distinction, **strong** personal pronouns, based on Aboh & Ansaldo (2006:55)

	person	English	Gungbe	SCs
singular	1	no	no	no
	2	no	no	no
	3	no	no	no
plural	1	no	no	no
	2	no	no	no
	3	no	no	no

Draft version
Please do not quote

One can see that all subject/object distinctions on the weak pronouns get lost on the way from the input languages to the creoles, no matter from which language. The only exception is the third person singular, where the subject/object distinction is present.[3] Notably, none of the languages involved has a subject/object distinction with strong pronouns, and it does not surprise one that the resulting creoles do not have it either. Aboh & Ansaldo (2006:56) claim that the absence of distinctions in the strong forms of either language

> ... leads us to conclude that the loss of inflection is not related to language acquistion but instead to the nature of inflection itself. When inflection simply reflects a syntactic configuration, such as subject-verb or verb-object configuration, it may not be *competitive enough* in a situation of language contact *to participate in the F[eature] P[ool]* from which the emerging language derives viable combinatories. However, when inflection has some semantics (e.g. intricate relation between nominative case and topicality), it may participate in the competition and selection process and emerge in the new language." (my emphasis)

[3]There is one interesting phenomenon that is not shown in the table, and which is not discussed by Aboh & Ansaldo, and which will not be discussed here, namely that the syncretism of first and second plural pronoun (*unu*) survives in the Surinamese Creoles through direct borrowing of this form.

Again, this explanation raises a number of problems similar to the ones discussed above. First, the connection between strong form case syncretism, acquisition and 'the nature of inflection itself' is unclear. Is there a threshold for the feature pool ("not competitive enough to participate")? If so, what is this threshold? Second, what is the basis for the role or non-role of semantics? Why are not all distinctions in the weak pronouns lost? Does third person masculine have 'some semantics' while all other persons have none? There is no answer to such questions in Aboh & Ansaldo's paper.

Under a processing-based SLA account, the facts can be nicely accomodated. Case marking is contextual inflection and therefore absent from early interlanguages. The pronominal subject-object distinction is, however, processable at an early stage ('unmarked alignment', see Pienemann et al. (2005)), with a frequency effect concerning lexical learning for the third singular masculine pronoun.

4.5 Summary: The NP in the Surinamese Creoles

In the preceding subsections we have seen that the feature pool approach leaves many open questions and cannot adequately account for the emergence of particular structures in the Surinamese Creoles. In particular, we saw that the composition of the feature pool is problematic. Features can be selected if, and only if, processing allows their perception and integration. An abstract feature can become only part of the feature pool if the speakers are able to process it. Otherwise, the speech signal contains no features, but is simply noise. In a contact situation with many non-native speakers of the pertinent varieties involved, one has to take into account that the processing of the available signal is severely constrained. These processing constraints directly contribute to the emergence of the structures under discussion. L2 processing thus provides a principled explanation for feature selection and feature mixing, preferable to the ad hoc mechanisms evoked by Aboh & Ansaldo (2006). Furthermore, it seems that SLA plays the key role in the emergence of the languages under discussion, not the typological characteristics of their input languages. Any feature pool account would have to incorporate insights concerning the role of processing in order to explain feature selection and creation of new structure.

In the next session we will turn from creolization to another type of language emergence, exemplified by Sri Lanka Malay, in order to see how the two approaches can explain such cases. We focus on the structure of the NP again, for reasons of comparability.

5 Case study 2: The NP in Sri Lanka Malay

Sri Lanka Malay is a very interesting contact language, since it "presents us with a rare case of morphologization, development of morphological material, as opposed to the more commonly observed reduction of it in contact environments. Moreover, SLM [Sri Lanka Malay] is a rare case in terms of genesis, as it offers us a case study of a language that retains original lexical items but completely shifts in grammar (Thomason & Kaufman (1988)). Both apparently rare aspects of this language find however logical explanation through a FP[feature pool]-based analysis: by looking at the composition of the FP and considering the principles of competition and selection, we can explain how such a development can take place" (Aboh & Ansaldo (2006:57)).

Draft version. Please do not quote

Before taking a look at the emergence of Sri Lanka Malay, let us briefly review the morphological properties of the three major languages involved in the contact, Malay, Sinhala/Tamil and Sri Lanka Malay. This is shown in table 8.

Table 8: Morphology in Malay, Sinhala/Tamil and Sri Lanka Malay, based on (Aboh & Ansaldo (2006:57f)).

	Malayan	Sinhala/Tamil	Sri Lanka Malay
morphology	isolating, some agglutination	agglutinative, some fusion	agglutinative, incipient fusion
case-marking on full NPs	no	yes	yes

The Sri Lanka Malay lexicon is of generic Malay origin, and the case markers used in Sri Lanka Malay are based on Malay free morphemes. A rough comparison of the case system that is at issue here is given in table 9.

Table 9: Case onto thematic role-mapping in Sinhala/Tamil, based on Aboh & Ansaldo (2006:59)

Case	Thematic role	Sinhala	Tamil	Sri Lanka Malay
NOM	Agent	yes	yes	yes
DAT	Patient	yes	yes	yes
ACC	Experiencer	yes	yes	yes
	Goal	yes	yes	yes
POSS	Possession	yes	yes and Location	yes
LOC	Location	no	no	yes
INSTR	Instrument	yes	yes	yes
	Source	yes	no	yes

The table shows that Sri Lanka Malay displays a case system that is overall very similar to that of its adstrates. Where there are differences between adstrates, Sri Lanka Malay either chooses one of the options and/or new features may emerge. For example, in Tamil but not in Sinhala, definiteness plays a special role in accusative marking, and so it does in Sri Lanka Malay. Sri Lanka Malay, however, also uses accusative marking to show emphasis, which is not attested in the adstrates. In essence, Aboh & Ansaldo (2006:59-62) demonstrate that total congruence of the adstrates results in the same patterns in Sri Lanka Malay, while "lack of congruence ... seems to leave more room to the new grammar to adopt a pattern from the competing languages (presumably the one that scores higher on parameters such as discourse saliency, semantic transparency). Alternatively, the emerging language may develop a hybrid system, combining various aspects of the competing features, thus creating novel structures" (p. 62).

Does this kind of situation present a problem for an SLA-based account of creolization? In view of these facts, it is clear that such a system cannot develop in SLA-dominant

Draft version
Please do not quote

situations, but only in situation characterized by large-scale bilingualism. Only if speakers have sufficient resources for processing the available case system can they adopt traits of one system into another system. In other words, these developments require a good command of the languages involved by advanced bilinguals. A look into the literature shows that this is exactly the situation in which Sri Lanka Malay came into existence:

> Surely the Malays *did not create SLM by trying to acquire Tamil or Sinhala*, because if that were the case we would not have a predominantly Malay lexicon. Nor would there have been any plausible reason for Tamils/Sinhalese to restructure their own varieties in acquiring SLM; they were, after all, speakers of larger, socially more prestigious languages in which the SLM speakers would have been quite competent. Thus, what we do have is language acquisition in an informal context with *high degree of bi/multilingualism*; there is no evidence nor reason to postulate a break in transmission, an imperfect acquisition process or any other construct typical of creole ideology" (Ansaldo 2008, my emphasis).

This brings us back to the question of whether it is useful to assign the emergence of the Surinamese Creoles and Sri Lanka Malay to "different exceptional phenomena, namely creolization and admixture respectively." (Aboh & Ansaldo 2006:39). Our investigation has shown that the facts from Surinamese Creoles and Sri Lanka Malay need not be accounted for with reference to some notion of exceptionality, but by a careful examination of the contact situation. In situations where SLA plays a role, outcomes can be expected that are different from those in a situation with prevalent bilingualism. Features can be selected if processing allows their integration. This shows that it is indeed useful to distinguish between different kinds of contact situations.

Draft version
Please do not quote

6 Case study 3: The syllable in the Surinamese Creoles and the role of typology

Aboh & Ansaldo put forward two explicit hypotheses concerning the role of typology, based on the cases of Sri Lanka Malay and the Surinamese Creoles.

(3) **Typological predictions, from Aboh & Ansaldo (2006:41):**

a. Prediction 1 (based on the Surinames Creoles):
Typological homogeneity of the source languages leads to innovation and mixing .

b. Prediction 2 (based on Sri Lanka Malay):
Typological non-homogeneity and dominance lead to a radical typological shift, transfer of the L2/L3 feature is heavy, innovation more limited.

We have seen, however, that it is not the typology of the languages involved that can explain the selection of certain properties in an emerging language. Rather, we saw that the 'innovation and mixing' oberved with the Surinamese Creoles is the result of SLA, while the Sri Lanka Malay facts result from language contact in a setting with a high

degree of advanced bilingualism. To further investigate the role of typology, and the correctness of the predictions in (3-a) and (3-b) we will now test Aboh & Ansaldo's predictions with a different kind of phenomenon, the syllable structure as found in the Surinamese Creoles. We will concentrate on one language, Sranan, because the syllable structure facts are best described for this language. The facts are very similar for the other varieties, though.

In Sranan, as well as in the other Surinames Creoles one can find a massive restructuring of the syllabic make-up of lexifier words, involving epenthesis, deletion and metathesis. The examples in table 10 illustrate the three processes.

Table 10: Syllabic restructuring in Sranan

	English	>	Sranan
a.	Epenthesis		
	because	>	bikasi
	top	>	tapu
	walk	>	waka
	call	>	kari
	strong	>	tranga
b.	Deletion		
	speak	>	piki
	stand	>	tan
	doctor	>	datra
	nasty	>	nasi
	field	>	firi
c.	metathesis		
	burn	>	bron
	court	>	krutu
	over	>	abra

Draft version
Please do not quote

A complete account of the different restructuring processes and the complex conditions under which they apply can be found in Alber & Plag (2001). Table 11 summarizes the similarities and differenes between the languages involved. In addition to the major substrate Gbe, the minor substrates Twi and Kikongo are also included.

Table 11: Syllable structure in Kikongo, Twi, Gbe, English and SCs, based on Alber & Plag (2001), Plag & Schramm (2006).

Structure		Kikongo	Twi	Gbe	English	SCs
coda	nasal coda	no	yes	yes	yes	yes
	obstruent coda	no	no	no	yes	no
	coda cluster	no	no	no	yes	no
onset	obstruent-sonorant onset	yes	yes	yes	yes	yes
	obstruent-obstruent onset	no	no	yes	yes	no
	SSP violations	no	no	yes	yes	no

First we have to clarify which of the two above predictions is pertinent. We can reasonably assume that superstrate and substrate are non-homogeneous, because the substrates have rather simplex syllable structures while the superstrate has very complex syllable structures. Given that there is also a typological dominance of the substrates, this should lead to a radical typological shift (see (3-b) above). However, there is a problem in classifying the outcome. Are the new syllable types and constraints (e.g. no obstruent coda, no SSP violation, the possibility of having the cluster /r.k/ in word-internal syllable contact, as in *ar.ki* 'listen') 'innovations and mixing' (prediction 1), or rather 'more limited innovation' (prediction 2)? It is also not entirely clear what exactly is meant by 'typological dominance', and how it can be determined. Finally, it is unclear, how the specific kinds of repair strategies (epenthesis and deletion in different environments) would be explained by selection from the feature pool.

If we view the problem of syllable restructuring from an SLA angle these problems disappear. We can say that, yes, there is a typological shift (from complex superstrate syllables to unmarked creole structures), but this shift is clearly the result of SLA. The kinds of syllabic restructuring observed in SLA exactly parallel those attested in creoles. In SLA, syllabic restructuring takes place only if the learner's L1 has tighter syllable structure constraints than L2 (e.g. Eckman 1981, Hancin-Bhatt & Bhatt 1997, Broselow & Wang 1998). The restructuring observable in SLA is very similar to that in loan word adaptation (e.g., Silverman et al. 1992, Yip 1993, Itô & Mester 1995a,b, Paradis 1996, Paradis & Lacharité 1997, Uffmann 2001, 2006, Boersma & Hamann 2008), in that epenthesis is the preferred repair strategy in SLA and loanword adaptation (*modulo* intervening constraints referring to, e.g., prosodic size, contiguity etc.) In psycholinguistically inspired studies it was shown that perception, i.e. processing based on L1 cues, is the key to an understanding of second language phonological development and loanword adaptation (Boersma & Hamann 2008, Hallé 2008, Strange & Shafer 2008). To summarize, the many similarities between creole languages and interlanguages with regard to syllable structure and the processes involved in its restructuring, strongly suggest that the key to an understanding of the emergence of creole structures in the realm of the syllable lies in the processes known from SLA. In contrast, the applicability of feature pool approach is unclear, and so are the nature and specificity of its typological predictions.

Draft version
Please do not quote

7 Conclusion

In this paper we have looked at three case studies in order to closer investigate the explanatory power of two rival approaches to language creation in contact situation. It was shown that the feature pool approach suffers from a number of conceptual, theoretical, and empirical problems. It was shown that this approach cannot adequately account for different outcomes of different language contact situations. The typology alone of the languages involved in the contact is not a good predictor for the outcome of language contact. The feature pool approach neglects processing constraints: one can only select from what one can process. Interlanguage processing plays a crucial role in many contact situations and differential outcomes of language contact can be attributed to its presence or absence in the contact situation. 'Creolization', as in the case of the emergence of the Surinamese Creoles, is therefore not 'exceptional', but happens in contact situations in

which SLA plays a significant role. The processing restrictions inherent in SLA play an important role in shaping the structural outcome. 'Admixture', as in the case of Sri Lanka Malay, is not 'exceptional' either, but happens in different situations and shows different processes at work. And these processes allow structural outcomes that are very different from those found under the conditions of SLA.

References

Aboh, Enoch O. & Umberto Ansaldo. 2006. The role of typology in language creation. In Umberto Ansaldo, Stephen Matthews & Lisa Lim (eds.) *Deconstructing creole*, 39–66. Amsterdam, Philadelphia: Benjamins.

Alber, Birgit & Ingo Plag. 2001. Epenthesis, deletion and the emergence of the optimal syllable in creole: the case of Sranan. *Lingua* 111(11):811–840.

Ansaldo, Umberto. 2008. Sri Lanka Malay revisited: Genesis and classification. In K. David Harrison, David S. Rood & Arienne Dwyer (eds.) *A World of Many Voices: Lessons from Documented Endangered Languages*. Amsterdam, Philadelphia: Benjamins.

Boersma, Paul & Silke Hamann. 2008. Loanword adaptation as first-language phonological perception. Rutgers Optimality Archive 975. 40 pages.

Booij, Geert E. 1995. Inherent versus contextual inflection and the split morphology hypothesis. *Yearbook of Morphology* 15:1–16.

Broselow, Su-I Chen, Ellen & Chilin Wang. 1998. The emergence of the unmarked in second language phonology. *Studies in Second Language Acquisition* 20:261–280.

Eckman, Fred. 1981. On the naturalness of interlanguage phonological rules. *Language Learning* 31:195–216.

Fischbach, Heidemarie. 2007. *Die Genitivalternation: Eine experimentelle Studie zum Einfluss von Länge und Belebtheit*. Master's thesis, Universität Siegen.

Hallé, Pierre A. 2008. Language-specific aspects of the perception of illegal clusters. Paper presented at the Workshop on 'Consonant Clusters and Structural Complexity', July 31 to August 2, 2008, Munich.

Hancin-Bhatt, Barbara & Rakesh M. Bhatt. 1997. Optimal l2 syllables: Interactions of transfer and developmental effects. *Studies in Second Language Acquisition* 19:331–378.

Itô, Junko & Armin Mester. 1995a. The core-periphery structure of the lexicon and constraints on reranking. In Laura Walsh-Dickey Jill A. Beckman & Suzanne Urbanczyk (eds.) *University of Massachusetts Occasional Papers in Linguistics 18: Papers in Optimality Theory*, 181–209. Graduate Linguistic Student Association.

Itô, Junko & Armin Mester. 1995b. Japanese phonology. In John A. Goldsmith (ed.) *Handbook of phonological theory*, 817–838. Oxford: Blackwell.

Draft version. Please do not quote

Lefebvre, Claire. 1998. *Creole Genesis and the Acquisition of Grammar: The Case of Haitian Creole*. Cambridge: Cambridge University Press.

Lefebvre, L. White, C. & C. Jourdan. 2006. *L2 Acquisition and Creole Genesis: Dialogues*. Benjamins, Amsterdam.

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

Mufwene, Salikoko S. 2005. Language evolution: The population genetics way. In Günther Hauska (ed.) *Gene, Sprachen, und ihre Evolution*, 30–52. Regensburg: Universitätsverlag Regensburg.

Paradis, Carol. 1996. The inadequacy of filters and faithfulness in loan word adaptation. In Jaques Durand & Bernard Laks (eds.) *Current trends in phonology: Models and methods*, volume 2, 509–534. Salford: European Studies Research Institute, University of Salford.

Paradis, Carole & Darlene Lacharité. 1997. Preservation and minimality in loanword adaptation. *Journal of Linguistics* 33:379–430.

Pienemann, Manfred. 1998. *Language Processing and Second Language Development: Processability Theory*. Amsterdam, Philadelphia: Benjamins.

Pienemann, Manfred (ed.) . 2005. *Cross-Linguistic Aspects of Processability Theory*. Amsterdam: John Benjamins Publishing Company.

Pienemann, Manfred, Bruno Di Biase & Satomi Kawaguchi. 2005. Extending processability theory. In *Cross-linguistic aspects of Processability*, 199–251. New York: John Benjamins Publishing Company.

Plag, Ingo. 2008a. Creoles as interlanguages: inflectional morphology. *Journal of Pidgin and Creole Languages* 23(1):109–130.

Plag, Ingo. 2008b. Creoles as interlanguages: syntactic structures. *Journal of Pidgin and Creole Languages* 23(2):307–328.

Plag, Ingo. 2009a. Creoles as interlanguages: phonology. *Journal of Pidgin and Creole Languages* 24:121–140.

Plag, Ingo. 2009b. Creoles as interlanguages: word-formation. *Journal of Pidgin and Creole Languages* 24.

Plag, Ingo & Mareile Schramm. 2006. Early creole syllable structure: A cross-linguistic survey of the earliest attested varieties of Saramaccan, Sranan, St. Kitts and Jamaican. In Parth Bhatt & Ingo Plag (eds.) *The structure of creole words: Segmental, syllabic and morphological aspects*, 131–150. Tübingen: Niemeyer.

Siegel, J. 2008. *The Emergence of Pidgin and Creole Languages*. Oxford University Press.

Draft version
Please do not quote

Silverman, Kim, Mary E. Beckman, John F. Pitrelli, Mari Ostendorf, Colin Whightman, Price Patti, Janet B. Pierrehumbert & Julia Hirschberg. 1992. Tobi : A standard for labeling English prosody. In *Proceedings of the 1992 International Conference on Spoken Language ProcessingWhere?*, volume 2, 867–870.

Strange, Winifred & Valerie L. Shafer. 2008. Speech perception in second language learners: The re-education of selective perception. In Jette G. Hansen Edwards & Mary L. Zampini (eds.) *Phonology and Second Language Acquisition*, 153–191. Amsterdam, Philadelphia: Benjamins.

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

Uffmann, Christian. 2001. Patterns of vowel epenthesis (not only) in shona loanwords. In Caroline Féry, Antony Dubach Green & Ruben van de Vijver (eds.) *Proceedings of HILP5*, 193–211. University of Potsdam.

Uffmann, Christian. 2006. *Vowel epenthesis in loanword adaptation*. Tübingen: Niemeyer.

Yip, Moira. 1993. Cantonese loanword phonology and optimality theory. *Journal of East Asian Linguistics* 2:261–291.

Draft version
Please do not quote