

A diachronic study of transparency in Sranan

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Transparency in a language refers to the existence of isomorphic relations between forms and meanings. Our study is a diachronic analysis of Sranan Tongo, an English-lexicon creole with African, Portuguese and Dutch contributions. Although languages are predicted to increase in opacity over time, we expect that opacity does not increase in Sranan over time due to its lingua franca status. To test this, we checked data sources from the 18^c to the 21^c for opaque features identified by Hengeveld & Leufkens (2018). Our hypothesis is supported since Sranan generally maintained the same level of transparency. We propose that this is due to the presence of adult learners with different native languages, at its inception (as a creole), and in its subsequent use (as a lingua franca). This is pertinent because adult learning is aided by transparency.

1 Introduction

Transparency in languages refers to a one-to-one relation between form and meaning (Langacker 1977: 110). This term has been conflated with simplicity in linguistic studies, but it should not, since the latter is a relative term associated with the use of less linguistic material to express things (Leufkens 2013: 329). To study transparency, a framework that makes it possible to identify isomorphic relations between form and meaning is required (Seuren & Wekker 1985: 64). Functional Discourse Grammar (FDG) (Hengeveld & Mackenzie 2008) is one such model and is adopted by this study. FDG is a typologically based, structural-functional theory of language. It is a top-down model with four levels – interpersonal, representational, morphosyntactic, and phonological –

¹ Sections 1, 2, 5, 6, 8.2, 8.3, and 10 were written by author 1, and Sections 3, 4, 7, 9, and 11 and the abstract were written by author 2. We wrote Section 8.1 together. Regarding the methodology, author 2 searched for features 1–5 of Hengeveld & Leufkens (2018) shown in Section 3 while author 1 searched for features 6–10.

which interact with each other. The first pair of levels are concerned with formulation and the second with encoding.

Using FDG, Hengeveld & Leufkens (2018) identify eleven types of opaque constructions: apposition, cross-reference, discontinuity, clausal agreement, phrasal agreement, grammatical gender assignment, grammatical relations, morphologically-based stem or affix alternation, nominal expletives, phonologically-based stem or affix alternation and tense copying. These features are non-transparent because in one way or another, they do not involve a one-to-one mapping between or within the levels we identified above. In previous studies, variations of these features have been used to compare transparency in different languages (Grández Ávila 2015; Jansen 2011; Leufkens 2013; Mulder 2013; Nordhoff 2011). Languages with more opaque features are said to be less transparent than those with fewer opaque features. We adopt this approach and apply it to Sranan Tongo, a creole that has not yet been studied in this domain.

Sranan is an English-lexicon creole used as a *lingua franca* in Suriname. Creoles are a type of contact language that emerge in a specific sociolinguistic context and can also be thought of as *lingua francas* since they emerge to fulfil the role of *lingua francas*, that is, to act as a common tongue among speakers with different native languages (Samarin 1987: 371). The diachronic development of transparency in a creole has not been studied yet, so the present study aims to fill this gap using Sranan as a test case. This type of study is important since it adds to our understanding of how transparency can develop in a creole, and of language change in general.

We chose Sranan because historical documentation of it is available, unlike most other creoles. We hypothesise that due to Sranan's origins as a *lingua franca* and its use as one for most of its life, it will not develop more opaque features over time. The motivation behind this comes from the study of learnability. As a creole and a *lingua franca*, it is reasonable to assume that high proportions of adult speakers were involved in the creation and use of Sranan. Adults do not have the same language learning capabilities as children and so transparency is useful to them in language learning, leading us to believe that transparency will be maintained over time. We conducted the study using Functional Discourse Grammar (Hengeveld & Mackenzie 2008) as a framework, with specific reference to the Transparency Hierarchy (Hengeveld & Leufkens 2018). This allows us to test the predictions of the Transparency Hierarchy, and its applicability to creoles.

The organisation of this paper is as follows: in Section 2, we describe Sranan and Surinamese society. In Section 3, we describe our framework and the opaque features that will be used to determine the degree of transparency. In Section 4, we disentangle transparency from simplicity, and in Section 5, we discuss diachrony. In Section 6, we consider language contact. In Section 7, we

discuss learnability. We outline our methodology, which includes our hypothesis, research question, and data sources, in Section 8. In Section 9, we present our results, and we discuss them in Section 10. We conclude with Section 11.

2 Sranan

Sranan (also known as Sranan Tongo) is spoken in Suriname by 367,300 people and 710,700 people worldwide (Simons & Fennig 2017). Suriname is located in South America, north of Brazil and between Guyana and French Guiana, and covers 163,820 square kilometres (Chin & Menke 2017). Sranan is an English-lexicon creole with contributions from Gbe and Kikongo, Dutch, and Portuguese (Arends 1995: 268). It is unusual compared to other English creoles, and creoles in general, because it did not undergo extensive contact with its lexifier (Braun & Plag 2002: 82; Migge 2003: 10). Braun & Plag (2002) estimate that it was in contact with native models of English for about 30 years.

Suriname was once a Dutch colony and Dutch has been the *de jure* official language since 1667 (Diepeveen & Hüning 2016: 9). However, Sranan was probably used as a common language among the different European groups in Suriname since 1737 (Arends 1995: 262) and has been used as a *lingua franca* at least since 1884 according to Eersel (1997). Dutch is the prestige variety in Suriname, used in formal contexts and education, and associated with social mobility. Despite this, it is only spoken natively in Paramaribo, the capital, while in the interior it is spoken as a foreign language (Diepeveen & Hüning 2016: 11). Sranan, on the other hand, is used for interethnic communication by all speakers and is preferred over Dutch since it is perceived as being easier to learn (Diepeveen & Hüning 2016: 12). The sociolinguistic situation in which Sranan currently exists is unique compared to other Caribbean English-lexicon creoles in that a language that is not the lexifier/superstrate is the prestige variety.

Historically, Suriname has been a hugely multilingual society and continues to be so. In the 17^c and 18^c the white population consisted of Dutch, French, English/German and Portuguese-speakers which necessitated a common tongue (Arends 1995: 262). In addition to this, between the late 17^c and early 18^c, 200,000 enslaved Africans were brought to Suriname from the Windward Coast, Gold Coast, Slave Coast, Loango, Guinea, and unidentified regions (Arends 1995: 241). In the early 19^c (1835), slavery was abolished, after which indentured labourers from the Dutch East Indies and India were introduced (Briggs 2015: 11). Approximately 75,000 workers were brought to Suriname from the 19^c to the early 20^c (Briggs 2015: 11). Forty-five percent came from India with the remainder coming from China or other Caribbean islands; they

account for a large percentage of the current Javanese and Hindustani populations (Briggs 2015: 13). Currently, multilingualism can be found at the national and individual levels. More than 20 languages from various language families are present, and individuals speak between two to three languages regularly and also code-switch between them (Diepeveen & Hüning 2016: 8). The historically multilingual nature of Surinamese society and the prolonged use of Sranan as a *lingua franca* is relevant to discussions of transparency since, as we will see in Section 6, language contact is associated with transparency. In addition to this, the perception reported by Diepeveen & Hüning (2016) that Sranan is easier to learn than Dutch is notable since transparency has been associated with ease of learning (Slobin 1977: 190-191). We discuss learnability in Section 7.

3 Transparency and Functional Discourse Grammar²

As we mentioned before, transparency refers to isomorphic relations between forms and meanings. To study it, it is necessary to define the units between which this one-to-one relationship exists. The FDG framework (Hengeveld & Mackenzie 2008) makes it possible to do so and is adopted in this study. FDG has a top-down architecture, based on how language is processed, with four levels of analysis. The highest level, the Interpersonal Level, is concerned with the intentions of the Speaker towards the Addressee. The second level, the Representational Level deals with the semantics of linguistic units. The third and fourth levels, the Morphosyntactic and Phonological Levels respectively, are concerned with the encoding of information from the Interpersonal and Representational Levels. Interactions occur within and between the four levels as shown in Figure 1. Within-level interactions may be transparent or non-transparent but are only possible for the Morphological and Phonological levels since it is in these levels that structural material not corresponding to information from the Interpersonal and Representational levels can be added (Hengeveld & Leufkens 2018: 142).

² All examples in Italian are provided by the second author, who is a native speaker.

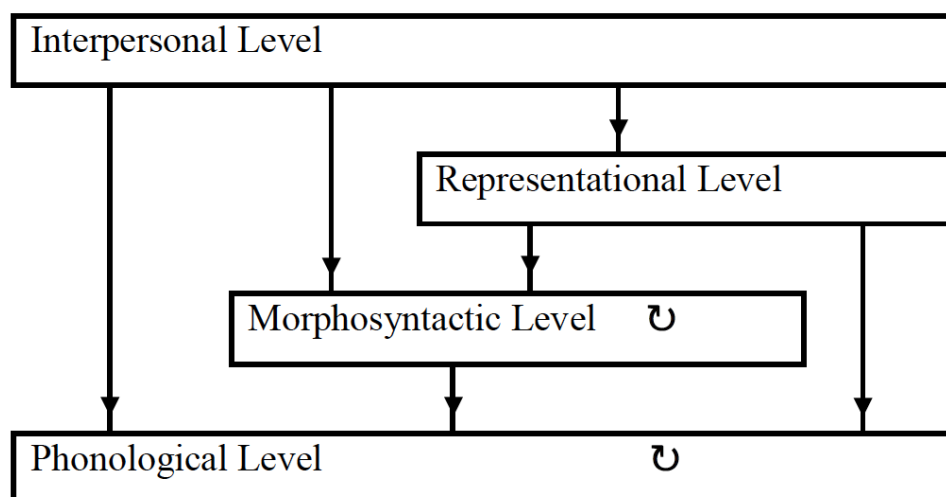


Figure 1: Interactions between and within grammatical levels in FDG
(Hengeveld & Leufkens 2018: 142)³

Using FDG, Hengeveld (2011) identifies a list of opaque features that can be used to determine how transparent a language is. We use an updated version of this list, Hengeveld & Leufkens (2018), and use Leufkens' (2013) categorisation of these features. Leufkens' (2013) categorisation is based on Hengeveld (2011), but her categories are applicable to Hengeveld & Leufkens (2018) and are worth using since they provide background for comparisons between the present study and Leufkens (2013). The use of Hengeveld & Leufkens' (2018) list means that transparency in this study specifically refers to the number of opaque features that we identify in varieties. A variety with more opaque features will be judged as less transparent than one with fewer opaque features. An opaque feature is defined as one in which there is not a one-to-one relationship between form and meaning.

The three types of opaque features identified by Leufkens (2013) are those of redundancy, domain disintegration and form-based-form. We describe each category and specific examples in detail in the following section.

3.1 Redundancy features

Redundancy refers to semantic or pragmatic elements that have more than one equivalent, namely apposition and cross-reference. Apposition and cross-reference are both between-level interactions occurring at the interpersonal-representational interface; specifically, they are two-to-one relations. They both refer to the same type of phenomenon, but the term 'apposition' as it used here

³ ↻ indicates that the within-level operations can take place only in the Morphosyntactic and Phonological Levels

refers to the lexical variety and ‘cross-reference’ to the grammatical one. Apposition is exemplified in (1) from Sri Lanka Malay (Nordhoff 2011: 97), and cross-reference in (2) from Italian.

- (1) Mr Sebastian aada, se aada kitham duuva arà-oomong.
 Mr Sebastian exist 1SG exist 1PL two N.PST-speak
 ‘You are here, I am here, the two of us are talking.’

In this example, *kitham* and *duuva* refer to a single category in the RL but are two separate Subacts at the IL.

- (2) (Io) mangi-o.
 1.SG eat-PRS.1SG
 ‘I eat.’

In this case, the verbal marker can occur without the personal pronoun *io* (‘I’) and refers on its own. When the person is expressed, both in the verb and with a noun phrase, the structure is not transparent, as reference is carried out twice. Cross-reference is not relevant for languages that do not mark person on the predicate and for those that have obligatory clausal agreement. Cross-reference should not be confused with agreement (discussed in Section 3.3) since in the latter there is an obligatory noun phrase and a verbal marker with a grammatical copy of that noun phrase.

3.2 Domain disintegration features

Domain disintegration is concerned with all the contexts in which the integrity of a morphosyntactic or phonological form is violated by another structure. Since the majority of our data is written, only morphosyntactic forms are considered; the opaque features within this category are discontinuity and morphologically-based stem- or affix-alternation.

Discontinuity is a between-level interaction occurring when a semantic constituent is interrupted by another element, resulting in a one-to-more than one relation. An example in English is shown in (3) (Hengeveld 2011: 13).

- (3) The guy has arrived who is going to fix my lock.

In this case, the semantic constituent *The guy who is going to fix my lock* is interrupted by the verb phrase *has arrived*.

Morphologically-based stem- or affix-alternation is a within-level interaction in which the opposite situation to discontinuity occur; however, opacity still obtains. In this case, there is fusion of multiple meanings into a

single form, resulting in a many-to-one relation between the representational and morphosyntactic levels. In stem- alternation, the stem of a verb changes depending on context. This is shown in Latin in (4), where verbal lexical stems are marked for tense by suppletion (Oniga 2009: 132).

- (4) fer- tul- lat-
 bring (basic stem) bring (PFV) bring (SUP)

Affix alternation occurs in conjugation and declination classes. Examples are shown in Italian (5), where different classes of verbs require different past tense markers. There are three types of verbs: *-are* (5a), *-ere* (5b), and *-ire* (5c), and these three types require different past tense markers when marking the same person.

- (5) a. mangi-ò b. vid-e
 eat-3SG.PST see-3SG.PST
 ‘He ate.’ ‘He saw.’
- c. sent-ì
 hear-3SG.PST
 ‘He heard.’

3.3 *Form-based form features*

Form-based form refers to instances in which formal elements do not have semantic or pragmatic counterparts. This includes grammatical relations, expletives, grammatical gender, clausal agreement, phrasal agreement and tense copying.

Grammatical relations refer to a transparent relation between the IL/RL and the ML, which obtains when interpersonal/representational units are always expressed in the same way, independently of the syntactic configuration. This is shown in (6), from Acehnese (Durie 1985: 212, 56-58).

- (6) a. Gopnyan geu=jak röt=nan.
 3.POL 3.POL=go way=that
 ‘He went that way.’
- b. Gopnyan galak=geuh that.
 3.POL happy=3.POL very
 ‘He is very happy.’

- c. Gopnyan na=lôn=timbak=geuh.
 3.POL AUX=1.A=shoot=3.POL.U
 'I shot him.'

Opacity with respect to grammatical relations occurs in languages such as English (7), which have grammatical alignment systems that align the interpersonal/representational units differently, depending on syntactic configuration (Hengeveld & Leufkens 2018: 147).

- (7) a. I shot him.
 b. I was shot by him.

In example (7), different thematic roles – Agent in (a) and Patient in (b) – are expressed in the same way, as the subject.

Nominal expletives are elements that do not have referential content but must be included because the syntax requires a position to be filled. They occur within the morphosyntactic level. An example of nominal expletives is found in the English translation of (8) which comes from Sri Lanka Malay. In Sri Lanka Malay, it is possible for the weather expression to be formed without a subject. In English however, the syntax requires a subject even if one does not actually exist, so an expletive is inserted. This results in a zero-to-one relation between meaning and form (Nordhoff 2009: 504).

- (8) Arà-uujang.
 NPST-rain
 'It is raining.'

Grammatical gender systems operate within the morphosyntactic level. In contrast to semantic systems, they are opaque because they categorise nouns in a way that does not have a basis in reality/semantics; therefore, there is a zero-to-one relationship between the representational and interpersonal levels. This is shown in (9), from German which has three genders: masculine, feminine, and neuter (Collins 2005).

- | | | | | | | | |
|-----|----|-------|------------|--|----|-------|------------|
| (9) | a. | die | Sonne | | b. | der | Mond |
| | | DET.F | sun | | | DET.M | moon |
| | | | 'the sun' | | | | 'the moon' |
| | c. | das | Gold | | | | |
| | | DET.N | gold | | | | |
| | | | 'the gold' | | | | |

In this example, the nouns equally have no association with any biological gender but are still assigned to different categories.

Phrasal agreement, as the name implies, occurs at the phrase level, and is a within-level interaction occurring at the morphosyntactic level. An instance of this occurs in the noun phrase, when features of the noun are copied onto other elements within the phrase resulting in one-to-many relations. This is exemplified in Spanish (10). The word *árbol* ('tree') in Spanish is masculine and triggers the masculine gender in the adjective *viejo* ('old') and the article *el* ('the') (Hengeveld & Leufkens 2018: 156).

- (10) *el* *árbol-ø* *viej-o-ø*
 DEF.M.SG tree(M)-SG old-M-SG
 'the old tree'

Clausal agreement, as opposed to phrasal agreement, occurs within the clause and is also a within-level interaction at the morphosyntactic level. In cases of clausal agreement, the marker on the verb obligatorily occurs with a verb-external noun phrase, as in Dutch (11). Since the suffix on the verb has no other function than to duplicate the information carried by the obligatory free pronoun *hij* 'he', there is an opaque one-to-two relation. As explained previously, clausal agreement is different from cross-reference in that the double-marking is obligatory while in the latter it is optional (Hengeveld & Leufkens 2018: 156).

- (11) * (*Hij*) *wandel-t*.
 3M.SG walk-PRS.2/3.SG
 'He walks.'

Tense copying refers to the phenomenon in which the tense of the main clause is copied onto the verb in an embedded clause. It is a within-level interaction at the morphosyntactic level. This is shown in example (12) from Italian, in which the past tense of the main verb *disse* ('said') is copied onto the embedded verb *aveva* ('had').

- (12) *Mi* *diss-e* *che* *avev-a* *fame*.
 1SG.DAT tell-1SG.PST that have-3SG.IMP.PST hunger
 'He told me he was hungry.'

3.4 The Transparency Hierarchy

In this study, we adopt the Transparency Hierarchy proposed by Hengeveld & Leufkens (2018: 165). It is not the first of its kind, since Leufkens (2013) proposed the following: Redundancy $\supset$ Domain disintegration $\supset$ Form-based form. However, Leufkens' hierarchy is based on just four creoles, so we prefer Hengeveld & Leufkens (2018) more fine-grained version which is based on thirty languages. We show an adapted version of Hengeveld & Leufkens' (2018) hierarchy in Figure 2 which only includes the features relevant to the present study.

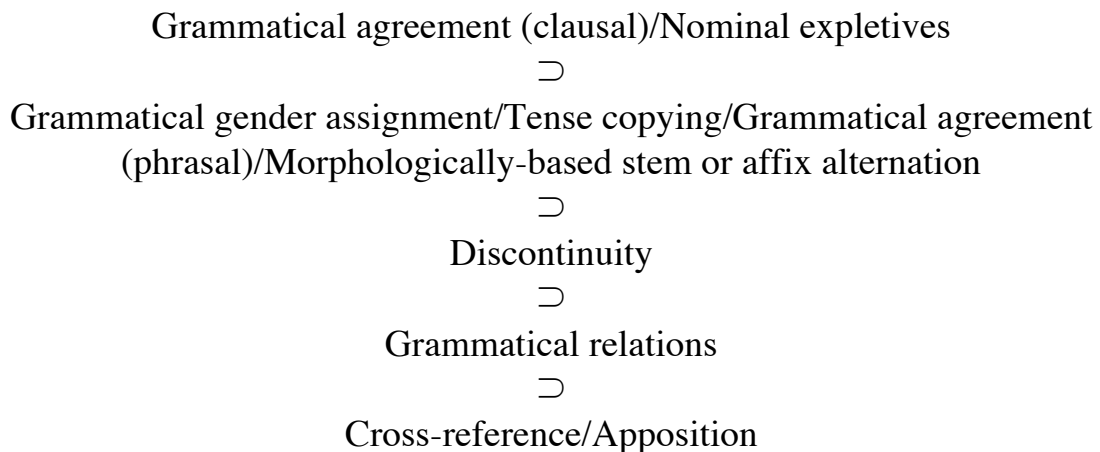


Figure 2: Adaptation of the Transparency Hierarchy (Hengeveld & Leufkens 2018)

This hierarchy is implicational, so if a language has a feature at any one level, it is predicted to have the features below that level and not have the features above. So, for example, if a language shows discontinuous phenomena, it is predicted to only manifest grammatical relations and cross-reference/apposition. It is not necessary that a language exhibit all the features of each tier. The hierarchy is based on synchronic data, so our diachronic study presents the opportunity to determine if it applies across the development of a language.

4 Simplicity

When discussing creoles, notions of simplicity arise which intersect with transparency. Simplicity and transparency should not be confused since it is possible for complex structures to be completely transparent and for simple structures to be opaque. For example, Turkish, a language with highly complex morphology, is completely transparent since each morpheme in a word corresponds to a single unit of meaning. This is shown in example (14).

- (14) aci-n-dır-il-ma-dı-k
 feel.pain-REFL-CAUS-PASS-NEG-PST-1PL
 ‘We were not made to grieve.’ (Lewis 1967: 153)

Creoles have been associated with simplicity by McWhorter (2001) who claims that they are “the world’s simplest grammars”. According to McWhorter, this is due to the tendency of creole creators to avoid traits from their native languages which were not needed for basic communication. Following Kihm (2000), McWhorter interprets semantic transparency as semantic atomicity, arguing that many non-creole languages, such as Vietnamese (15), are less ‘atomistic’ than creole languages, such as Saramaccan (16):

- (15) chúng tôi bắt đầu làm bài.
 PL 1SG take start do lesson
 ‘We began to do lessons.’ (Comrie 1989: 43)

- (16) u bi bigí u lési.
 1PL PST begin to read
 ‘We began to read.’ (McWhorter 2001: 156)

As is evident from these two examples, a basic verbal form like ‘begin’ is formed in Vietnamese with a concatenation that is not present in a language such as Saramaccan. Since creoles are the only languages that exhibit this feature, McWhorter states that semantic transparency cannot be the defining characteristic of creoles. We agree that transparency on its own does not distinguish creoles from non-creoles; however, we also agree with Leufkens (2013: 326f) that simplicity cannot be their defining quality either.

5 Diachrony

Our study is diachronic in that it follows the development of Sranan over four centuries. Diachrony is not often studied in creoles because of the lack of historical data; however, it has been studied in Sranan by Arends (1989) and Bruyn (1995) since Sranan is one of the few creoles with historical sources available. This study is the first one considering the diachronic development of transparency using the FDG framework in a creole. Diachrony and transparency are linked by the phenomenon of language change. Depending on the social context of change, it is argued that a language can become less transparent if it is isolated from other languages (Deutscher 2000; Dahl 2004), or more transparent if it experiences language contact (McWhorter 2007; Szmrecsanyi & Kortmann 2009; Trudgill 2011).

6 Transparency and language contact

Following Leufkens (2013) and Aboh & DeGraff (2016), we do not identify creoles as a typological group with distinct structural properties. Instead, we use the term to identify a specific case of extreme language contact, that of the plantation society. In plantation societies creoles were formed by contact between multilingual speakers of West African languages and speakers of European languages. In some cases, Amerindian and Asian languages were involved in the formation of creole languages due to the presence of populations speaking these languages during creole formation. Because the creators of creoles spoke different native languages, Leufkens (2013) hypothesises that creoles would be at least as transparent as these source languages, since language contact cause speakers to select highly-transparent forms to maximise intelligibility. This hypothesis is borne out for the most part in the domains of form-based form and domain disintegration. Leufkens (2013) specifically found that the creoles she studied were generally transparent in the former, and since she could not link creole properties to those of their contributing languages she attributed their transparency to language contact (p. 352). Counter-examples are found in the category of redundancy, specifically in negative concord and plural concord; however, redundancy increases intelligibility, as has been found in studies of first and second language acquisition, so it is not unlikely that it would be retained (Leufkens 2013: 358).

Additional support for the link between language contact and transparency comes from Olthof's (2017) comparison of transparency in Norwegian and Icelandic. These languages are descendants of Old Norse but have undergone different developmental paths: Norwegian has undergone contact with adult speakers of Danish and Low German, while Icelandic has been isolated (Olthof 2017: 74). Both languages exhibit the same opaque features, but in Norwegian they are manifested to a lesser degree than in Icelandic; furthermore, Norwegian is becoming more transparent due to continued contact. The difference in transparency between Norwegian and Icelandic, and the increasing transparency of Norwegian are attributed to contact with adult speakers of different languages (Olthof 2017: 109). Olthof (2017) is important since it demonstrates that very similar languages can have different developmental trajectories depending on the level of language contact they experience.

The influence of social structure on language has been studied by Lupyan & Dale (2010) and Dale & Lupyan (2012), culminating in the Linguistic Niche Hypothesis (hereafter LNH), which explains "the relationship between social and grammatical structure [...] by appealing to different learning skills of children and adults" (Dale & Lupyan 2012: 1). There are two types of niche: esoteric and exoteric. The former captures languages spoken in geographically

and numerically small communities e.g. Yagua, a Peruvian language spoken by 6000 people (Simons & Fennig 2017). The latter captures languages spoken in geographically and numerically large communities (with high numbers of adult learners) e.g. English as a Lingua Franca (ELF) spoken worldwide (Dale & Lupyan 2012: 2). In relation to our study, we identify Suriname as an exoteric niche since it is a large country with a seemingly large number of L2 learners since speakers are highly multilingual, using two to three languages regularly. Lupyan & Dale (2010) and Dale & Lupyan (2012) focus on morphological simplicity and find that more esoteric languages are more morphologically complex than more exoteric ones. Our study has nothing to do with simplicity, as explained in 4, however, what is important to us is that Lupyan & Dale (2010) and Dale & Lupyan (2012) connect differences in language structure to differences in social structure, specifically the proportion of adult speakers. They write that:

“With increased geographic spread and an increasing speaker population, a language is more likely to be subjected to learnability biases and limitations of adult learners. [...] Linguistic change that facilitates adult second-language learning will accumulate over historical time. [...] It appears that morphological simplification (and frequently accompanying increases in the transparency of form-to-meaning mapping) comprises a major type of such change. [...] It is important to note that adult learners can affect the trajectory of a grammar even when they make up a minority of the population [...]” (Lupyan & Dale 2010: 7).

We mentioned above that an example of an exoteric language context is one in which a *lingua franca* (specifically ELF) is used. A *lingua franca* is a language used as a common tongue among people who speak different mother tongues (Samarin 1987: 371). It is a term having to do with the function of a language and does not imply any set of structural properties; however, the social context of use can affect structural properties, as we have said (Samarin 1987: 372; Lupyan & Dale 2010; Dale & Lupyan 2012). An example of an (incipient) *lingua franca* is Swiss English, identified by Dröschel (2011). Swiss English, according to Whinnom’s (1971) typology of language contact is undergoing tertiary hybridisation, which refers to a situation in which a fairly stable contact language is developed and used in contexts in which speakers of different languages must communicate (in Dröschel 2011: 292). This is clearly the same context in which *lingua francas* occur and links them to being contact languages, like creoles. Sranan is a creole and has been used as a *lingua franca* for several centuries. Given the level of language contact it has experienced and its use in Suriname, an exoteric niche, we expect that it is highly transparent.

7 Learnability

Simplicity and transparency, though unrelated to each other, are related to ease-of-acquisition, and therefore learnability. Transparency has been found to facilitate L1 acquisition. For example, in Turkish, inflectional morphology, which is transparent, is acquired by the age of three, while five-year-olds have problems with non-transparent phenomena like non-semantically driven specialised forms of embedded clauses such as participles and nominalisations (Aksu-Koç & Slobin 1985: 845). Turkish is a complex language, so these differences show that complexity is not necessarily related to difficulty in L1 acquisition as long as transparency is involved. Supporting results have been found in studies of the acquisition of grammatical gender, one of Hengeveld & Leufkens (2018) opaque features, in which transparency has been found to be a factor in age of acquisition. For example, Polish children acquire their relatively transparent system by two, while Russian and Czech have problems until age three/four with their less transparent system (Gvozdev 1961; Popova 1973; Henzl 1975; Rodina 2007; Rodina & Westergaard 2012, 2013). Additionally, in Dutch, an opaque language, the grammatical gender system is not fully acquired until the age of seven (Blom et al. 2008).

In the case of L2 adult learners, Blom et al. (2008) found that a complex inflectional morphology is more difficult to acquire in comparison with L1 and L2 acquiring children. According to Kusters (2003: 49), what helps L2 learners is what Miestamo (2006: 13) calls ‘relative simplicity’. This concept should be distinguished from the simplicity we wrote about in 4, since it refers to ‘ease of acquisition’ (Leufkens 2013: 329). According to Leufkens (2013: 329), transparency also affects ease of acquisition, but she also underlines that this is especially true for L1 learners. Apart from this, an L2 learner’s success at learning is related to his/her L1 (Kusters 2003: 38).

8 Methodology

8.1 Research question & hypothesis

Based on the preceding discussion we hypothesise that opacity in Sranan does not increase over time. The motivation behind this hypothesis is based on the following argument: the situation in which creoles emerge is identical to the one in which *lingua francas* are used i.e. creoles emerge to act as a common tongue among speakers with different native languages; therefore, they are *lingua francas* at their inception. In the case of Sranan, this *lingua franca* status has been maintained throughout its lifetime. We know that adult users were involved in the creation of the Caribbean Creoles, and they are also users of *lingua francas*. Adults are not as good as children at learning languages, and so

transparency aids them in learning. Therefore, in *lingua francas*, it is beneficial to maintain transparency, and following from this, it is reasonable to expect that Sranan will not increase in opacity with time.

To test this hypothesis, we investigate the following research question: How has transparency in Sranan changed from the 18^c to 21^c? We predict that the same opaque features identified by Hengeveld & Leufkens (2018) (Section 2) found in the 18^c will also be found in following centuries, and no new opaque features will emerge. We also predict that the features we find will obey the Transparency Hierarchy (Hengeveld & Leufkens 2018).

8.2 Data sources

We investigate this research question using primary and secondary data. For the 18^c to the 20^c, we use historical data, while for the 21^c, we collected data from two heritage speakers of Sranan from Amsterdam. We describe our data from the 18^c to the 20^c in Section 8.2.1 and our elicitation data in Section 8.2.2.

8.2.1 18^c to 20^c

When available, secondary data was preferred. Sranan is particularly well-suited for diachronic study because it is well-documented compared to other creoles. Our data sources are summarised in Table 2 and described below. We describe the authors and the texts that we had access to. These sources are all based on written language so opaque features requiring phonological information could not be pursued.

Van den Berg (2007) is a grammar of 18^c Sranan, or Early Sranan. It is based on multiple primary data sources which are not included in the text; however, some was found in Arends & Perl (1995), namely Herlein (1718), Van Dyk (1765), Nepveu (1770), Weygandt (1798), and the Sranan Version of the Saramaka Peace Treaty (Nepveu 1762). We describe them below.

Herlein (1718) consist of four pages of Sranan dialogues, words, and phrases with Dutch and English translations. The text either represents the urban *bakra tongo* (European variety of Sranan) or old varieties found in plantations along the Commewina river (van den Berg 2007: 20). There is confusion about the exact identity of the author of this text, but what is certain is that he was not a native speaker of Sranan but was probably partially competent in it (Arends & Perl 1995: 13).

Van Dyk (1765) is a manual for merchants and others conducting business in Suriname consisting of 112 pages of vocabulary, phrases, sentences, idioms, dialogues and a play called *Het leeven en bedryf van een Surinaamsze directeur, met de slaaven, op enen koffi-plantagie* ('The life and business of a Suriname plantation manager with his slaves on a coffee plantation'). The play is particularly interesting since it is the closest representation of spoken language

that we have. Van Dyk's language has been said to represent conflicting varieties, but Schuhardt and Arends & Perl (1995) agree that it represents a conservative plantation variety consistent with those spoken upstream of the Cottica and Commewina rivers far from Paramaribo.

Nepveu (1770): Jan Nepveu (1719-1779) was born in Amsterdam but moved to Suriname in 1734, when he was 15. He was not a native speaker of Sranan, but his text should be representative of adequate competence in *bakra tongo* since, at the time of its writing, Nepveu would have spent 36 years in Suriname (Arends & Perl 1995: 19). Nepveu (1770) consists of annotations to Herlein (1718).

Weygandt (1798) is a language manual containing vocabulary, idioms, dialogues and a descriptive grammar focused on the verbal system. It is influenced by Van Dyk (1765) and also draws on the work of Paul Francois Roos (van den Berg 2008: 25). The language is said, by the author, to represent the urban variety of Sranan. The only information available about Weygandt himself is that he worked as a book auctioneer in Paramaribo from 1814 to 1821.

The Sranan version of Saramaka Peace Treaty (Nepveu 1762) is a transcription of the Saramaka Peace Treaty that was read to the Saramaka Maroons on September 19, 1762 and their replies to it. The transcription was done by Louis Nepveu, Jan Nepveu's nephew, and represents a second language variety of Early Sranan that is likely to be highly formal (van den Berg 2007: 21-22).

In addition to van den Berg (2007) and Arends & Perl (1995), we referenced Arends (1989) and Voorhoeve (1962). Arends (1989) is a linguistic description of the development of syntax in Sranan from 1750 to 1950 based on a corpus. The Appendix contains examples of linguistic phenomena, like copular clauses, which were major sources of data for our analysis of 19th and 20th century Sranan. Descriptions of these data sources and their authors can be found in Appendix A of Arends (1989).

Voorhoeve (1962) is a description of Sranan syntax. Voorhoeve was a linguist who spent four years in Suriname working for the Netherlands Bible Society as a translator. He was not a native speaker of the language but did learn it from one. The primary data for the grammar are recordings of two Surinamese workers living in the Netherlands in 1954. These recordings were transcribed and analysed by another informant with linguistic training. The analysis was used to create stimuli for grammaticality judgement tasks which were presented to a Surinamese informant.

8.2.2 21^c

We elicited data from two heritage speakers of Sranan living in Amsterdam. Our first speaker, Marvin, is a 48-year-old male born in Suriname and living in the Netherlands since 2012. He worked as a journalist in the Caribbean for 20 years and currently manages an MBO college in Amsterdam. He still reports for Caribbean news agencies and has also had experience teaching languages. He does not speak with people from Suriname often and has not visited since 2012. He says that he speaks a ‘lazy’ kind of Sranan, that relies on Dutch a lot. Our second speaker, Stephania, is a 28-year-old female who was born in Suriname but moved to the Netherlands when she was six. She learned Sranan from her family members and continues to speak the language with her family and co-workers. She speaks Sranan, Dutch and English, and says that the variety she speaks, like that of Marvin, draws on Dutch. The last time she visited Suriname was in 2015.

From these descriptions, we can see that our informants are not likely to represent the variety spoken in Suriname because they have not had contact with the country for some time and Sranan is not their main language. Additionally, they have high competencies in Dutch and English which they identified as causing interference in their production of Sranan. Lexical interference was observed during the interviews. For example, both speakers initially used the Dutch word for ‘woman’, *vrouw*, despite the availability of a Sranan option, *ouman*. Additionally, one speaker used the English word for ‘bell’ while the SIL Sranan-English dictionary lists *dyendyen* as the Sranan equivalent. Since lexical interference occurred, it is likely that other kinds of interference, unidentifiable to us, occurred as well.

We constructed sentences in English and asked our informants to translate them into Sranan. In some cases, we modified our stimuli to help our informants understand and translate them better. For example, one of our sentences was *John, Peter’s brother, rang the bell*. One of our participants could not think of a translation for *rang the bell*, so we changed the stimulus to *John, Peter’s brother, ate food*. Additionally, we asked for grammaticality judgements and metalinguistic information. The sessions were conducted on Saturday June 24th, 2017 and were audio recorded. We phonetically transcribed the Sranan examples loosely and then used the SIL Sranan-English dictionary to identify and gloss the words accurately.

8.3 Method

We searched the texts described above for manifestations of the opaque features described in Section 3 and came up with the results shown in Section 9. The presence of even a single instance of any feature was counted as evidence of its

presence (+). If no instances of a feature were found, it was marked with ‘-’. In some cases, we required negative evidence to assess a feature. Since we mainly worked with written data, it was not possible to find this type of evidence in all the centuries we examined. It was also not possible to say that such features did not exist at all, so we marked these cases with ‘*’, meaning unclear.

9 Results

Table 3 shows the opaque features found in written works from the 18^c, 19^c and 20^c and from our 21^c informants.

Table 3: Summary of opaque features found in 18^c, 19^c, 20^c and 21^c

Feature	18 ^c	19 ^c	20 ^c	21 ^c
1. Apposition	+	*	+	+
2. Cross-reference	-	-	-	-
3. Discontinuity	-	-	-	-
4. Tense copying	-	?	*	-
5. Clausal agreement	-	-	-	-
6. Phrasal agreement	-	-	-	-
7. Grammatical gender assignment	-	-	-	-
8. Grammatical relations	+	?	?	+
9. Morphologically-based stem or affix alternation	-	-	-	-
10. Nominal expletives	+	*	*	+

+ = *present*; - = *absent*; ? = *unclear*; * = *no examples*

As is evident, three opaque features were found in the time period we analysed. Examples of these features are provided below, in addition to examples of the strategies Sranan uses instead of the features that are absent.

9.1 Apposition

As reported in Table 3, apposition was found in 18^c, 20^c and 21^c. This is exemplified in the below examples (in these and the following examples, we specify the century with each example right-aligned).

- (17) Da mi, Filida, mi kom na mastra. [18°]
 3SG.COP 1SG Filida 1SG come LOC master
 ‘It’s me, Filida. I’ve come to you, master.’
 (Dyk 1770, in Arends 1989: 145)
- (18) ma sontron tog, j e ptjin boi nanga [20°]
 but sometimes still 2SG PRS.REAL.N.COMPL small boy with
 fur-mofo [...]
 thief-mouth
 ‘But still sometimes, you, small boy with a thieving mouth [...].’
 (Voorhoeve 1962: 16)
- (19) Jan, a brada fu Peter, a nyan nyan. [21°]
 John, DET brother for Peter 3SG.SBJ eat food
 ‘John, Peter’s brother, ate food.’ (Marvin)

No examples from the 19° are shown because no evidence for or against the presence of this feature was found. In all the other centuries, this feature was found, so it seems plausible that it also occurred in the 19° since it is unlikely that it disappeared in the 19° to come back in the 20°.

9.2 *Cross-reference*

Cross-reference was not found, which means that a referential person marker on a verb never co-occurs with a verb-external noun-phrase. Negative examples are shown below.

- (20) A-hakisi offi missie sa tan na hosso. [18°]
 3SG.SBJ-asks if Mrs FUT stay LOC house
 ‘She asks if you will stay at home.’ (Nepveu 1765, in Arends 1989: 126)
- (21) A komm fossi mi. [18°]
 3SG.SBJ come before 1SG
 ‘He came before me.’ (Schumann 1783, in Van den Berg 2007: 139)
- (22) Ade. [19°]
 3SG.SBJ-be
 ‘It exists.’ (Focke 1855, in Arends 1989: 184)
- (23) A de vo mi. [19°]
 3SG.SBJ be of 1SG
 ‘It’s mine.’ (Wullschlägel 1856, in Arends 1989: 40)

- (24) bika' a ben de moro hei leki Falek. [20°]
 because 3SG.SBJ PST be more high than Falcon
 'Because he was higher than Falcon.'

(Herskovits & Herskovits 1936, in Arends 1989: 220)

- (25) a man gi a frow buku. [21°]
 DET man give DET woman book
 'The man gave the woman the book.' (Stephania)

Sranan does not mark person on the verb; however, it is remarkable that in the 18° and 19° it was possible to attach the third person singular pronoun to the verb obtaining cliticization. No examples were found in which the third person singular pronoun *a* co-occurs with a verb with an attached pronoun such as *ahakisi* in (20).

9.3 *Discontinuity*

No evidence of discontinuity was found. We do not report a negative example because the presence of a non-discontinuous sentence does not rule out discontinuity. We only report (26), in which we asked our informant to translate an English sentence in which discontinuity was present.

- (26) tapu planga a drape mi abi wan buku nanga reisep. [21°]
 on shelf 3SG.SBJ there 1SG have INDF book with recipe
 'I have a book on my shelf about cooking.' (Stephania)

From discussions with our informants, it is clear that Sranan speakers do not favour discontinuity. When they were asked if it was possible to separate 'a book' from 'about cooking' in the noun phrase 'a book about cooking' as in English, they said that it was not possible.

9.4 *Tense copying*

In Table 3, it is reported that tense copying is not present in 18° and 21° in Sranan. The situation is unclear for 19°, and no informative examples were found for 20°. The following examples show indirect speech reports.

- (27) A ben takie a sa deeja na halfoe aitie. [18°]
 3SG.SBJ PST talk 3SG.SBJ FUT COP(-here) LOC half eight
 'He said he would be here at half past seven.'

(Weygandt 1798, in van den Berg 2007: 269)

- (28) vo da hede mi ben denke taki, a sa boen ... [19°]
 for that reason 1SG PST think say 3SG FUT good
 ‘That’s why I thought it a good idea...’

(Luke 1829, in Arends 1989: 173)

- (29) John ben aksi mi if mi wan go. [21°]
 John PST ask 1SG if 1SG INDF go
 ‘John asked me if I would go.’ (Stephania)

It is remarkable that when we asked our informants to translate in Sranan an English sentence with a main verb marked with past tense, they translated it with the present tense three out of four times. We are not able to provide an explanation for this since Sranan can express the past tense through the particle *ben*.

9.5 Clausal agreement

Clausal agreement was not found since person is not marked on the verb in Sranan. Sometimes, as explained in Section 10.2, the third person singular pronoun can be found graphically attached to the verb. No tokens were found in which the attached pronoun co-occurred with an external pronoun. See Section 9.2 for examples.

9.6 Phrasal agreement

Sranan does not show clausal agreement; likewise, it does not show phrasal agreement. This is exemplified below.

- (30) Loeke mie Druije se hansom (or: mooij). [18°]
 look my grape ?⁴ beautiful
 ‘See how beautiful my grapes are.’ (Nepveu 1765, in Arends 1989: 171)

- (31) Mi Jarie no mooij. [18°]
 my garden NEG beautiful
 ‘Isn’t my garden beautiful?’ (Nepveu 1765, in Arends 1989: 171)

- (32) A ben de wan ouroe soema kaba. [19°]
 3SG.SBJ PST be INDF old person already
 ‘She was an old woman at the time.’ (Luke 1829, in Arends 1989: 162)

⁴ Uncertain glossing also in Arends (1989)

- (33) Jonge hasi moro boen, leki ouroe-wan. [19^c]
young horse more good than old-INDF
'Young horses are better than old horses.'
(Grammatik 1854, in Arends 1989: 211)
- (34) en vo troe a de wan mooi plesi. [20^c]
and for true 3SG.SBJ be INDF beautiful place
'And it sure is a nice place.'
(Makzien I 1902, in Arends 1989: 166)
- (35) No-wan soema boen. [20^c]
NEG-INDF person good
'No man is good.'
(Helstone 1903, in Arends 1989: 177)
- (36) a ouroe man [21^c]
DEF old man
'the old man'
(Marvin)
- (37) wan ouroe oeman [21^c]
INDF old woman
'an old woman'
(Stephania)

As is clear from the examples, adjectives are not marked for plurality even if nouns have plural meaning. This is expected since Sranan has neither plurals nor grammatical gender, as we explain further in the following section.

9.7 Grammatical gender

Sranan does not show grammatical gender in any stages of its history. This is exemplified in examples (38) to (48). For every century, examples with nouns that have semantic gender are provided, as well as an example of a noun with no semantic gender. Clearly none of the tokens are marked for gender.

- (38) You man? Da boy fasy. [18^c]
2SG man 3SG.SBJ.COP boy manner
'Are you a man? You behave like a boy.'
(Stedman 1796, in Arends 1989: 145)
- (39) Bassia fom tra-wan gi da homan morre liki ... [18^c]
overseer beat other-INDF give DET woman more than
'Overseer, give the other woman a better beating than ...'
(Van Dyk 1770, in Arends 1989: 199)

- (40) Da janjam faija. [18°]
 DET food hot
 ‘The food is hot.’ (Schumann 1783, in Van den Berg 2007: 34)
- (41) Da man, nanga da oeman, nanga da pikien dede. [19°]
 DET man and DET woman and DET child dead
 ‘The man, the woman and the child are dead.’
 (Grammatik 1854, in Arends 1989: 174)
- (42) Da hili no hei noffo. [19°]
 DET heel NEG high enough
 ‘The heels aren’t high enough.’
 (Helmig van der Vegt 1844, in Arends 1898: 174)
- (43) Da man di dee na ini da wenkri [...] [20°]
 DET man REL be LOC inside DET shop
 ‘The man in the shop ...’ (Helstone 1903, in Arends 1989: 188)
- (44) Den ben de tu sisa. [20°]
 3PL PST be two sister
 ‘There were two sisters.’
 (Herskovits & Herskovits 1936, in Arends 1989: 168)
- (45) Bikasi da plesi de wan bigi sabana. [20°]
 because DET place be INDF big savannah
 ‘Because the place is a huge savannah.’
 (Makzien I 1902, in Arends 1989: 166)
- (46) Wan ouroe man [21°]
 INDF old man
 ‘an old man’ (Stephania)
- (47) Wan ouroe oeman [21°]
 INDF old woman
 ‘an old woman’ (Stephania)
- (48) Owru buku [21°]
 old book
 ‘the old book’ (Stephania)

9.8 Grammatical relations

Normally, Sranan makes a distinction between third person singular subject and object. This is shown in (49) for the 18^c, and it is valid for all analysed centuries.

- (49) a. A sa kom loeke jou na agter dina tem. [18^c]
 3SG.SBJ PST come see 2SG LOC after dinner time
 ‘She will come visit you this afternoon.’
 (Nepveu 1765, in Arends 1989: 126)
- b. Joe habe retti da ply mi zi hem. [18^c]
 2SG have right that place 1SG see 3SG.OBJ
 ‘You're right; that's where I saw him.’
 (Van Dyk 1770, in Arends 1989: 15)

Sranan seems to have always had grammatical relations since the distinction between Actors and Undergoers is neutralised when they assume the syntactic role of subject. Arends (1989: 31) argues that when the Undergoer is followed by a copula, it is marked with accusative case. He follows Voorhoeve's (1953: 73) explanation of this phenomenon: since *a* is derived from *da/an*, which are the copula forms, confusion may arise due to similarities in sound. As a result, *hem* and *en*, which are very dissimilar to *a*, are preferred to perform the role of personal subject. Examples of this can be seen in (52) and (55), where we find the third person singular marked with object where we would expect to find subject marking. As we see from (57) and (58), this does not happen anymore in modern Sranan – our informants used the pronoun marked with accusative case, and they did not use a copula.

- (50) A kotti kaba. [18^c]
 3SG.SBJ cutal ready
 ‘It is cut already.’ (Schumann 1783, in van den Berg 2007: 240)
- (51) A-kesi of joe tan an house? [18^c]
 3SG.SBJ-ask if 2SG stay LOC house
 ‘She asks if you will stay home.’ (Herlein 1718, in Arends 1989: 126)
- (52) Da foto vo David, hem da Kristus, da Masra. [19^c]
 DET city of David 3SG.OBJ be Christ be Lord
 ‘In the city of David, he is the Christ, the Lord.’
 (Luke 1829, in Arends 1989: 31)

- (53) A nem Zakarias. [19°]
 3SG.SBJ be.named Zakarias
 ‘His name was Zakarias.’ (Luke 1829, in Arends 1989: 182)
- (54) A plati foeloe boen goedoe [...] [19°]
 3SG.SBJ distribute many good good
 ‘He hands out many good gifts ...’ (Luke 1829, in Arends 1989: 183)
- (55) En na datra. [20°]
 3SG.OBJ be doctor
 ‘He is a doctor.’ (Seuren 1981, in Arends 1989: 31)
- (56) A kom teki hem bikasi [...] [20°]
 3SG.SBJ come take 3SG.OBJ because
 ‘He took him because ...’
 (Herskovits & Herskovits 1936, in Arends 1989: 168)
- (57) A breiti. [21°]
 3SG.SBJ happy
 ‘He is happy.’ (Stephania)
- (58) Mi sutu en. [21°]
 1SG shoot 3SG.OBJ
 ‘I shoot him.’ (Stephania)

As is evident, the situation in 19° and 20° is unclear. For this reason, we referred to Bickel (2010), who identifies 11 constructions that are relevant to grammatical relations. Of these, it was only possible to search for case marking, agreement and phrase structure. Case marking only occurs on third person pronouns (see Section 9.8) and agreement does not occur (see Sections 9.5 and 9.6). Regarding phrase structure, we find nominal expletives (see Section 9.10), which indicates the presence of grammatical relations since they indicate that there are fixed positions within the phrase that must be filled.

9.9 Morphologically-based stem or affix alternation

Morphologically-based stem or affix alternations were not found. We do not report negative examples of this feature since their absence in our texts does not mean that they do not exist. Nevertheless, we can be sure that plural affix alternation is not possible since plural concord is not present. If English can have irregular plurals such as *mouse-mice*, this is not possible in Sranan. An example of what a plural looks like is shown in (59).

- (59) Wi no ha noti moro, leki vijvi brede nanga toe fisi.
 1PL NEG have nothing more than five bread and two fish
 ‘We have nothing more than five loaves of bread and two fishes.’
 (Luke 1829, in Arends 1989: 207)

Nevertheless, one of our informants (Stephania) reported that a plural form is possible for the word *alata* (‘rat’), which would be *alatas*. This form was not mentioned by the other informant, and it could be that it is due to interference from Dutch.

9.10 Nominal expletives

Nominal expletives were found in the 18^c and 21^c. There is no evidence for or against this feature in the 19^c and 20^c. However, as we assumed for apposition in Section 9.1, we believe that nominal expletives were present in the other centuries as well. It seems unlikely that this feature was lost and then adopted again.

- (60) A latie foe troe. [18^c]
 3SG.SBJ late for true
 ‘It is really late.’ (Van Dyk 1770, in van den Berg 2007: 62)

- (61) A toemosie waram. [18^c]
 3SG.SBJ excessive warm
 ‘It is too warm.’ (Weygandt 1798, in van den Berg 2007: 60)

- (62) A waran. [21^c]
 3SG.SBJ warm
 ‘It’s hot.’ (Marvin)

Weather expressions can be formed with expletives, but this is not necessary in all cases, as shown in (63) and (64) from the 19^c and 21^c.

- (63) Son de tranga kaba. [19^c]
 sun be strong already
 ‘It’s very hot already.’ (Helmig van der Vegt 1844, in Arends 1989: 26)

- (64) A winti wai. [21^c]
 DET wind blow
 ‘It’s windy.’ (Stephania)

10 Discussion

Our results show that transparency has remained fairly constant in Sranan since the 18^c, or over four centuries. Three opaque features were identified in the 18^c which carried over into the 21^c. We are unsure about the existence of tense copying in the 19^c and we did not find it in the other centuries, so we exclude it from our discussion. We will discuss the features we found and their relation to the Transparency Hierarchy first in Section 10.1 and then our hypothesis in Section 10.2

10.1 *Opaque features in Sranan and the Transparency Hierarchy*

The three opaque features we identified were apposition, grammatical relations, and nominal expletives. Apposition was identified in the 18^c, 20^c and 21^c, but not in the 19^c. In the 19^c texts we did not find any evidence for or against the existence of apposition, so we assume that it existed since this is more likely than it disappearing in the 19^c and reappearing in the 20^c and 21^c. Apposition is a type of redundancy which involves a one-to-two mapping between the RL and ML in which a single referent is assigned two linguistic units. We considered phrasal apposition, so a single referent was assigned two lexical expressions; this contrasts with grammatical apposition (cross-reference) in which two functional elements are assigned to one referent. Leufkens only considered cross-reference because she expected phrasal apposition to be near universal (2013: 340). She did not find evidence of cross-reference in any of the four creoles she studied (Pichi, Nubi, Sri Lanka Malay, Diu Indo-Portuguese) but did find other redundancy features. Our results align with hers and her predictions about phrasal apposition in that we did not find cross-reference but did find phrasal apposition. Her explanation for the presence of these redundancy features is that they help to increase intelligibility (Leufkens 2013: 351). We think that this explanation also works for our findings since phrasal apposition increases the number of expressions of a referent and, in our examples, makes a referent more specific. Increasing the number of linguistic representations of a referent is a kind of repetition, which has been identified as useful in making input comprehensible to language learners (Pica et al. 1986: 122f). Finally, making a referent more specific would make it easier to identify in the real world, which would also contribute to intelligibility.

Grammatical relations and nominal expletives were found in the 18^c and 21^c. We cannot be certain if they existed in the 19^c and 20^c, but we assume that they did because there do not appear to be any demographic changes, as mentioned in Section 2, unique to these centuries that could have motivated the disappearance and subsequent re-appearance of this feature. In this study, nominal expletives and grammatical relations are connected for two reasons:

first, the former is our most convincing evidence of the latter, and Leufkens (2013) groups them under the same category of form-based-form. For these reasons we discuss grammatical relations and nominal expletives together. In Nubi, Diu Indo-Portuguese, Pichi, and Haitian Creole grammatical relations are found, but not in Sri Lanka Malay (Leufkens 2013; Hengeveld & Leufkens 2018). Expletives exist in Pichi, but not in Sri Lanka Malay, Nubi and Diu Indo-Portuguese, and Haitian Creole (Leufkens 2013: 351; Hengeveld & Leufkens 2018: 164). Therefore, in Diu Indo-Portuguese and Haitian Creole, grammatical relations exist independently of nominal expletives.

In an early version of the Transparency Hierarchy (Hengeveld & Leufkens 2018) (discussed in Section 3.3), form-based form features are said to be the least likely to be manifested when compared with redundancy and domain disintegration features (Leufkens 2013: 358). In the more fine-grained implicational hierarchy proposed by Hengeveld & Leufkens (2018), nominal expletives (along with clausal agreement) are least likely to develop while grammatical relations and apposition are some of the features most likely to develop. In other terms, the Transparency Hierarchy predicts that if expletives are found in a language then all the other opaque features mentioned in Section 3.3 should also be found. Our data does not fully support this prediction since we only found apposition, expletives, and grammatical relations. Unlike redundancy, we cannot say that nominal expletives and grammatical relations contribute to intelligibility since they do not have semantic or pragmatic motivation. It could be that direct calquing from creole source languages may have more of an effect on what opaque features are manifested than diachrony (Leufkens 2013) and the Transparency Hierarchy predict (Keesing 1991: 334; Bruyn 1995, 1996). Regarding the Transparency Hierarchy, it may be that the features from it that appear in creoles could have come directly from creole source languages and not through a diachronic process that increases or decreases transparency; what would matter in the case of creoles are the properties of the source languages. For example, if the superstrate English and the substrates Fongbe (a Gbe language) and Kikongo have grammatical relations (called ‘syntactic functions’ in Leufkens (2013)) then the creole would be expected to have them too. This is borne out in Pichi (Leufkens 2013: 357), and in Sranan as well (since Sranan is also an English-lexicon creole with Gbe and Kikongo contributions).

10.2 The hypothesis

Transparency generally remained constant over the four centuries we studied so our hypothesis which predicts opacity would not increase is supported. This result can be explained by the intersection of three factors: Sranan’s creole nature; its historic and current use as a *lingua franca* and the social context in

which it is used. As a creole, Sranan emerged to facilitate contact between people who spoke different languages, which is what a *lingua franca* does; therefore, it is expected that it would have evolved the appropriate level of transparency to perform this function given its input languages. Sranan has at least been used as a common tongue among Europeans in Suriname since the early 18^c and as a *lingua franca* since the late 19^c. It is still used in this function which means that it has been used as a second language among people who speak different languages for three centuries, or most of its existence. This suggests that it did not have the opportunity to develop opacity since it was always in contact with different languages. Furthermore, Suriname constitutes an exoteric niche since it is a large country with speakers using between two to three languages on a daily basis, suggesting that many adult learners are present. As a *lingua franca* operating with an exoteric niche, it is valuable that Sranan maintain its transparency to maintain learnability, as discussed in Section 7. Adult L2 users do not have the same language learning capabilities or needs as children, and so require a high level of transparency because it facilitates learnability. Anecdotal support for speakers' perception of the learnability of Sranan is also reported by Diepveen & Hüning (2017) who were told by Chinese immigrants in Suriname that Sranan is easier to learn than Dutch (12). Because Sranan was developed to act as a *lingua franca*, it is not unsurprising that its transparency did not change over the last four centuries. We expect that other contact languages or *lingua francas* will behave in the same way, with respect to transparency, as Sranan. We also note that Sranan is fairly unusual compared to other Caribbean Creoles such as Trinidadian English Creole or Jamaican. As we mentioned in Section 2, Sranan is unusual since it has only been in contact with its lexifier for 30 years. Additionally, Suriname is extremely multilingual, with around twenty languages in use, while Trinidad and Jamaica tend to just have an English creole and a local standard variety of English in use.

11 Conclusion

The aim of the present study was to analyse the evolution of Sranan with respect to transparency. This language was chosen because of the availability of written sources from the 18^c onwards, a situation fairly rare among creole languages. We adopted the FDG framework (Hengeveld & Mackenzie 2008) because its architecture makes it possible to clearly identify form-meaning relations. We hypothesised that opacity in Sranan would not increase over time because as a creole it developed to act as a *lingua franca* and has continued in this role throughout its history. This is supported since our results show that the distribution of opaque features has remained fairly constant. We explain this by appealing to the intersection of Sranan's nature as a creole; the exoteric nature

of Suriname; and Sranan's prolonged use as a *lingua franca*. As a creole, Sranan inherently started off as a *lingua franca* and with continued use within an exoteric niche it maintained this transparency to maintain learnability.

Apart from our hypothesis, our study was able to make one important observation about the Transparency Hierarchy. We found that Sranan did not obey the Hierarchy's predictions and we suggest that this occurs because it is possible for creoles to calque structures directly from their source languages; therefore, they can bypass the progression in transparency predicted by the Hierarchy. We suggest that the Hierarchy should be modified to account for social context; however, we admit that our data was not perfect and therefore may have been responsible for the deviations we observed. Firstly, the written sources available to us made it difficult to consistently analyse relations involving the Phonological Level of FDG, so we excluded features involving it. Secondly, our informants were heritage speakers of Sranan who both admitted that there was interference in their production of Sranan. We suggest that future studies be based on data from native speakers from Suriname, and in a larger number than we did. Apart from this, since Sranan is a creole and a *lingua franca*, we do not believe that our results can generalise across creoles. It would be useful for future research to study creoles that are not *lingua francas*, such as Trinidadian English Creole; however, it must be noted that many creoles lack historical grammars, which will make conducting such research difficult.

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