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ZONES OF INTENSE LINGUISTIC CONTACT AND THE SITUATION OF THE SOUTHERN CARIBBEAN

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Abstract
A number of areas on the world linguistic map show accretions of linguistic systems which have undergone intense exchange of features, including high degrees of (perforce) partial relexification, or extreme borrowing, in which preexisting features of a language are replaced by forms originating in other linguistic systems. These constitute a special kind of linguistic process, related to other language contact phenomena such as syntactic and semantic metatypy, cultural borrowing and unnecessary borrowing. Parts of the Southern Caribbean, specifically the former Netherlands Antilles, Suriname, French Guiana and Guyana, constitute area where such phenomena are common (McWhorter & Good 2012; Jacobs 2012; Parkvall & Jacobs 2023). This is a region in which contact-induced change has resulted in patterns of borrowing, some of which are quite rare, such as a form of the Core-Periphery division with a very slender core of inherited morphs (Grant 2019), and others which are simply very rarely attested elsewhere in the world. The interaction of these rare patterns of borrowing is also most unusual. Historical documentation and evidence from related languages enable us to see much of how this cluster of borrowing patterns, and the creation of this zone of intense linguistic contact, came about. Focus is on three creoles within the domain of the Dutch sphere of influence in the region: Saramaccan, Papiamentu, and Berbice Dutch, which are placed in a broader regional and global context.

Keywords: Relexification; Southern Caribbean; Dutch-based creoles; Core-Periphery division; historical documentation

1. Introduction: underlying concepts*

This paper deals with languages that underwent striking influence from other languages. It focuses on three creole languages that emerged as a consequence of Dutch activities in the Southern Caribbean: Berbice Dutch Creole with a core of elements from Ijo, a Nigerian language, Saramaccan with a core of English Creole and a large Portuguese component, and Papiamentu, a Creole with Portuguese and Spanish core.

In this introduction I will discuss several concepts that describe similar phenomena: relexification, unnecessary borrowing and macaronic languages. All of these cover phenomena in languages where words and bound morphemes that are normally not borrowed, such as core vocabulary as measured by more stable word lists, as well as the borrowing of free and bound grammatical elements.

1.1 Creoles and substrates, adstrates, superstrates

Most creoles have a lexicon that is derived from one language, and that is why one can speak of Dutch-lexifier creoles, English-lexifier creoles etc. The lexifier language is also called the superstrate language. The structures of the creoles are grammatically quite different from the lexicon, and the differences are often assigned to substrate languages. Those are languages spoken by ancestors of the creole speakers, e.g. enslaved Africans in the case of Caribbean creoles. Adstrate languages are languages spoken alongside the creole, e.g. Dutch in the case of Papiamentu and Saramaccan, and Creole English in the case of Berbice Dutch.

1.2 Relexification, adlexification, supralexification

The term relexification has been used for the results of three types of contact phenomena affecting the core lexicon of a language.

First, the type of language first described in detail in its socio-historical context, in which the complete lexicon of a language was replaced with the lexicon of a different language. Media Lengua is a language in which the grammatical system (phonology, morphology syntax) is Que-

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chua, and the lexicon is Spanish (Muysken 1997; Lipski 2020). All lexical roots replaced, the grammar preserved, and this happened within a very brief time span.

Second, relexification was used to describe Haitian Creole by Claire Lefebvre in the beginning of her work (Lefebvre 1986), later the process was modified and named relabeling (Lefebvre 2015). In this process, all roots and all grammatical markers are replaced. In Haitian, all Fon (Gbe, African) roots would have been replaced with French roots, preserving the original meanings, both grammatical and lexical morphs. In fact the process is similar to metatypy, a concept coined by Malcolm Ross (2007).

The third type of relexification is a process in which more and more lexicon is borrowed from another language, and this process may be halted on the way. The symptoms are typically rather random lexical borrowings in the basic domain. Voorhoeve (1973) used this to explain the large Portuguese and English components in the Saramaccan Creole language.

In this paper, I use relexification in the third sense, and it is thus limited to partial relexification.

A number of areas on the world linguistic map show accretions of linguistic systems which have undergone intense exchange of features, including high degrees of what is perforce partial relexification. Relexification (Hall jr. 1966; DeGraff 2002) is a state of affairs in which some of the preexisting lexical labels or features of a language are replaced by forms originating in other linguistic systems. These accretions of such systems constitute a special kind of linguistic area. As such they generally exhibit other features associated with linguistic areas (syntactic and semantic metatypy, cultural borrowing, phonological convergence, etc). This type of relexification is arguably never complete, and it may be more extreme in the case of contact languages. Cases of relexification can be more comprehensive in creoles and mixed languages than in languages which have been transmitted without a break from one generation to the next.

Relexification should not be confused with **adlexification**. As a technique, relexification (replacement of vocabulary) is distinct from adlexification (the addition of new words for new concepts). Relexification is the replacement of labels for a concept by labels from other languages which have approximately the same meaning. Adlexification refers to the addition of lexical labels for new items which were previously unfamiliar to members of the speech community, and which were thus unlexicalised, and

hence a form of **cultural borrowing**. **Supralexification** is the addition of semantic distinctions through the acquisition of lexicon from other languages, as happened in many cases in a language's colour terminology. Relexification sensu stricto refers to the replacement of labels for items which previously had labels from other sources (especially from the chief lexifier).

In the grammatical realm, the unspoken assumption is that inflectional morphology is a system which is intact enough not to need additions to it, nor to need to be reformed or regenerated by processes which do not usually include borrowing. But we will see that some creoles also borrowed inflectional morphemes.

1.3 Borrowing

Relexification fits into a picture of lexical and structural borrowing, which are essential components of the mechanisms of contact-induced linguistic change. It was anticipated in the concepts of **cultural, intimate and dialect borrowing** put forward in Bloomfield (1933), where it can be clearly seen as an aspect of intimate borrowing. This links in with the division set forth by Clark (1982, 2004) between 'necessary' and 'unnecessary' borrowings. In the latter case, relexification would be seen as unnecessary. Relexification is also likely to be seen the further up the **borrowing scale** set forth in Thomason & Kaufman (1988) the nature of the depth of contact between two linguistic systems (say, French and English) can be seen to sit. Some languages use partial relexification more than others: Modern English has replaced more lexical labels which existed in Old English (before 1100) than Modern German has done with preexisting labels in Old High German (500/750 to 1050), which in turn has relexified more than modern Icelandic has done from its 10th century CE ancestor Old Norse.

Clark (1982, 2004), writing on what he with justified caution calls **'necessary' and 'unnecessary' borrowings**, provides a discussion for a phenomenon which has tacitly been long recognised in linguistics. Languages differ in their degrees of relexification as well as in their degrees of adlexification.

Occasionally, texts, and rarely languages, have been described as **macaronic**. The data would show an arbitrary mixture of vocabulary items. The term is used more by philologists than by students of modern languages.

Haspelmath & Tadmor (2009) discusses loan elements in much of the **core lexicon** of 41 languages worldwide, although their purview covers little of the Near East or sub-Saharan Africa and does not include indigenous languages of South Asia or North America.

Swadesh lists are often used to measure intimate borrowing, because they contain what are generally regarded as low proportions of borrowable labels. There are two main Swadesh lists, consisting of 100 or 207 words of basic vocabulary, respectively, which were thought to be more or less universal and stable. Similar results might have been achieved if longer lists, such as the Kaufman list (Kaufman 1973) or the Hattori list (Hattori 1958) had been used.

1.4 Borrowing and partial relexification

We have discussed Bloomfield's (1933) distinction between cultural, dialect and intimate borrowing, and Clark's (1982, 2004) distinction between 'necessary' and 'unnecessary' borrowings (for instance, *yakitori* may be a necessary borrowing but *head* is not) and the levels of the borrowing scale in Thomason & Kaufman (1988: 74–76). We may state that any language which does not confine its borrowing to labels for items which had previously been unfamiliar to the culture of that language's speakers has undergone (usually very) partial relexification. The reason for this is that such languages previously had labels for concepts which are now generally or exclusively labelled using lexical items which have been taken from another language.

In the next section (2), some languages are surveyed with unusual quantities of lexical borrowing, followed by two sections (3 and 4) focusing on creoles with a mixed lexicon, which will then be compared in the next section (5). The article ends with a conclusions section (6).

2. Non-creole cases of more extreme borrowing

Before embarking on partial relexification in some creoles, I first discuss some non-creole cases.

Concentration on the everyday lexicon of languages which have undergone high degrees of relexification is understandable: partly because it is the lexicon which is involved, and partly because replacement of batteries of inflectional morphology is much rarer, but not unknown (see Seifart 2015a for a database of such forms). The principle that information on

structure in addition to lexicon is important for classifying languages has been enshrined in an understanding of the processes of diachronic discovery since at least Ludolf (1702) where it was applied to showing the Semitic affiliation of Ethiopic languages. However, using this technique to establish the affiliations of languages with only a small number of bound inflectional morphs presents problems. In general, inflectional morphs tend to consist of few phonemes. Analysts are therefore drawn more to examining high-frequency lexicon. I will discuss a number of non-creole cases, before embarking on the three creoles.

2.1 English

Over half the roots attested for Old English are not now found in Modern English, and they have very largely been supplanted by items from other languages, of which Norse, French, Latin, Dutch-Low German and (indirectly) Greek are the major sources. This is what we find with Middle and Modern English when compared with Old English (Coleman 1990).

I looked at the material on Old English (OE) in the Intercontinental Dictionary Series (Key & Comrie 2023; Borin, Comrie & Saxena 2013). I counted 1,228 concepts listed there which were encoded by one or more word in the OE sources. Maybe 20–25 at most of these were concepts for which OE would not have had labels at the time when it reached England in the 5th century CE. OE and other Germanic had already absorbed some Latin loans relating to the luxuries of life while they were still living on the Continent, and these languages absorbed more loans from Latin and Christian Greek after they took over England in the 5th century CE.

The Swadesh list for Old English in Coleman (1990) contains only one loan, namely *sealtian* ‘to dance’ from Latin *saltare*, originally ‘to jump about’ (this compares with 32 loans for the equivalent list of 200 words in Modern English). Modern English *dance* is taken from French, which itself took it from (West Germanic) Frankish. The loans in Old English are overwhelmingly cultural and therefore ‘necessary’ in the highly guarded terminology of Clark (1982, 2004). The borrowed French and Latin lexicon in English is a combination of both necessary and unnecessary items; the bulk of words of Norse origin in English are unnecessary loans, because almost all of them express concepts which had labels in Old English. Nonetheless, the earliest loans from Norse into (Old and Early Middle)

English are 'necessary' items, to label entities or objects which were familiar to Norse-speakers but not to contemporary speakers of English. Examples of terminology include those relating to parts of longships, or words relating to certain aspects of Norse legal practice in the Danelaw, for instance. This is also the case with the bulk of Latin (and via Latin, Greek and Syriac) and British Celtic terms which were taken into Early English. The profile of adstratal items in the creoles examined in this study is rather different.

Bound derivational elements from other languages have made it into Modern English, where they may constitute half the battery of productively used derivation morphs (and their number is being added to: *-fest*, from Latin via German, and *-gate*, from Norse, have both taken on new life in English derivation since the early 1970s). The bulk of lexicon in Old English related to items which speakers of Old English already knew; borrowed cultural vocabulary accounted for less than 5% of the attested Old English lexicon.

On the other hand, English has not borrowed for productive use any items of bound inflectional morphology. Relatively few languages do so. Seifart (2015b) is a good catalogue of instances in those languages which do borrow and incorporate items of such morphology. Other kinds of changes happen to bound inflectional morphs: expansion of range, merger with other morphs, deletion and thus replacement with zero, replacement with other morphs (whether these had previously been in use or not) and substitution by an etymologically opaque form, and there are others – but replacement of a bound inflectional morph with a loaned element is rather unusual, much more so than in lexicon, and very much more unusual than in culturally-oriented lexicon which introduces new items from new cultures. The implicational hierarchy of borrowing, commencing with borrowing cultural lexicon, which Thomason and Kaufman (1988) drew up on the basis of case studies which they had examined (more than fifty in all, from throughout the world) still stands up robustly.

Several languages are exceptions to the implicational hierarchy of borrowing, commencing with borrowing cultural lexicon, and only later everyday lexicon and morphology, which Thomason and Kaufman (1988) drew up on the basis of their worldwide survey. It is not and cannot be a universal. A number of these are creole languages, especially those which combine elements from one lexifier and an allolexical creole, and a number

of these are found in the Southern Caribbean. This small set of languages includes Berbice Dutch Creole, or Berbicean, one stunning case of the incorporation of productively-employed inflectional bound morphs from Eastern Ijo lects into a language which started life as a pidginised and then maybe creolised form of Zeelandic. Jacobs and Parkvall (2023) call this Early Berbice Plantation Creole Dutch. These Ijoid items were incorporated so thoroughly that they constitute the sole bound inflectional morphology of that language. It could be described as a stable (though dormant) mixed language which derives in part from a prototypical creole, while including an unusually high proportion of the morphological source language's lexicon (indeed, it uses items from every form class apart from numerals) especially at basic, Swadesh 100-word list levels. In addition, over 15% of the recorded lexicon is taken from from two other languages, namely Lokono/Arawak and varieties of English including "Creolese" – Guyanese Creole English. That pidginised Dutch forms part of its heritage is demonstrated by the presence of the term *maskono* 'to clean' from Dutch *maak schoon!* (Adrienne Bruyn, personal communication).

Since creole morphologies usually comprise batteries of free morphs, we may wish to employ the term 'free inflectional morph' to describe those elements, such as TAM (Tense-Aspect-Mood) markers or plural markers, which generally occur as being separate from the stems which they govern. Another example of a free grammatical morph would be Miskitu *nani*, which follows nouns or pronouns to indicate that they are plural, and *manga*, which (prenominally) performs a similar function for many Central Philippine languages.

2.2 Other cases of partial relexification or unnecessary borrowing

Examples of partial relexification of this kind abound worldwide. Diasporic languages of whatever origin often exhibit a high degree of relexification, though this varies from language to language. Yiddish has undergone more relexification from German towards West Slavic and Hebrew-Aramaic than (for instance) Judezmo has undergone towards French, Italian, Hebrew and Turkish (Bunis 2018).

Romani varieties have undergone a very high degree of relexification from other languages in the course of their migration from India some time before the 12th century CE, more so even than Yiddish has done. Elšík (2009) demonstrates this for a South Central Romani lect, and Boretzky

(1992) exemplifies this for a wide range of Romani lects, drawing largely on material which Boretzky himself collected. Romani speakers possessed bones and travelled on roads long before Romani took over words for these concepts from Greek (*kokalo* 'bone' < *kokkalos*, *drom* 'road' < *δromos*).

The Chamic languages of Southeast Asia are Austronesian languages which originally belong to the same subfamily as Malay, but the lexical material which they share with Malay or with any and all other Austronesian languages by virtue of joint inheritance comprises about 300 words at most; a high proportion of other forms derives from Austroasiatic languages of Vietnam (coming from Bahnaric and Katuic from rather than Vietnamese proper, which has exerted influence on many of these languages later in time), while they also contain a sizeable stratum of words which are found in most or all Chamic languages but which have yet to receive reliable etymologies (Thurgood 1999; Smith 2022). Furthermore they have little bound morphology, and what they do have is derivational in nature and it is at least partially derived from Austroasiatic languages.

Most modern Indic languages share a tranche of loans from Persian. Some of these originating themselves in Arabic; Bhatia (1993) gives relevant material for Panjabi. Sinhala, Dhivehi and Romani are special cases (and each is special in its own way) in this regard.

A number of additional cases of extensive (but still partial) relexification can be noted. Some can be regarded as part of a previously identified linguistic area, whereas others are more isolated, and there are linguistic areas where extensive relexification does not form part of the set of features which characterise this linguistic area. Maps showing intense relexification and those showing intense areal contact would not overlap completely.

Examples of cases of intense relexification from each permanently inhabited continent are presented below:

- An important instance of partial relexification is Chamorro/CHamoru of the Mariana Islands (North Pacific) and its Spanish overlay (Stolz 1998). Note that there are also elements in the Chamorro list which are non-Spanish and which are nonetheless not directly inherited from Proto-Chamorro (*dangkulu* 'big' and *bundak* 'mountain' being such examples; both appear to originate in Philippine languages).
- Haruai and Kobon, which are unrelated languages in the Schrader Ranges in the Madang province of Papua New Guinea, share a lot of

basic vocabulary although Haruai is Piawian and Kobon is one of the Kalam-Kobon languages (Comrie 2000).

- As previously mentioned, Chamic languages of southeast Asia are Austronesian languages related to Malay which have replaced a huge proportion of their lexicon (Thurgood 1999); some of the hitherto unetymologised lexicon is discussed in Smith (2022).
- Quechua (not least the variety spoken in Cuzco) and Aymaran of the Andres (Farfán 1954).
- A range of Pama-Nyungan and non-Pama-Nyungan languages from Arnhem Land in northern Australia (Heath 1981).
- Hurren (1971) documents Istroromanian, a variety of Romanian used in two dialects in Istria, which has replaced much of this lexicon with loans from an Istrian Croatian adstrate atop a previous Bulgaro-Macedonian adstrate (shared with Daco-Romanian) on a Latin superstrate and a presumably 'Thracian' substrate.
- Albanian, with its extensive Latin adstrate upon an 'Illyrian' superstrate, is another example (Kessler 2001). However, other languages in southeastern Europe show much less lexical material from other sources in their core vocabulary. The borrowed Latin stratum far exceeds the concepts encoded on the Swadesh lists. Except for Romani and Albanian, borrowing basic lexicon through relexification is mostly not a major mechanism in the Balkan Sprachbund.
- Nguni languages, especially Xhosa incorporates a large amount of Khoisan (especially Korana) lexicon and segmental phonology, into a Bantu structural and lexical base (Ownby 1985).
- Nuxalk (Bella Coola) with its small set of elements inherited from Proto-Salish, additional forms shared with or borrowed from other Salishan languages, and loans from yet other languages, especially Wakashan and specifically Heiltsuk, Tsmishian and Athapaskan languages, and also Chinuk Wawa and English. This includes a few cases of borrowing of productive bound morphs which Nuxalk has taken from North Wakashan languages. There are also more than 50% of the elements attested for Nuxalk for which no etymology is as yet forthcoming (Nater 2013, 2014, 2022).

Whole branches of language families can be affected: Elsie (1983) presents information on borrowed lexicon on the Swadesh lists of the three attested

Brittonic (Brythonic) Celtic languages. The borrowings are mostly from Latin, and some of it shared between Welsh, Cornish and Breton.

All these cases exhibit high degrees of partial relexification between genealogically unrelated languages, or at least between languages which (the Balkan languages excepted) are genealogically unrelatable in our current state of knowledge. Intra-family partial relexification is also known. English is a famous instance. Embleton (1986) exemplifies several instances of Germanic languages borrowing from one another (and separately from other languages). In Mexico and Guatemala, some Mayan languages have in some cases borrowed heavily from one another; more than 10% of the entries on the Q'eqchi' Swadesh list derive from other Mayan languages, especially Ch'olan languages (Wichmann & Brown 2003).

Some languages in a family borrow less than others, as a result of their differing contact histories. Urdu and Sinhala are both modern Indic languages, and both can be said to be part of greater India as a Sprachbund, but the layer (and indeed the sources) of loans in the former is much greater than that of the latter; Sinhala has undergone less relexification than has Urdu (Salahudeen 2013). See also Van Gijn & Wahlström (2023) on the mechanisms of linguistic areas.

In addition to parts of many well-known linguistic areas, such as South Asia, high-relexification contact areas would include the Middle East if the Swadesh list was taken into account. Farsi and Turkish qualify with 10%+ rate of relexified Swadesh list item, as maybe does Neo-Mandaic, a modern variety of Aramaic. Ivrit, Kurmanji and Arabic do not qualify as high relexifiers.

Concentration on the etymological composition of lexicon is the surest first step in examining the influence of contact-induced linguistic change, because partial relexification through Clarkian 'unnecessary' borrowings is nonetheless more frequent than the replacement of inflectional morphs by morphs stemming from other languages. It is not as frequent as adlexification of vocabulary with terms to express concepts which had not previously had labels in a language, which is an almost ineluctable first step in contact-induced linguistic change.

In short, if we combine Clark's (1982, 2004) distinction between necessary and unnecessary borrowings with the levels of the borrowing scale in Thomason & Kaufman (1988: 74–76), we may state that any language

which does not confine its borrowing to labels for items which had previously been unfamiliar to the culture of that language's speakers has undergone (usually very) partial relexification. The reason for this, as already noted, is that such languages previously had labels for concepts which are now generally or exclusively labelled using items which have been taken from another language.

2.3 Borrowing, partial relexification and creoles

Such partial relexification also happened in a minority of creoles. It should be mentioned that partial relexification is not diagnostic of a language's creole status. It is a process that affects both non-creoles and creoles.

3. Mixed creoles: an overview

Relexification and creolisation may sometimes overlap but are separate clusters of processes. For the purpose of this paper, a mixed creole is defined as a creole in which at least 10% of the longer 207-item Swadesh list derives from languages other than the chief lexifier. Grant (2012) discussed a range of 'mixed creoles' in which a goodly proportion of elements which labelled preexisting concepts had been replaced by elements from other languages within the scope of the Swadesh 207-word list. Grant (2012) discussed a number of mixed creoles with English, Spanish, Portuguese and Dutch as major lexifiers. Papiamentu was omitted from that study although its relevance was recognised in the paper.

Not all Caribbean creoles are heavy relexifiers. Haitian, Guyanais, Antillean Creole French and most Caribbean English creoles have at most a few percentage points of non-chief lexifier words in their basic vocabularies. Further afield, Mauritian has relexified very little (mostly from English and Indic languages), and has no essential loans in its Swadesh lists, but the creole is certainly not just some phonologically and morphosyntactically anomalous dialect of French. None of Mauritian's free grammatical morphs have anything other than French etyma.

French-lexifier creoles do not show this degree of relexification away from French to more than a very slight degree. The longer Swadesh list for Mauritian French Creole contains no elements which are not of French derivation. Malagasy-derived *malang* 'dirty' < *malany* coexists with *sal* 'dirty', from French *sale*, originally Germanic in origin. The Haitian and Antillean Swadesh lists contain very few loans either.

Three creoles spoken in the southern part of the Caribbean will be discussed as to their status as mixed creoles. Two of them, Berbice Dutch, or Berbicean, and Saramaccan, were also examined in Grant (2012). The third, Papiamentu, was alluded to there. Since that article, Jacobs (2012) has been published. Three of these mixed creoles in those papers, Saramaccan, Berbice Dutch and Papiamentu, receive most attention here. But they are not the only ones.

3.1 Geographical delimitation: the Southern Caribbean region

In this paper, I use the term "Southern Caribbean" as a geographical term to refer to the ABC Islands of the former Netherlands Antilles, Trinidad and Tobago, and Grenada (all of which are the locales of exogenous creoles with different lexifiers), and neighbouring territory on the northern mainland of South America. Other islands or areas are occasionally referred to. Material on French-lexifier Guyanais varieties (Cayenne, St Laurent-du-Maroni and Karipuna) and on the English-lexifier creole Creolese has been consulted, as have materials on Eastern Maroon creoles and on Ndyuka-Trio Pidgin (Huttar & Velantie 1997; Meira & Muysken 2017), but this article focuses on other languages in the area. This highlights the role of Spanish Main as area where five empires met and crisscrossed and subdivided the seaways – Spanish, Portuguese, French, English, Dutch – plus Arawakan and Cariban languages, some languages of Lowland Central America, groups and the languages of forcibly transported Africans.

3.2 Iberoromance creoles of Asia and the Southern Caribbean

A number of these mixed-lexifier creoles contain large amounts of vocabulary which derive from the Iberoromance languages Spanish and Portuguese, while also containing non-Iberoromance lexical material; Mindanao Creole Spanish as spoken in Zamboanga City and Cotabato City is one such. Not all Ibero-Asian creoles fit the above criterion, however. Korlai Creole Portuguese just about meets it with its tranche of basic lexicon from Marathi.

One mixed-lexifier creole of note is an Iberoromance creole as both major components use Iberoromance lexicon; this is Papiamentu of the ABC Islands in the Caribbean (Rivera Castillo 2022). See also Jacobs (2012), and also Grant (2008a, 2008b). Here, an early form of Upper Guinea Creole Portuguese, provided by free settlers and enslaved people from

Santiago, Cape Verde, provides most functional elements and some basic vocabulary, and Spanish furnishes most general vocabulary. The similarity of these two lexica means it is often impossible to establish if a Papiamentu word is ultimately of Portuguese or Spanish origin. Frequently, it can be both, as many words can: *awa* 'water', for instance: Spanish *agua*, Portuguese *agua*.

3.3 Dutch sphere of influence

Speakers of Saramaccan and of Berbice Dutch have developed their creoles some distance away from the areas where their source creoles arose. Saramaccan developed initially on the plantations of coastal Suriname, later to be spoken in in the interior in eastern Suriname. Berbice Dutch developed along the Berbice River of Guyana, and near Wiruni Creek in Guyana. Speakers of Berbice Dutch were mostly of Amerindian or of mixed Amerindian, African and European origin rather than being primarily of Ijọid origin (Kouwenberg 1994). It appears that their ancestors adopted Berbice Dutch from the ancestors of some people living by the Berbice River who now speak Guyanese Creole English.

All these three languages include a sizeable Dutch lexical component. Two other languages are relevant when discussing creole languages affected by Dutch. Virgin Islands Dutch Creole (formerly known as Negerhollands), spoken in St Thomas, St John and (for a time) St Croix (the largest but today not the most populous of the Danish, later American, Virgin Islands), remained spoken until 1987. The other one is Skepi Dutch. The last speakers of Skepi Dutch, from the Essequibo River in what is now Guyana, abandoned the language some time in the 20th century and only fragments remain known by the 1980s (Jacobs & Parkvall 2020, 2023). As to Skepi Dutch of Guiana, Robertson (1989), the Youd papers and the Rodschied papers (Jacobs & Parkvall 2020, 2023) detail what we know of Skepi Dutch. The bulk of the attested lexicon for Skepi Dutch also derives from Dutch.

The Dutch creole languages were not minority languages exclusive to a particular ethnic group and never known as a second language by others. We know that both Berbice Dutch and Skepi were used as lingua francas with speakers of Amerindian languages: those were mostly Lokono/Arawak and maybe Akawaio in the case of the first, and Kalinha/Carib and Arawak in the case of Skepi. Indeed the last speakers of

Berbice Dutch were of mixed African, European and Amerindian heritage (Kouwenberg 1994). On the Virgin Islands, several colonizers also learned the Creole language. Bøegh et al. (2022) present seven texts in Virgin Islands Dutch Creole (VIDC) which show that it was known as used between Europeans with different first languages (confirmed by a.o. Oldendorp 2000, writing in the 1760s). Already in the 18th century, Papiamentu was used as a lingua franca among Europeans of differing first languages (Spanish and Dutch, for instance).

Danish may have been the official language of the Danish West Indies, but it never dominated the islands, and although speakers of Dutch numerically dominated in the 18th century, they were not a property of the Dutch crown, and with the gradual decline of VIDC from the early 19th century, English (Creole and non-Creole) had become the most widely-spoken language, first on St Croix and then on St Thomas and St John, long before the Danes relinquished political control.

In short, Dutch was (and is) a language of administration on the ABC Islands, interior Guyana before 1814 and Suriname, and thus influential, whereas it was the largest majority language on the Virgin Islands among plantation owners, and one of the administrative languages. Dutch thus exerted influence on the three mixed creoles of the region, but there were also other languages affected by partial relexification.

3.4 Other partially relexified languages of the region

Garifuna of Honduras (Haurholm-Larsen 2016), and formerly of Dominica and St Vincent, and the indigenous Miskitu of Nicaragua and Honduras (Casper & Schlaefer 1944) are spoken in the same region. These have interesting and unusual borrowing profiles including high degrees of relexification in areas of high-frequency vocabulary, yet, neither is a creole in the sense of a language which had previously been pidginised, and they are hence not discussed further here.

We note, moreover, the existence of Ndyuka-Trio Pidgin as a mixed language with a limited vocabulary which contains an extremely diverse vocabulary (Huttar & Velantie 1997; Meira & Muysken 2017).

Despite Denmark's ruling position, Danish loans in VIDC are rare (Stolz 1984; Bakker 2004), as are elements of Iberoromance origin. Stein (2002) lists thirty such Iberoromance forms, most of which represent cases of relexification because they express concepts for which Dutch already

had referents. The VIDC aspectual particle *lo* may derive from the Papiamentu form *lo* rather than from Dutch *lopen* 'to run'.

4. Three partially relexified creoles of the Southern Caribbean

As mentioned above, the Southern Caribbean region is home to three creoles affected by partial relexification.

4.1 Case 1: Saramaccan

This paper has selected Saramaccan as the Maroon creole on which to focus, because of its extensive lexical component which is ultimately of Portuguese origin.

Suriname, part of which had previously belonged to England as Willoughbyland (Arends 2017), was under Dutch rule from 1667 until 1975, with two interruptions of British rule during the Napoleonic Wars. Dutch is still the official language. As already noted, the Dutch never ruled the Danish Virgin Islands but dominated the linguistic environment there. With the exception of Skepi Dutch and Berbice Dutch, no Dutch creole arose in a territory which was at the time ruled by the Dutch, but allolexical creoles did. Papiamentu in the ABC Islands and Surinamese creoles of English lexifier developed in territories where the Dutch ruled, and the Dutch (then as now very often multilingual) used at least Papiamentu and Sranan in the respective territories to interact with other Europeans who did not speak Dutch. In these territories Dutch and the state religion of the Dutch crown (namely Calvinism) were long officially prohibited to enslaved people. Charlotte Amalie in St Thomas, Paramaribo in Suriname and especially Willemstad in the Dutch Antilles, also had communities of polyglot Sephardic Jews, who were engaged in commerce, including involvement in the Atlantic slave trade.

The Portuguese stratum may be creole or Brazilian or even European Portuguese in origin; it is referred to by Good as 'Suriname Portuguese', which is the best policy. We cannot really be more definite about its sources, though Smith and Cardoso (2004) suggest that some of it entered Saramaccan via Kikongo. This Suriname Portuguese material appears in most major form classes (especially verbs, cf. Bakker 2009) apart from numerals; some minor form classes in Saramaccan (e.g. personal pronouns, negators, TAM markers) owe little to Portuguese, so that the forms which are used are principally of English origin and as such as shared with Sranan

and Ndyuka (and other forms of Nengee). Some minor form classes, such as prepositions and locative adverbs, do include a number of elements of Portuguese origin (and it should be noted that locative adverbs such as 'there' and 'here' are very rarely borrowed in the world's languages). Furthermore, the Saramaccan forms for 'who?' and 'what?' are taken from Gbe (Smith 2015). Smith and Cardoso (2004) identified 377 Portuguese loans in Saramaccan, of which 154 were verbs, 176 were nouns, and 21 were adjectives. Good (2009b) lists around half of these Portuguese forms in his list, 194 to be precise. It should also be noted that 37 forms of Portuguese origin which were recorded in our 18th-century sources for Saramaccan are not attested in the 20th-century material examined in Smith and Cardoso's article. According to Smith and Cardoso, 34.9% of the Saramaccan forms derive from Portuguese, whereas 49.9% derive from English (Smith & Cardoso 2004). The balance is made up by forms from Dutch and African languages. Bakker (2009) observed that more verbs in Saramaccan are from Portuguese than from English.

We know that Saramaccan is an early 18th-century development of Early Sranan which experienced a swift powerful dose of relexification from Portuguese (and crucial influence from Gbe languages more than is found in Nengee or Sranan). As Smith and Cardoso (2004), summarising the historical picture, remarked,

> Smith (1999) argued firstly that a scenario by which a group of Portuguese Jews and their slaves moved first to Cayenne after the fall of the Dutch colony in 1654, and then on to Suriname in 1665, was possible. Secondly he pointed out that there was an account of a "new language" sounding very much like a creole, which was spoken in the large Pernambucan maroon settlement of Palmares. Thirdly he highlighted a number of phonological features only affecting the Portuguese items in Saramaccan that could be explained as due to Kikongo influence, and suggesting that these items had a separate history.

It is asserted that slaves fleeing from Sranan-speaking plantations encountered escaped slaves speaking a language based on Portuguese (but containing some elements from other languages), and which was known as Djutongo "Jew-language" (Smith 1987). The name of the language refers to plantations owned by Portuguese-speaking Sephardim in the area of Jodensavanne, northeastern Suriname, from which the enslaved people had escaped to form their own communities. Saramaccan Djutongo evidence and scarce data from 18th-century materials furnish evidence that the mixed

creoles were already mixed according to the proportions now found by the time of their first attestations (Smith 1987).

Most of the Dutch elements in Saramaccan are shared by Sranan (indeed Good 2009b lists numerous Sranan loans into Saramaccan which largely originate with forms in Dutch), but not all: we may note Saramaccan *dáka* 'day', from Dutch *dag*, against Sranan and Nengee *de*, from English *day* (Koefoed & Tarenskeen 1996).

4.2 Case 2: Berbice Dutch

Not enough linguists make enough noise about the exceptional diachronic nature of Berbice Dutch, which in its final state looks like the result of the impact of a socially dominant koineised form of Eastern Ijo into which lexical elements from a plantation creole lexified by Dutch had been absorbed. Berbice Dutch is different in so many ways from the other attested Dutch-lexified creole from the plantations in Guyana, which were established before the formation of the Dutch West Indies Company.

Parkvall and Jacobs (2023) discussed the likely history of Berbice Dutch Creole, or Berbician, sometimes (as here) referred to as Berbice Dutch. The arrival in 1713 of a slave ship, the Sint Antony Galeij, containing almost 400 enslaved people from the Bight of Biafra, can be said to have had a very strong imprint on what Jacobs and Parkvall called 'Early Berbice Plantation Creole', a Dutch-lexified creole presumably similar in nature to Skepi and VIDC. Kouwenberg (2012) discusses the impact of Ijo on Berbice Dutch. The impact was so profound that one would assume that the new arrivals were able to impose their linguistic habits (presumably involving the koineisation of Eastern Ijo varieties) on the enslaved population already present in Berbice.

If the Ijo component in Berbice Dutch derives from a koineised form of Eastern Ijo, then it has undergone a number of changes, reducing the number of vowels from nine to six (and indeed the /e ~ ɛ/ distinction is only marginally phonemic; other vowels with advanced tongue root have been merged with their unadvanced equivalents), and Ijoid phonemic tone has been eliminated. Also the Ijo grammar is transformed (Kouwenberg 1992, 2012). As the wordlist in Robertson (1994) already shows, the Ijoid plural marker which was exclusive to human and other animate nouns in Ijo varieties is used with inanimate nouns too in early Berbice Dutch. The phonology of the Ijo elements in Berbice Dutch makes them look as though

they were filtered through what Jacobs and Parkvall call (Early Berbice Plantation) Dutch. None of the productive inflectional morphology in Berbice Dutch derives from Dutch.

The 1794 Berbice Dutch vocabulary by P. C. Groen discussed in Robertson (1994) contains elements of Dutch, Ijo, Edo and Lokono origin, and all except providentially the Lokono item (**akusowano* 'eyebrow') are preserved in Kouwenberg's (1994) collection of lexicon (which nonetheless contains over 150 items of Lokono origin).

We should parenthetically mention Berbice Dutch *musu* and Virgin Islands Dutch Creole *mushi* 'much'. Both seem to derive from Spanish *mucho*, while Papiamentu uses Dutch-derived *hopi*.

4.3 Case 3: Papiamentu

Papiamentu presents a yet different kind of case of frequent unnecessary borrowing. Grant (2008b, 2008a) discussed the early history of Papiamentu but was guarded regarding the origin of the language. There is now a massive body of scholarship on the documented history of Papiamentu and on the historical background surrounding the transportation of enslaved people to Curaçao, a crucial entrepot port for the Spanish colonies.

Jacobs (2012) presents a comprehensive reading of the history of the language which demonstrates that it has at heart a form of 17th-century Upper Guinea Creole (spoken in parts of what are now the Cape Verde Islands, Guinea-Bissau and neighbouring parts of Senegal) which was brought to Curaçao between 1655 and 1680 by free settled people from that area and by enslaved people transported from Senegambia to the Lesser Antilles by the Dutch West India Company, and only subsequently diffused to Aruba and Bonaire.

The Upper Guinea Creole Portuguese element in Papiamentu is not adstratal (i.e., influenced by languages once spoken alongside the creole) but the Spanish and also Dutch, French, English, Hebrew and Indigenous American terms in Papiamentu can be said to be adstratal in this sense.

Spanish was always available in the ABC Islands, given its proximity to what is now Venezuela, and Sephardim in the Caribbean spoke Spanish at home (Jacobs 2012), ultimately shifting to English. Curaçao's importance as an entrepot port for enslaved people belonging to the Spanish crown is also crucial.

This creole has clearly undergone massive relexification from Spanish, which is its major adstrate, and to a lesser extent from Dutch, English, Gbe languages and Bantu languages as less major adstrates. Lenz (1928: 191–92) found 55 terms of Portuguese origin out of almost 3000 lexemes, although his reckoning did not include the 'function words' (articles, pronouns, TMA markers, negators etc) discussed elsewhere in his work. These are overwhelmingly of Upper Guinea Creole origin (Jacobs 2012). Spanish has to be seen as an adstrate component of Papiamentu, while always bearing in mind that 17th-century Portuguese and 17th-century Spanish were much more similar than their 21st century counterparts.

Papiamentu therefore forces us to reconsider the uses of the terms 'substrate,' 'superstrate', and 'adstrate.' Most Papiamentu lexicon which cannot at least be attributed to Portuguese or Atlantic languages and Mande languages can be argued to be adstrate material according to the older creolistic criteria. The reason is that it originates in languages which have influenced Papiamentu's transplanted Upper Guinea Creole Portuguese base. Some forms, such as *awa* 'water', could be either Portuguese- or Spanish-derived, and some others, such as *hariña* 'flour', resemble a blend, in this case, of Spanish *harina* and Portuguese *farinha*. This includes the colossal number of forms which on phonological grounds can or must be attributed to Spanish. This adstratal status also applies to the small number of forms from other African languages, such as *ohochi* 'twin' from Gbe, *maribomba* 'wasp' from Loango Bantu. There are also potential forms from Gulf of Guinea Portuguese Creoles (possibly *landa* 'to swim', cf. Principense *landa* 'ibid.'), Hebrew, the larger number of forms from English and the much larger number of forms from Dutch. Some Dutch items, such as *kinipi* 'to squeeze' look like early loans; cf. modern Dutch *knijpen*.

The bulk of the Papiamentu structural items (TMA markers, personal pronouns, subordinating conjunctions etc) which were discussed for other mixed creoles in Grant (2012) can be traced back to Upper Guinea Creole Portuguese varieties, with a smaller number deriving (insofar as their phonological shapes suggest) from Antillean Spanish. The 3PL personal pronoun and noun pluraliser *-nan* is likely to come from Wolof. It is probable that it originated in the Creole Portuguese component, though many Upper Guinea Creoles nowadays use *-s* as pluraliser. Dutch-derived *òf* 'or' replaces earlier Iberoromance *o*, which is found in some earlier Papiamentu sources.

5. Comparison and context

The proportion of loan elements on the 223-item longest Swadesh list is as follows: Old High German and Old English, 0.5%; Dutch, 2%; present-day British English, 16%; and Saramaccan, 39%. In Berbice Dutch, the proportion of Dutch and Ijoid forms is approximately 65% and 30%, respectively. At least 10% of the forms on the Papiamentu list have etyma which are not of Iberoromance origin, and most of these derive from Dutch.

The relatively high proportion of verbs (including adjectival stative verbs) in the Ijo component of Berbice Dutch recalls the high proportion of Portuguese elements among verbs in Saramaccan (Bakker 2009). Both of these buck the trend of borrowing patterns in the world's languages, in which verbs are less frequently borrowed than nouns. In addition, Berbice Dutch bound inflectional morphology looks like a koineised and levelled form of Eastern Ijo morphology. There are some free grammatical morphs in Berbice Dutch of Eastern Ijo origin too, though we do not find such items among the Portuguese stratum in Saramaccan. Nonetheless, Saramaccan has a considerable number of free function words of various classes, though largely of different kinds from those found in Berbice Dutch.

By contrast with Berbice Dutch, the lexicon of VIDC remained robustly Dutch, with smaller amounts of material from Danish, Creole English, Papiamentu and African languages. The last speaker of Berbice Dutch died in 2015; the last people who knew Skepi presumably died in the late 20th century, and the last speaker of VIDC died in 1987. The areas where the Dutch crown had been dominant did not use Dutch-lexifier creoles, but rather creoles with Iberoromance (evidently Cape Verdean Creole Portuguese, which is at the core of the language, and with a preponderance of the lexicon coming from Spanish) and with English as their major lexifiers, though Dutch elements can be found in the basic lexica of all of them (so that we can talk about partial relexification towards Dutch in these cases). The Essequibo colony was first established by the Dutch in the late 16th century, before the founding of the Dutch West Indies Company.

5.1 Southern Caribbean mixed creoles and the Leipzig-Jakarta list

The Leipzig-Jakarta list is a proposal for a list of basic word meanings. It is based on an analysis of the studies in Haspelmath & Tadmor (2009). It is intended to be a list of concepts which languages are least likely to express with borrowed words, and contains 100 items. 86 of these occur on

the Swadesh 100- or 200-item lists. The remaining 14 have been surveyed for this paper with respect to their means of expression in Berbice Dutch and Papiamentu, in order to see whether any of them are borrowed into one or more of these languages. I added the form 'up', which is not included in the Leipzig-Jakarta list. It is a concept which scores a perfect 1.0000 for non-borrowing among the 41 languages whose borrowing profiles are reviewed in Haspelmath & Tadmor (2009). The null hypothesis is that few if any will be borrowed, because they are rarely-borrowed items. Saramaccan was already included in Haspelmath & Tadmor (2009), in Good's (2009b) contribution.

Table 1 presents the Leipzig-Jakarta concepts which are not on a Swadesh list. Items taken from languages other than the chief lexifier are presented in descending order of likelihood of replacement by a borrowed element.

	Berbice Dutch	**Saramaccan**	**Papiamentu**
to go	Ijo		Port./UGC
to do/make	Ijo		
house	Ijo		
bitter	Ijo		
yesterday			
to hide	Ijo		
to carry			
ant			Malinke
thigh			(Dutch+Span.)
to weep			
sweet			
shade		Port.	
hard			
to crush/grind	Ijo	Port.	
up		Port.	

Table 1. Leipzig-Jakarta concepts not part of Swadesh lists, as found in three creoles

The majority of the forms which are found in Leipzig-Jakarta but not in Swadesh lists are expressed by non-chief lexifier forms in one or more of these creoles.

Papiamentu 'thigh', *bel di pia*, literally 'bell of thigh', is a compound in which the first element is Dutch and the second and third are Iberoromance. The form for 'up', *liba* <Port. *arriba*, also means 'above,', 'sky', and 'moon'.

5.2 Core and Periphery: another way of viewing these creoles?
Benítez-Torres and Grant (2017) laid out a distinction between the etymological Core of a language (basic and high-frequency lexicon plus morphology, generally including productive inflectional morphology) and its Periphery (etymological strata acquired through contact or through innovation). Northern Songhay languages, which we were examining, have a thin core of Songhay forms (c. 300) and a much thicker Periphery of forms from other languages, primarily Berber, also Arabic, Fulfulde, French etc. This observation applies to most languages (including Western European ones) and can be applied to creoles such as the ones discussed in this paper. In each of these a thin core, which makes its presence felt in almost every utterance, is outnumbered by a much larger periphery. Table 2 illustrates the distribution of language sources for the three creoles.

Creole	**Core**	**Main influence**	**Periphery**	**Adstrate(s)**
Berbice Dutch	Ijo	Dutch	Lokono, Kikongo	Creolese
Saramaccan	Early Sranan	Portuguese	Dutch, Gbe/Kwa, Kikongo/Bantu	Sranan
Papiamentu	Upper Guinea Creole Portuguese	Spanish	Kwa, Bantu	Dutch, English, Spanish

Table 2. Core and periphery in three creoles

In this approach Berbice Dutch looks like the result of a koineised and dialectally levelled form of Eastern Ijo, in which the core includes much basic vocabulary (including many verbs) and a skeletal system of inflexional morphology, and this has been relexified mostly with pidgin Dutch elements, including lower numerals. The Ijoid core of Berbice Dutch is fewer than 200 items in size. The Early Sranan one of Saramaccan may be twice this size, while that of Papiamentu is less easy to pin down unambiguously (given the close relationship of Portuguese and Spanish) but may number a few score elements.

5.3 Creole, context, and Caribbean

These three mixed creoles stand out against many of the other speech forms in the area, some of which also exhibit strong admixtures of diverse elements. Ndyuka-Trio Pidgin involves a mixed pidgin in which one component, namely Ndyuka, is already mixed English-Dutch-Portuguese-various African languages (Meira & Muysken 2017). However, this pidgin never creolised and remained a trade pidgin.

Ndyuka (and other forms of Nengee such as Paramaccan) and Sranan have macaronic lexica too, and both languages include a smallish Portuguese element of mostly 'unnecessary' loans of core vocabulary (Clark 1982; Ladhams 1999), but neither is as great as that found in Saramaccan.

Trinidad Creole French, Trinidad Creole English, Tobago Creole English, and Creolese of Guyana are all exogenous creoles, i.e. creoles that developed elsewhere. They have their origins or more immediate sources in the Lesser Antilles. Guyanais of French Guiana is endogenous but is not a mixed creole; nor is Karipuna, a French-lexifier creole of Brazil, spoken by an indigenous population. Skepi is not a mixed creole and is sparsely documented, but the bulk of its lexicon derives from Dutch. Dutch is adstratal to the Surinamese Creoles, including Saramaccan, because they have borrowed from it, and in Papiamentu, and it is superstratal in the case of the VIDC, Skepi and (arguably) Berbice creoles, because it provided the bulk of the vocabulary and freestanding grammatical morphemes.

As previously stated, Papiamentu contains much Dutch lexicon but it is essentially a Spanish/Upper Guinea Creole Portuguese blend drawing on a Portuguese creole which had been transported to the Antilles, which evolved at a time when Spanish and Portuguese were more similar to one another than now, and which has been partially relexified by Dutch. Skepi Dutch, Creolese and Guyanais varieties all contain some allolexical elements (items from other languages) in their vocabularies but mostly these are 'necessary' borrowings (realia such as local flora, faunal terms, names for items of clothing and implements, or customs). VIDC has a few more 'unnecessary' borrowings than these, principally from Iberoromance languages, but it is nowhere as macaronic as Berbice Dutch with its unique absorption of a subset of morphs which constitute the entirety of its productively-employed bound inflectional morphology. It should be noted that the presence of free inflectional morphology, in the form of TMA markers, noun pluralisation strategies and such like, is also a consideration in the

investigation of the diachrony of languages such as creoles which make little productive use of bound inflectional morphology. But macaronicity occurs on a cline with (say) Tobago Creole English at one end among Southern Caribbean languages, and Saramaccan, Berbice Dutch and Papiamentu at the other.

6. Conclusions: the Dutch and their creoles

The Southern Caribbean is a fascinating laboratory for examining instances of rapid and profound contact-induced linguistic change, specifically relexification, which have proceeded at a rate and to a degree which is extremely rare in the world's languages. The role of Dutch in the development of these mixed creoles of the Southern Caribbean is catalytic and often crucial. The background behind the Dutch presence and role in the formation of these creoles is clustered with paradoxes:

- No Dutch creole was spoken in any Dutch-governed territory after 1814.
- The Danish West Indies, where Dutch Creole was used, were never ruled by the Dutch.
- The creole languages spoken in what had been Dutch-governed territories up to the final decades of the 20th century have lexica based on English (Sranan, Saramaccan etc) or Upper Guinea Creole Portuguese and Spanish (Papiamentu).
- The linguistic situation was reinforced by the role of multilingual Sephardic Jews. Some of them used Papiamentu (for instance) as a household language. Like the Calvinists among the Dutch in the Caribbean, they operated as a 'closed' elite.

Dutch influence (and probably Dutch multilingualism) is crucial. It furnishes the lexicon for VIDC, Skepi and much of Berbice Dutch. Its presence provides the political structures which kept the Surinamese Creoles increasingly separate from their English lexifier. It is through the Dutch West India Company that speakers of a Portuguese-lexifier creole were brought to the Netherlands Antilles and in contact with Spanish and Dutch, to give rise to Papiamentu.

Berbice Dutch, Saramaccan and Papiamentu are all mixed creoles, but they are mixed in different ways because of the way in which they have developed. As the Dutch component in Berbice Dutch is ultimately from

pidginised Dutch, we can assert that all three languages are built from prior creolised speech forms. Berbice Dutch is Pidgin Dutch and Pidgin Ijo Plus, Saramaccan is Early Sranan Plus, and Papiamentu is Upper Guinea Creole Portuguese Plus. Each can be said to be likely to have a preexisting (if no longer extant) creole as part of its mixture.

Mixed creoles are not languages which can easily be developed from approximations of approximations of lexifier languages in the creole genesis module espoused by scholars such as Mufwene (Mufwene 2001; Chaudenson & Mufwene 2001). Languages such as these, which seem almost to be doubly-mixed languages (Good 2009a), are most unlikely missed targets. Although Saramaccan's free grammatical elements (and its other English components) are largely derived from Early Sranan, and some from Gbe. Some of those in Berbice Dutch are from Ijo. In addition, there is a later layer of elements from English, creolised or otherwise, and most pronouns, for example, derive from Dutch. Meanwhile, items of Upper Guinea Creole origin are at the very heart of Papiamentu (which may include 3PL and postnominal noun pluraliser *nan* from Wolof) and account for the bulk of free grammatical morphs in the language. Serial glottogenesis – the creation of new languages – is exemplified here in three creoles, and it manifests itself in three different ways. These cases each also show the potential for massive lexical and structural change within the space of a few decades, and our philological records show that such change can remain permanently visible.

In short, this study suggests that the Dutch connections of these languages are crucial, and they are awash with paradoxes. It also suggests that the Leipzig-Jakarta list is not as borrowing-proof as may have been assumed.

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Appendix: The Dutch in the West Indies: timeline of some relevant dates

- 1585: Essequibo explored by the Dutch, and trading posts established.
- 1621–1677: Dutch occupation of Gore, an enslavers' port in Senegal, later taken by the French.
- 1632: The Dutch take over Curaçao.
- 1655–1680: Peak period of transportation of enslaved people from Senegambia to the West Indies.
- 1700 onwards: Aruba and Bonaire receive Papiamentu-speakers from Curacao.
- 1754: Having begun to occupy them in the 1670s, Denmark takes over some of the Virgin Islands (St Thomas, St John and St Croix), where the Dutch are the most numerous group among European settlers, although the Dutch crown never ruled this territory.
- 1815: Treaty of Paris results in the Dutch colonies being given to Britain, becoming British Guiana.
- 1843: The 'apprenticeship period' following the abolition of slavery in 1836 in British colonies coms to an end.
- 1863: Slavery is abolished in the Netherland Antilles and Suriname.
- 1899: Birth of Mrs Alice Stevens, last L1 speaker of Virgin Islands Dutch Creole; she dies in 1987.
- 1917: Danish West Indies are taken over by US as the US Virgin Islands.
- 1975: Suriname gains independence from the Netherlands.
- 1986: Aruba gains autonomy from the Netherlands.
- 2010: Curaçao achieves autonomy from the Netherlands.