

10 PATTERNS OF LANGUAGE MIXTURE: NOMINAL STRUCTURE IN WOLOF-FRENCH AND FONGBE- FRENCH BILINGUAL DISCOURSE

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1 Introduction

A primary goal of any study of language mixture is to determine the properties of the internal grammars of bilinguals. Specifically, what grammar is utilised at the point where languages meet? Do speakers operate with a single base grammar which is on occasion overlaid with lexical items from another language or are different grammars activated at different times? If the latter is the case, what structural principles govern their juxtaposition? In this chapter, we demonstrate how the variationist method yields straightforward answers to these questions and further, assert that it is the only method which can irrefutably do so.

Empirical studies of bilingual performance data have revealed that the utterance-internal combination of elements from more than one grammar may surface in a number of different forms, some of which are illustrated in (1), where French-origin items (italicised) alternate with Wolof items.

- (1) amoon naa fi nak benn *copine* koo xam ni daf ma
have+PAST I LOC CONJ IND friend that+you know that she me
attacherwoon début d' année mais sama idées yooyoo
attach+PAST beginning of year but POSS ideas DEM
tax ba leegi mu jappantewoon ak man, *c'est que* moom
cause that now she dispute+past with me it's that she
féministe la quoi ta man je défendais des idées yoo
feminist it's what so me I defend+PAST IND ideas that+you
xamenta ni gəm mu ma ko sax.
know that believe PRO I PRO ADV
[I even had a girlfriend here at the beginning of the year, but my ideas
made her fight with me. It's that she was a feminist while I defended
ideas that I didn't even believe.] (Wolof 4: 242: Spkr 3)¹

These include code-switching and lexical borrowing on the community and individual level. As discussed in Poplack (1990), 'code-switching' may be defined as the juxtaposition of sentences or sentence fragments, each of which is internally consistent with the morphological and syntactic (and optionally, phonological) rules of its lexifier language. Intra-sentential switching may occur freely at 'equivalence sites', i.e. points around which constituent order in the two languages is homologous. In some language-specific contexts, 'constituent insertion' may also occur. Here the internal structure of the constituent is determined by the grammar of the lexifier language, and its placement is determined by the language of the sentence into which it is inserted. 'Borrowing' is the *adaptation* of lexical material to the morphological and syntactic (and usually, phonological) patterns of the recipient language. Established 'loanwords' (which typically show full linguistic integration, native-language synonym displacement, and widespread diffusion, even among recipient-language monolinguals) differ from 'nonce borrowings' only insofar as the latter need not satisfy the diffusion requirement. Borrowed forms of both types are generally indistinguishable from their native-language counterparts at all but the etymological (and variably, phonological) level.

The identification and analysis of code-switching and borrowing are the focus of much current controversy. Some researchers argue that these language contact phenomena should be distinguished, (e.g. Boeschoten 1990; Eliasson 1989, 1990; Muysken 1987; Poplack 1990; Poplack *et al.* 1988b; Sankoff *et al.* 1990), though consensus has yet to be reached on which surface manifestations should be classed in which category. Others contend that code-switching and borrowing are either undifferentiated by the bilingual speaker or operationally indistinguishable (Bentahila and Davies 1991; Myers-Scotton 1993; Treffers-Daller 1991) and should not be considered distinct entities.

The crux of the problem resides in the status of *lone* L_b incorporations into otherwise L_a discourse, a phenomenon that, ironically enough, constitutes the richest portion of any bilingual corpus systematically studied. In this chapter we provide an empirical test of whether they are best treated as code-switches or borrowings, making use of the variationist approach to language contact and data from natural bilingual discourse involving French and two languages of the Niger-Congo family, Wolof and Fongbe. The principles of the variationist framework as they relate to the study of language contact have been detailed in Poplack (1990) (cf. also Poplack *et al.* 1987 and Sankoff *et al.* 1990). The most important for present purposes include the focus on spontaneous speech data of skilled bilinguals, the empirical analysis of all of the relevant data, and, of particular

concern here, circumscription of the variable context, or defining the object of study.

Our approach involves using the facts of variability to determine the language membership of ambiguous items, such as the lone French-origin nouns in otherwise Wolof discourse (e.g. *copine, idées, féministe*) in (1). Adumbrated in Sankoff *et al.* (1990), where variable rates of case-marking were compared in this same connection in English-origin and native Tamil nouns, here we expand the exercise to take account of the *patterning* of variability. By making a detailed assessment of the distribution of modifier usage on lone French-origin nouns in otherwise Wolof and Fongbe contexts and systematically comparing it with that of their lexical counterparts in each of the languages in contact as well as in unambiguous, multiword code-switches (e.g. *Je défendais des idées* in (1)) between them, we establish whether the different linguistic contexts we have isolated can be correlated with distinct patterns of noun modification.

This enables us to compare details of structure too specific to be due to coincidence or universals. In the case that interests us here, for example, if lone French-origin nouns in otherwise Wolof/Fongbe² discourse show the detailed patterns of noun modifier usage of monolingual Wolof/Fongbe nouns, but none of the patterns of French nouns in monolingual French discourse, the interpretation must be that their structure is that of Wolof/Fongbe and not that of French, regardless of the etymology of the noun. This means that they are being treated grammatically as if they were *borrowed* into Wolof/Fongbe and not *code-switched* into French.

The method is equally amenable to testing other claims, though these are not the major focus of this paper. If, for example, no one category of other-language material can be associated with any particular grammar (Bentahila and Davies 1991; Treffers-Daller 1991), then both lone French-origin nouns and longer stretches will be shown to pattern identically.³ If, on the other hand, the mixed-language material is the product of a grammar distinct from either of the grammars making up the language pair (resulting, for example, in a 'suspension of syntax' (Muysken 1987: 37) see also Boeschoten (1990)), then the data will be revealed to pattern with neither the monolingual French nor the monolingual Wolof/Fongbe nouns. Comparison of the patterning of the bilingual and monolingual NP in Wolof-French and Fongbe-French bilingual discourse will enable us to assess these claims. The NP is a particularly fruitful locus for this type of study because, as has been found elsewhere (e.g. Berk-Seligson 1986; Poplack 1980; Poplack *et al.* 1988b; Treffers-Daller 1991), the bulk of the French-origin material in these data is found in this context. It also provides a nice illustration of

our method, since both Wolof and Fongbe are isolating languages, with no nominal morphology to speak of, and spoken French provides little potential for overt morphological marking here as well. These facts obviate the morphological criterion for loanword integration, making the status of a lone French-origin noun like *copine* in (1) particularly difficult to assess. We therefore appeal to the syntax of nouns and NPs, focussing on their variable distribution across modification structures. In interpreting the results we rely, as is standard in variation research, on *relative* proportions rather than relations of all or nothing.

2 Data and method

2.1 Data

2.1.1 *The corpora*

A recurrent criticism of early quantitative analyses of structural constraints on code-switching is that they dealt with languages which were typologically similar, such that there were relatively few structural incompatibilities for speakers to cope with in switching among them (Eliasson 1989; Muysken 1991; Poplack *et al.* 1987). As part of our ongoing quest to elucidate the constraints on language mixing in typologically distinct language pairs (Naït M'Barek and Sankoff 1988; Poplack *et al.* 1987; Sankoff *et al.* n.d.; Sankoff *et al.* 1990), we focus in this chapter on the intraclausal combination of French with either of two African languages that differ typologically from French and each other.

Bilingual data sets were collected for each language pair, using standard variationist methodology and social network techniques, under sociolinguistic conditions propitious to the spontaneous use of both contact languages. The Wolof-French materials were gathered by a highly educated and proficiently bilingual speaker during informal in-group conversations with nine members of his social network. All of the informants, recent immigrants to Canada, range in age from twenty-nine to forty-seven, are fluent speakers of Wolof and French, having received secondary education or more in French before leaving Senegal. All but one currently reside in Montreal, where, with the exception of two students, most are employed in the service sector.

The Fongbe-French materials were recorded in Cotonou, Bénin, among a sample of twenty bilingual Béninois, stratified according to age and educational level. The four retained for this study, all ethnically Fon, are between eighteen and twenty-five, reflecting the average age of Cotonou residents. Three are currently

students and one works as a mechanic. At the time of the interview, all had received between seven and eighteen years of formal instruction in French.

Data collection methodology and conditions for use of French were comparable across corpora. In particular, though these speakers were all born and raised in Africa, they were educated entirely in French, and may be said to have had extensive contacts with that language. The resulting corpora contain copious manifestations of the language contact phenomena of interest to us here.

2.1.2 *The bilingual corpus*

From the tape-recorded conversations, every utterance, broadly defined, in which both French and Wolof/Fongbe co-occurred, was transcribed into *Concorde*, a concordance application for the MacIntosh (Rand and Patera 1992). This constitutes the bilingual corpora on which the analyses reported below are based. From this corpus, every noun was extracted, regardless of language (Wolof, Fongbe or French) or context (monolingual or those in which both Wolof/Fongbe and French co-occur within or at the boundary of the NP).⁴ This gave a total of 2,646 lone nouns and 121 longer stretches (Table 10.1).

Table 10.1 *Distribution of the data by corpus*

Corpus	Wolof–French			Fongbe–French		
	French		Wolof	French		Fongbe
Language of noun:	French	French	Wolof	French	French	Fongbe
Lone nouns	403	583	265	231	608	556
Multiword fragments		75			44	

As our principal goal is to determine the status of *lone* lexical items in otherwise Wolof/Fongbe discourse – whether code-switches or borrowings – we first classified the nouns to enable us to address this question.

Wolof/Fongbe nouns in otherwise Wolof/Fongbe contexts, underlined in (2) and (3), and French nouns in otherwise French contexts, underlined in (4), form the monolingual contextual categories.

- (2) *nga nara takk jabar dem ci sariñ mu listixaaral la.*
 you want marry woman go PREP marabout he look+CAUS you
 [You want to marry a woman, you go to a marabout who goes to see her
 for you.] (Wolof 2: 558: Spkr 02)
- (3) *ní ñ jró ná qà wó mó s ñ nò zé sin qó*
 If I want FUT prepare dough example TOP I HAB carry water LOC
àdò ji.
 hearth on
 [If I want to make dough, for example, I carry water to the hearth.]
 (Fongbe 1: 5: Spkr 01)
- (4) *parce que la langue c'est la clé de la civilisation.*
 because DEF language it's DEF key of DEF civilisation
 [Because language is the key to civilisation.] (Fongbe 4: 1108: Spkr 04)

A third category comprises the contentious forms, lone French-origin nouns in otherwise Wolof/Fongbe contexts, underlined in examples (5) and (6).⁵ A noun was considered to fall into this category if:

(i) It was bordered on both sides by Wolof/Fongbe material, as in (5).

- (5) *ní à exagerer qò soleil mē ça peut entraîner la maladie.*
 if you overdo LOC sun in that can cause DEF sickness
 [If you overdo it in the sun, that can cause sickness.] (Fongbe 2: 634: Spkr 02)

(ii) It is bordered on only one side by Wolof/Fongbe material, provided it appears in clause-initial or clause-final position, as in (6).

- (6) *et puis ci science xlé mī gbèké qò tonnerre hù mē qòkpó.*
 and then science shows us never that thunder kills person one
 [And science has never shown that thunder killed one person.]
 (Fongbe 3: 780: Spkr 03)

These restrictions effectively limit our study to intraclausal contexts.⁶

We compare these with still another category of data composed of nouns internal to French multiword fragments embedded within a clause involving an NP, as in configuration IV in Table 10.2⁷ and examples (7) and (8).

- (7) *elle parle français mais des fois day def ay || mots en anglais*
 she speak French but sometimes AUX do IND words in English
au milieu.
 PREP middle
 [She speaks French but sometimes puts English words in the middle.]
 (Wolof 2: 525: Spkr 02)

- (8) àli lé ʒ || *stade suprême de dégradation* yě dè.
 street PLU DEF state supreme of degradation they LOC
 [The streets are in a supreme state of degradation.]
 (Fongbe 3: 240: Spkr 03)

Table 10.2 summarises the way the nominal constructions in our data were classified. Included in this study are only those fragments where the language boundary impinges on the NP, either within or immediately prior to it. Although postnominal and post-NP position are of greater interest for our purposes (Table 10.3) since they often constitute a conflict site for code-switching under equivalence, it is notable that only one unambiguous switch involving determiners occurred here. The data in this position thus have no bearing on language mixture in the modification structures of interest to us, and so do not figure in the calculations in Tables 10.4 and 10.5.

Table 10.2 *Classification of nominal constructions*

#	Language configuration			Classification
	Preceding context	Noun	Following context	
I	Wolof/Fongbe	Wolof/Fongbe	Wolof/Fongbe	Monolingual Wolof/Fongbe
II	French	French	French	Monolingual French
III	Wolof/Fongbe	French	Wolof/Fongbe	French-origin in Wolof/Fongbe context
IV	Wolof/Fongbe	French	French	French multiword fragments

2.2 Coding and analysis

2.2.1 NP structure in monolingual and bilingual discourse

Wolof features a mixed NP structure, with most nominal modifiers following the noun, as in (9), although indefinite articles, most possessives and some adjectives may precede (Gamble 1963; Grelier 1970; Ka 1994; Njie 1982; Rambaud 1963; Samb 1983) – see Table 10.3.⁸

- (9) yee ay borom kər yi, maa ngi seen ganaaw
 you IND proprietor house DEF I AUX POSS back
lu ngeen ma sant ma def ko.
 what you me ask I do PRO
 [You're the bosses, I'm lower than you, I'll do whatever you ask.]
 (Wolof 1: 953: Spkr 01)

In Fongbe, on the other hand, the NP is strictly left-headed. All modifiers follow the noun, as in (10), with the exception of numerals, which precede (Akoha 1980; Brousseau and Lumsden 1990).

- (10) xwé dàxó dòkpó gbè áz ná hán ă.
 house big a in work FUT lack NEG
 [In a big house there is no lack of work.] (Fongbe 6: 66: Spkr 08)

Like Wolof, French features a mixed NP structure with determiners and some adjectives preceding the noun and most adjectives and relative clauses following, as in (11) (Grevisse 1986).

- (11) *il y a* différents types de wolof. *Boo* *nekk e*
 there are different kinds of Wolof if+you be PRT
à Paris, ñoom ils ont un wolof américanisé.
 in Paris they they have IND Wolof Americanised
 [There are different kinds of Wolof. If you're in Paris, they have an Americanised Wolof.] (Wolof 1: 633: Spkr 01)

Table 10.3 summarises the monolingual rules for nominal modifier placement in each of Wolof, Fongbe and French.

Table 10.3 *Comparison of noun modifier positions in Wolof, Fongbe and French*

Language	Position 2	Position 1	N	Position 1	Position 2	Position 3
Wolof	Indefinite	Adjective Numeral	O	X	Definite	Rel/PP
French	Indefinite Definite	Adjective Numeral	U	Adjective	X	Rel/PP
Fongbe	X	Numeral	N	Adjective	Indefinite Definite	Rel/PP

Focussing on sites of structural equivalence and contrast, we first note that relative clauses and prepositional phrases occur postnominally in each of the languages. The boundaries between the noun and these constructions thus qualify as equivalence sites for intraclausal code-switching. Similarly, both French and Wolof allow prenominal modification with indefinite articles, numerals and some adjectives; the sites between the noun and these modifiers are also equivalence sites for code-switching. Where Wolof and French differ is with respect to definite article and attributive adjective placement. French requires prenominal determiners and Wolof definite articles must be postposed. As for adjectives, while French allows both pre- and postnominal placement, in Wolof, the only position directly adjacent to the noun is prenominal.⁹

Shared structure is even more sharply limited in the French/Fongbe pair. With the exception of relative clauses, prepositional phrases and numerals, only the boundary between noun and postnominal adjective emerges as an equivalence site here, although even this is more of a virtual than an actual slot, since Fongbe speakers canonically express adjectival modification by means of adjectival verbs (Meechan and Poplack 1993). In addition, though not shown in Table 10.3 due to the impossibility of unambiguously assessing the position of its (null) modifiers, Wolof and Fongbe differ from French quantitatively, if not qualitatively, in their preference for bare nouns. This extremely common option is used in a wide range of contexts in both African languages, including: contexts with universal or generic reference as in (12), partitive expressions, focus constructions and negations as in (13), noun-noun modification expressions in Fongbe [sín] and [tǎn], or Wolof [u], as in (14), in certain verb + noun constructions as in (15).

- (12) mĩ ɖě ɖě ká ɖò *afrique* fĩ dìn á jónhón ɖè ă.
 we other REL MOD LOC Africa be now TOP wind be NEG
 [For those of us who are here in Africa now, there is no cold.]
 (Fongbe 1: 795: Spkr 01)
- (13) jotu ñu dərəm rek.
 receive+NEG they penny ADV
 [They didn't receive a penny.] (Wolof 2: 923: Spkr 02)
- (14) *mais* yow boo nekk e ci biir u tubab rek anh!
 but you if you be PRT PREP inside of french ADV arg
 [But you, if you only live among the white people, argh!]
 (Wolof 1: 572: Spkr 01)

- (15) é nʊ́ qó xèsín nú mì trop.
 it MOD make fear for me too much
 [That scares me.] (Fongbe 2: 88: Spkr 02)

The undetermined noun in French, though attested, is highly limited, being largely restricted to a few constructions such as copula + certain predicate nominals, as in (16), nominal apposition, 'N de N' modification structures and a few lexicalised cases such as *avoir faim*, and *avoir peur*.

- (16) il est Ø créateur de l' univers.
 He is creator of DEF universe
 [He is the creator of the universe.] (Fongbe 4: 957: Spkr 04)

Given the condition of equivalence on intraclausal code-switching (Poplack 1980), according to which (unambiguous) switching is free to occur only between sentence elements that are normally ordered in the same way by the monolingual grammars in contact, and the fact that borrowing involves the grammatical structure of one language only, with the other playing a solely etymological role, the facts depicted in Table 10.3 can be predicted to affect patterns of language mixture in these language pairs as follows: multiword fragments should figure at sites where both members of the language pair feature the same modification structures. Lone French-origin nouns should take the noun modification structures of the language into which they are incorporated if many or most are borrowings, and should take the noun modification structures of French if they are switches. In what follows, we assess which of these hypotheses best accounts for the data, using variationist methodology.

2.2.2 Coding procedures

Each noun in each corpus, regardless of language or context, was coded for the type of modification structure in which it occurred. We isolated four main types: (i) overt indefinite article, (ii) overt definite article, (iii) no article but other modifier (e.g. demonstrative, possessive, focus marker, interrogative, numeral, relative clause) and (iv) no modification at all.

The set of Wolof definite articles *Ci/Ca* [the] were coded as definite, and *Cenn* [one] and *ay* [some], as indefinite.¹⁰ In Fongbe, definite reference is marked by (or otherwise coincides with) the topic marker, 'ʒ', and indefinite reference is marked by (or coincides with) the existential, 'dè'. In what follows, we coded (and shall

refer to for convenience) the topic marker 'ð' as definite, and the existential as indefinite.¹¹ The French determiners *le/la/les* [the] were coded as definite, *un/une* [one, a], *du/des* [some] and partitives, as indefinite. The remaining overt modification structures were similarly coded according to category (e.g. possessive, demonstrative, relative clause, adjective, etc.). These modifiers occurred relatively rarely in each of the languages. In what follows, we refer to them as 'other modification'.¹²

In addition, we coded French multiword fragments according to whether they occurred at equivalence sites,¹³ as established in Table 10.3.

2.3 The analysis

For each language involved in the study, we first calculated the proportion of nouns in each modification context out of the total number of nouns in that category. The distribution of modifiers across the nouns in each data set was then systematically compared in pairwise fashion with that of every other data set. Thus patterns of nominal modification in lone French-origin nouns in Wolof/Fongbe contexts were compared with their counterparts in each of the corresponding monolingual contexts (French nouns in French contexts and Wolof/Fongbe nouns in Wolof/Fongbe contexts). This is illustrated in Figure 10.1. The results of these comparisons were then analysed by means of χ^2 analysis¹⁴ to determine which data sets differed from each other and whether the differences were statistically significant.

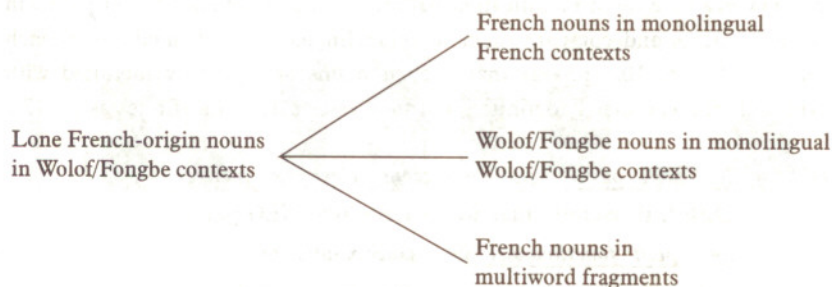


Figure 10.1 Three-way comparison of the distribution of nominal modification

3 Results

Figure 10.2 displays graphically the relative proportions of mixed nominal construction types in the data. In both corpora, the lone French-origin nouns form the overwhelming majority of the data.

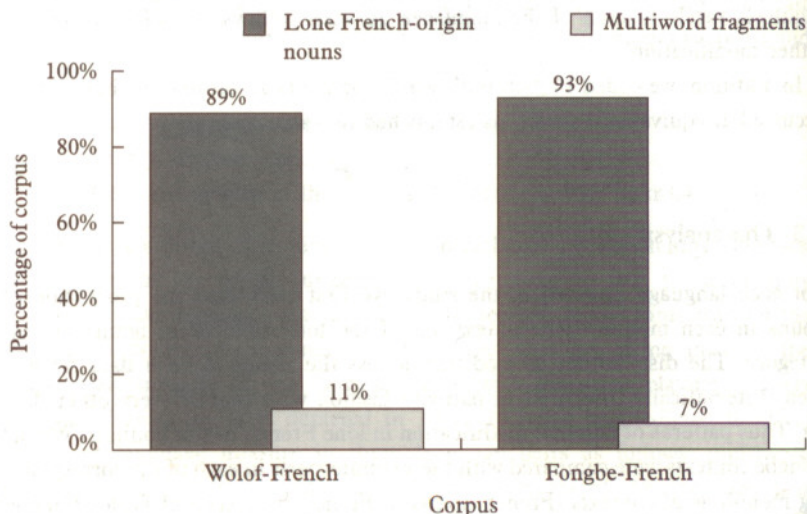


Figure 10.2 Distribution of mixed constructions involving French nouns in Wolof-French and Fongbe-French bilingual discourse

3.1 Wolof-French

3.1.1 Lone French-origin nouns

We now examine noun modification patterns on (monolingual) Wolof nouns in Wolof contexts and compare them to (monolingual) French nouns in French contexts. Figure 10.3 reveals that French nouns are typically modified with overt determiners, mostly definites, and to a lesser extent, indefinites as in (17).

- (17) *le petit pays que nous avons, c'est pas mettre*
 DEF little country that we have, it's NEG put
un petit fonctionnaire ñu saacc xalis bi.
 IND little official they steal money DEF

[The little country that we have, it's not a question of putting in a little official who steals money.] (Wolof 2: 318–24: Spkr 01)

In Wolof, on the other hand, the majority of nouns either surface bare, as in (18), or with some other form of modification (e.g. the possessive *seen* in (9)). These differences are statistically significant, indicating that (monolingual) French differs from (monolingual) Wolof with regard to nominal modification.

(18) **mooy nguur u negar.**

it's power of black

[It's the power of the black.] (Wolof 1: 953: Spkr 01)

How do these patterns compare with noun modification usage for lone French-origin nouns in otherwise Wolof contexts? If they pattern like their French counterparts in monolingual contexts, this will be evidence that they are *switches* into French, whereas if they pattern like Wolof nouns, they can be inferred to have been *borrowed*.

The distribution of lone French-origin nouns in otherwise Wolof contexts across the four categories of Wolof noun modification is also depicted in Figure 10.3. These nouns may be seen to pattern almost identically with Wolof nouns in monolingual Wolof contexts: like them, they co-occur with overt Wolof definite articles about a third of the time. Another 24% surface bare (vs 30% for Wolof), and 31% (27% for Wolof) appear with some other form of modification. These latter two rates are significantly higher than those characterising monolingual French nouns, but roughly the same as those characterising monolingual Wolof nouns.

Only with indefinites do lone French-origin nouns show more overt marks than their monolingual Wolof counterparts (15% French-origin vs 7% Wolof); a dif-

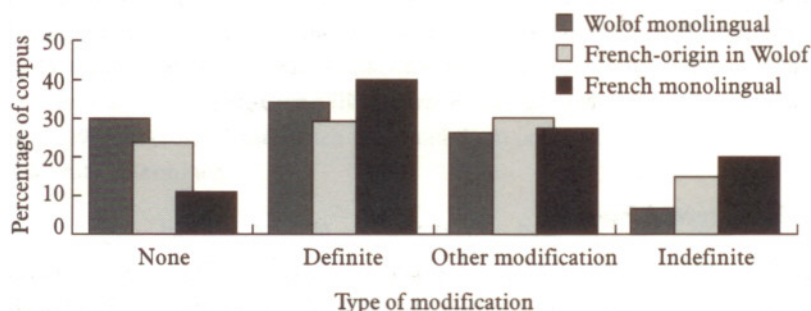


Figure 10.3 Patterns of noun modification on lone French-origin nouns in otherwise Wolof contexts, as compared with monolingual Wolof and French nouns (based on tables A and B in the appendix)

ference that is statistically significant. How can this result be interpreted? Recall that Wolof definite articles (Table 10.3) are postposed to the noun. Wolof indefinite markers, however, are preposed, making them structurally equivalent to the French indefinite construction. It is precisely in the indefinite context that we observe a reversal in distribution. Here, rates of overt determiner expression for lone French-origin nouns are significantly *higher* than those for monolingual Wolof nouns, patterning instead with their French counterparts, albeit at a lower rate. We hypothesise that this intermediate status is due to the inclusion among the lone French-origin nouns modified by Wolof indefinite articles of some (single-word) code-switches at the equivalence site between (preposed) indefinite article and noun. This suggestion is bolstered by the other evidence in Figure 10.3 that lone French-origin nouns in *non-equivalent* definite and zero modification structures pattern like monolingual Wolof, but not like French, nouns.

In the category of 'other modification', French-origin nouns also pattern like Wolof nouns in monolingual contexts. However, and this points up the necessity of extending the comparison to *both* contact languages, our method revealed these modifiers to pattern like their monolingual French counterparts as well. This is because these two languages coincidentally share virtually the same usage patterns for each of the modifiers in this category.¹⁵ Therefore, patterns of 'other modification' are silent with regard to our hypothesis. This is an important caveat, because all too often, other-language material is erroneously classified without ever having determined its relationship to *each* of the languages in contact.

We have reviewed a number of lines of evidence suggesting that the lone French-origin nouns in otherwise Wolof contexts are acting as Wolof lexical items, i.e. as borrowings. However, a crucial element of the comparison remains unexplored. We now examine the behaviour of nominal elements in multiword French fragments to verify that not only do lone French-origin items pattern like Wolof nouns but also that they do *not* pattern like code-switches.

3.1.2 Multiword fragments

Pre-NP position is widely cited as a favourable locus for code-switching (Berk-Seligson 1986; Poplack 1980; Treffers-Daller 1991). In Wolof-French bilingual discourse, a total of seventy-five multiword fragments, as in the underlined portion in (19), occurred in this position, constituting 12% of mixed constructions involving nouns.

- (19) *des fois* *da* *nga y* *xool* *0pt* > || *un film avec des*
 sometimes AUX you ASP watch a film with IND
sous-titres en français.
 subtitles in French
 [Sometimes you watch a film with subtitles in French.]
 (Wolof 1: 319: Spkr 01)

What are the characteristics of these French stretches? Table 10.4 displays the distribution of modification on French nouns within French multiword fragments in Wolof–French bilingual discourse.

Table 10.4 *Distribution of modification on French nouns within French multiword fragments in Wolof–French bilingual discourse*

Language of modifier:	French	Wolof	Unknown	Total	
Marker:	N	N	N	N	%
Definite	18	3	0	21	28%
Indefinite	15	11	0	26	35%
None	0	0	9	9	12%
Other modification	18	1	0	19	25%
Total N	51	15	9	75	

We first note that the overwhelming majority of nominal switches (63%) feature an overt determiner, whereas less than half of the lone French-origin nouns in Wolof discourse which we have characterised as borrowings do (cf. Figure 10.3). Most of the switches occur in the context of an indefinite article. We have already observed that this constitutes one of the few equivalence sites for intraclausal code-switching involving nouns. The indefinite articles surface in either language, as in (19) and (20), i.e. the switch may (and does) occur either before or after the indefinite determiner.

- (20) *da* *nga y* *xaar ba* *élections yi* *bəggə des ay* *six mois*
 AUX you ASP wait until elections DEF want stay ART six months
yooyu rek nga ñibbi quoi.
 DEM ADV you return eh
 [You wait until there's only six months left for elections and then you return, eh.] (Wolof 2: 52: Spkr 02)

In contrast, almost all of the definite determiners in multiword fragments are lexicalised in French only, as in (21). Here, the switch boundary is located *before* the full NP, and not within it.

- (21) **am na parents yoo xam nak leegi dañuy jənd ||**
 have it parents that+you know CONJ now AUX+they buy
 le dictionnaire de rap-là pour au moins mən a jeli
 DEF dictionary of RAP for at least be able PREP understand
 boys yi.
 young the
 [There are some parents who buy that rap dictionary to at least be able to
 understand the young people.] (Wolof 3: 837: Spkr 04)

This result is also as would be expected if a principle like equivalence were constraining code-switching, since the boundary between noun and French or Wolof definite article is a conflict site for code-switching under equivalence.

Additional evidence comes from the distribution of bare nouns in the French multiword fragments. Unlike the case of the lone French-origin nouns, where 24% of all noun modification structures featured bare nouns (Figure 10.3), very few of the noun phrases in multiword fragments lack an overt determiner (12%). We return to this finding below.

A final observation concerns the structural status of these multiword fragments in the discourse. A full 80% occur at points in the discourse where the syntax is simultaneously compatible with both Wolof and French grammars. This is in further contrast with the lone French-origin nouns in Wolof discourse, which occurred overwhelmingly in Wolof, but not French, constructions.

3.1.3 Multiword fragments at non-equivalence sites

What of the minority ($N = 15$) of multiword fragments that do not appear at equivalence sites? We now review their characteristics. Fourteen nominal constructions occurred at points compatible with Wolof but not French syntax, divided (roughly equally) between noun + adjectival modification structures, as in (22), and 'N de N' modification structures, as in (23). Upon closer examination, it appears that these structures in fact display many of the characteristics of loanwords. What are these characteristics?

- (22) *oui oui même âge bi la.*
 yes yes same age DEF FOC
 [Yes, yes, it's the same age.] (Wolof 3: 413: Spkr 01)
- (23) *fexeel ba nekk ci tête de liste bi rek.*
 try+IMP until be PREP head of the list DEF ADV
 [Try to be only at the head of the list.] (Wolof 2: 33: Spkr 02)

For one thing, most of these nominal constructions, regardless of type, feature undetermined nouns. In this they resemble the borrowed lone French-origin nouns, while differing from the multiword fragments that *do* appear at equivalence sites. In the latter context, only one NP in a multiword fragment contained a bare noun, appearing, parenthetically, in one of the rare equivalence sites in which a null determiner is permissible in French as well, given in (24).

- (24) *ba || midi jusqu'au soir di na défiler deux cents, deux cents*
 from noon until night AUX it pass by two hundred two hundred
sénégalais différents.
 senegalese different
 [From noon 'til night you are going to see two hundred, two hundred
 different Senegalese pass by.] (Wolof 1: 665: Spkr 01)

Second, like the borrowed French nouns in otherwise Wolof contexts, they are completely embedded in Wolof discourse; unlike the multiword fragments involving French NPs, French lexical items do not continue beyond the boundaries of the NP.

Moreover, the 'N de N' constructions virtually all consist of frozen or idiomatic expressions functioning as compounds, e.g. *langue de cuisine* [broken language], *conditions de vie* [living conditions], *tête de liste* [head of the list], most likely incorporated unanalysed into Wolof. With one exception, the remaining nouns are all modified by two adjectives independently found to have been borrowed in these data: *même* [same], as in (22) and *vrai* [real]. If *vrai* and *même* are loanwords, they constitute a Wolof context by the criterion invoked in footnote 5 above; the French-origin nouns they modify should therefore actually be classed among the lone French-origin nouns studied in section 3.1.1.

However, perhaps the most important evidence that these fifteen nominal constructions are borrowed and not switched comes from their patterns of adjective placement. Seven of the French-origin nominal constructions in Wolof–French bilingual discourse consisted of a noun + attributive adjective. As detailed elsewhere (Meechan and Poplack 1993), French tends to postpose noun-modifying

adjectives to their head, a pattern which is borne out in the French spoken by the Wolof–French bilinguals in our sample (*ibid.*). It is thus striking that in all but one of the attributive adjective constructions in the data, the adjectives are *preposed* to the head.

Why should this be? The answer resides in the structure of the recipient language. Prenominal adjectives are optional in Wolof, while directly postposed adjectives are strictly excluded.¹⁶ The most logical explanation for the adjectival modification patterns of these nominal constructions is that they have been borrowed into Wolof.

As a final test of this hypothesis, we compare modification patterns for the nominal constructions occurring at non-equivalence sites with those occurring at equivalence sites. Recall that the crucial differences between Wolof and French involve lack of an overt article, prevalent in the former but rare in the latter, and overt indefinite determination, rare in the former, but prevalent in the latter. Strikingly, it is precisely here that the reversal in patterns of nouns occurring at equivalence and non-equivalence sites is most apparent. The nouns at non-equivalence sites pattern like monolingual Wolof nouns, confirming that they are being treated as borrowings, while the nouns at equivalence sites pattern like monolingual French nouns, exactly as would be expected of code-switches. This is bolstered by the finding that indefinite determination occurs disproportionately more among French nominal constructions occurring at equivalence sites. We have already noted that this is due to the fact that French and Wolof coincide in prenominal placement of indefinites, a fact which facilitates code-switching between them at this site.

On the basis of the preceding analyses, we are now in a position to identify the fifteen nominal constructions at non-equivalence sites as borrowings. When we remove them from the calculations in Table 10.4, we find that *all* but one of the (unambiguous) prenominal switches occur at equivalence sites. Thus, in Wolof–French bilingual discourse, the problem of non-equivalence presented by the NP is resolved, i.e. the boundary between Wolof discourse and a French NP is constructed perfectly.¹⁷

Summarising, the variationist method has revealed not only quantitative, but also qualitative differences between the two major categories of mixed nominal constructions we have examined thus far. The lone French–origin nouns are modified according to Wolof, not French, patterns of (overt and zero) modification and appear overwhelmingly in Wolof, not French, syntactic structures. At the same time their patterning differs significantly from that of French nouns both in monolingual French discourse and in multiword fragments.

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Having previously laid to rest the possibility that these results could be due to coincidence, since monolingual French determination structures were shown (Figure 10.3) to differ significantly from those of Wolof, we may now conclude that in these contexts most of the lone French-origin nouns in Wolof contexts are functioning, for all intents and purposes, like monolingual Wolof nouns, i.e. as borrowings.¹⁸

The method also reveals that the multiword French fragments in fact represent two classes of materials. One shows the internal structure of Wolof (as well as French), but appears at syntactic boundaries compatible with Wolof only. We have reviewed a number of lines of evidence arguing that these too are borrowings, largely frozen expressions which are fortuitously multiword fragments. The other shows the modification structure of monolingual French but not Wolof NPs, while appearing overwhelmingly at syntactic boundaries compatible with *both* French and Wolof, rather than with Wolof alone, i.e. at equivalence sites. Using the same line of reasoning employed earlier, we conclude that these fragments are French, not only etymologically but also grammatically; i.e. they are code-switches. The structural distinction between the categories of code-switching and borrowing is perhaps most eloquently illustrated by one of our Wolof informants, who, within the same discourse, first switches (25), then borrows (26), the French noun *égalité* [equality].

- (25) *sunu idées yu ñu am rek, xam nga ay || égalité, fraternité,*
 POSS ideas that we have ADV know you IND equality, fraternity
 égalité entre hommes et femmes.
 equality between men and women
 [Our ideas that we have, you know, equality, fraternity, equality between
 men and women.] (Wolof 4: 230: Spkr 3)
- (26) *ma ñaw fii, degg affaire u égalité ay hommes*
 I come LOC understand thing of equality IND men
 ak femmes yooyu.
 and women DEM
 [When I came here, I heard about the equality thing between men and
 women.]
 (Wolof 4: 238: Spkr 3)

3.2 Fongbe–French

3.2.1 Lone French-origin nouns in otherwise Fongbe discourse

As in the Wolof case, the overwhelming majority of mixed discourse involving nominal constructions consists here too of lone French-origin nouns in an otherwise Fongbe context, accounting for a full 93% of mixed NPs in the data (Figure 10.2). As previously, we compare their distribution across different categories of noun modification with that of two corpora of Fongbe and French nouns in their respective monolingual contexts.

The comparison will prove particularly instructive, since NP structure differs considerably from Wolof to Fongbe, as indicated in Table 10.3. Given that determination patterns in the (monolingual) French spoken in the two communities are basically the same (showing more definite than indefinite and more overt than no determination; cf. Figures 10.3 and 10.4), any differences in their treatment of French-origin material in bilingual discourse may more readily be attributed to the structure of the recipient language.

We mentioned above that virtually all Fongbe noun modifiers are postposed, as in (27), making the NP structure of the language almost totally non-equivalent to that of French.

- (27) gbè á é dò nùkòn yì wè dò plan dé lé jí,
 world DEF it be before go it's LOC plan IND PLU on
dò gùdò yì wè dò plan dé lé jí.
 be behind go it's on plan IND PLU on
 [The world goes forward from some points of view and backward from
 other points of view.] (Fongbe 3: 1128: Spkr 03)

In addition to these structural differences, Figure 10.4 shows that there are statistically significant differences between the two languages in *rate* of modifier usage. Most important of these is the fact that Fongbe nouns tend *not* to co-occur with overt determiners like their French counterparts, surfacing instead as bare nouns. We now compare noun modification usage in lone French-origin nouns in otherwise Fongbe contexts.

It is immediately apparent from Figure 10.4 that lone French-origin nouns in otherwise Fongbe contexts pattern with monolingual Fongbe nouns, as was observed in Wolof. They too co-occur with each of the four categories of modification at nearly the same rates. The only exception is again the category of 'other modification'. This time, the lone French-origin nouns show significantly higher

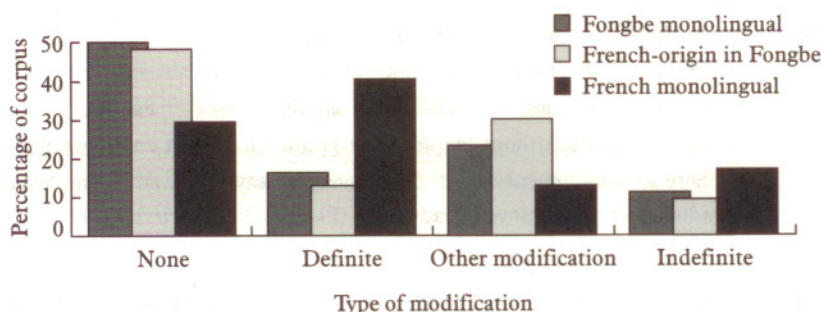


Figure 10.4 Patterns of modification on lone French-origin nouns in otherwise Fongbe contexts, as compared with monolingual Fongbe and French nouns (based on tables C and D in the appendix)

rates of these modifiers. Interestingly, analysis reveals that this apparent discrepancy is derived from the behaviour of possessive marking, and is explicable thus: the disproportionate number of possessive markers in the lone French-origin nouns is paralleled by a disproportion in lexical types. Once the data are normalised according to type, it becomes evident that both native Fongbe and lone French-origin nouns co-occur with possessive markers at approximately the same rate.

Not only do the lone French-origin nouns pattern with their Fongbe counterparts, they differ massively from monolingual French nouns: for example, they take definite markers only 16% of the time as opposed to 40% of the time in monolingual French; they take indefinite markers only 9% of the time, as compared with 17% in monolingual French. If these nouns were more than only etymologically French, their lexical requirements with respect to determiners should come from French. Hence, the co-occurrence patterns of such nouns with determiners, regardless of the language of the latter, should mirror those of French. If they are functioning as Fongbe nouns, even for the nonce, they have no such restrictions. The only plausible explanation for the pattern in Figure 10.4 is that the lone French-origin nouns have been borrowed into Fongbe. We now turn to an examination of the multiword fragments.

3.2.2 *Multiword fragments*

Forty-four multiword fragments involving the NP were initially identified in these data, as in (28).

- (28) ázǝ ɖò tò mì tón mè có mì nó ɖò
 work be country we POSS in however we HAB say
 ñ nyí ||*diplôme sans emploi diplômé sans emploi.*
 I be graduate without employment graduate without employment
 [There is work in our country; however, we say 'I am an unemployed
 graduate, an unemployed graduate'.] (Fongbe 3: 1396: Spkr 03)

This figure, constituting no more than 7% of the mixed tokens involving nouns (Figure 10.2) is remarkably meagre given the widely attested favoured status of nominal elements in code-switching (e.g. Berk-Seligson 1986; Poplack 1980; Poplack *et al.* 1988b; Treffers-Daller 1991).

What are the characteristics of these multiword fragments? In examining the distribution of modification of French nouns within multiword French fragments in Fongbe–French bilingual discourse with regard to the familiar categories of modification (Table 10.5), we observe that the patterns differ both from those of monolingual French in showing few overt determiners, and from those of monolingual Fongbe and lone French-origin nouns in otherwise Fongbe contexts in showing a disproportionate amount of ‘other’ modification. Moreover, a full 68% of them occur at non-equivalence sites, an inordinately large proportion as compared to Wolof, where virtually none of the multiword fragments occurred at such sites.¹⁹ Let us examine these switches in more detail.

Table 10.5 *Distribution of modification on French nouns within multiword French fragments in Fongbe–French bilingual discourse*

Language of determiner:	French	Fongbe	Unknown	Total	
Marker:	%	%	%	N	%
Definite	2	3	0	5	11%
Indefinite	1	2	0	3	7%
None	0	0	11	11	25%
Other modification	25	0	0	25	57%
Total N	28	5	11	44	

Closer inspection reveals that these multiword French nominal constructions constitute a category distinct from the constructions already identified as code-switches and borrowings. They have the following distinguishing characteristics.

- (i) They virtually always consist of one of three modification structures: noun and adjectival as in (29), numeral and noun as in (30) or 'N de N' as in (31), explaining their elevated rate of 'other modification'.

(29) *éné ́́ conséquences sociales wè nyí chômage mè*
 DEM DEF consequences social it's be unemployment people
lé tòn.
 PLU POSS
 [These are the social consequences of unemployment.]
 (Fongbe 3: 135: Spkr 03)

(30) *hwé né nú ́́ ñ ná dò quatorze ans dó wè*
 moment DEM while TOP I FUT be fourteen years have be
 [At that time, I was fourteen years old.] (Fongbe 1: 611: Spkr 01)

(31) *yé dóná yí autorisation dé mais autorisation de*
 they must take authorisation whatever but authorisation of
principe wè.
 principle it's
 [They must get permission, but it's token permission.]
 (Fongbe 4: 161: Spkr 04)

- (ii) Most of them lack an overt determiner.

- (iii) They are completely embedded in Fongbe discourse, insofar as French lexical items do not continue beyond the boundaries of the NP.

They differ substantially from other switches that have been empirically studied on at least three counts: their grammatical (here, determiner) structure differs from that of their lexifier language, their internal constituency is highly limited and the return to Fongbe takes place immediately after the NP.²⁰ Yet (in contrast with the superficially similar nominal constructions identified as borrowings in the Wolof corpus), our method provides evidence precluding so identifying these constructions. Recall that borrowing canonically consists of single content words or frozen expressions. Some of these NPs, on the other hand, are so complex as to render any appeal to borrowing forced at best, as seen in (8).

Even where the NP consists of no more than Noun + Adj, the resulting groupings are productive, as in (32), rather than idiomatic or frozen.

(32) *ou bien é ný h́ mimétisme inconscient.*
 or well it be good COMP mimicry unconscious
 [Or else, it's better than unconscious mimicry.]
 (Fongbe 3: 1446: Spkr 03)

In addition, the adjectives feature French morphology where applicable, agreeing in gender with their head, as in (33) and (34).

- (33) à dòná dó formation précise có bó yì aventure.
 you must have training precise before and go adventure
 [You must have precise training before going on an adventure.]
 (Fongbe 4: 303: Spkr 04)
- (34) à kà dòná dó objectif précis à dònă dó programme.
 you MOD must have objective precise you must have programme
 [You must have a precise objective, you must have a programme.]
 (Fongbe 4: 319: Spkr 04)

The French nominal constructions in French multiword fragments in fact correspond to the 'constituent insertions' identified by Sankoff and Nait M'Barek (1990). To qualify as a constituent insertion according to their definition, the French constituent should be embedded in Fongbe syntax while retaining the internal structure of French. In fact, most of these French nominal constructions (including more than half of those classed under 'other modification') lack an overt determiner. We assume that these are *Fongbe* structures, since bare nouns are vastly preferred in that language, whereas monolingual French nouns display a distinct tendency to co-occur with overt determiners (Figure 10.4).

Of course, in their tendency to surface bare, the constituent insertions resemble not only monolingual Fongbe nouns, but also the lone French-origin nouns in otherwise Fongbe contexts shown in section 3.2.1 to pattern like the former. Can we infer, using the same logic as previously, that the French nouns are also indistinguishable from the longer stretches? To do so, it will be necessary to demonstrate that their internal constituencies are also comparable.

As a methodological caveat, we note that the only way to determine the internal structure of a lone lexical item is through analysis of its morphological structure. We remarked earlier that Fongbe is an isolating language, featuring virtually no overt morphology on the noun. Moreover, the few potential loci for productive morphological marking of nouns (e.g. irregular plurals and gender) rarely ever occurred in our French data. Indeed, the impossibility of assessing morphological integration in these language pairs was the original motivation for the present comparative study of modification structures. We therefore focus on the internal structure of the constituent insertions, as in Table 10.6, and compare it, where possible, with what we know of monolingual Fongbe, taken from Meechan and Poplack (1993).

Table 10.6 *Internal structure of French constituents inserted in Fongbe-French bilingual discourse*

Structure of NP	N	%
Noun + adj.	17	39%
Adj. + noun	4	9%
Numeral + noun	10	23%
Noun <i>de</i> noun	9	20%
Other structures	4	9%
[(Fr Det) + Noun + (Det)]	44	

Table 10.6 shows that approximately half of the constituent insertions contain an attributive adjective, most featuring Noun + Adj order. This is the canonical pattern of adjectival expression, in both 'standard' French and the (monolingual) French of these speakers. Recall that in Fongbe, though direct noun modification using Noun + Adj order is theoretically permissible (section 2.2.1), this option is rarely used. In a study of adjectival modification among sixteen of the speakers constituting the Fongbe-French speaker sample corpus (*ibid.*), only two adjective types occurred in monolingual Fongbe direct noun modification structures. The canonical method of adjectival expression in Fongbe is via adjectival verbs in predicative position. We conclude that the internal structure of the constituent insertions is that of French.²¹

4 Discussion and conclusions

The variationist method has revealed that lone French-origin nouns in otherwise Wolof and Fongbe discourse pattern like monolingual Wolof and Fongbe nouns with regard to their modification structures. At the same time they have been shown to pattern, where the structure of the language pair allows this to be established, *differently* from French nouns in both French monolingual contexts and in multiword fragments. Given the definition of borrowing in section 1, we are now in a position to conclude that the lone French-origin nouns are *borrowings* into Wolof and Fongbe, whether nonce or established.

The multiword fragments in this study, though surprisingly rare in both corpora, were revealed by our method to comprise three classes of materials. The first, characteristic of Wolof-French bilingual discourse, shows the internal

structure of French, but not Wolof, and occurs overwhelmingly at equivalence sites, i.e. syntactic boundaries that are homologous in both French and Wolof. These correspond to the elements we have defined (section 1), as code-switches under equivalence. The small class of apparent exceptions in the Wolof–French corpus, though similar in surface form, were revealed, by the same comparative analysis of their distribution and internal structure, to pattern like Wolof, and not like French, i.e. like borrowings. The third class, characteristic of Fongbe–French bilingual discourse, features the internal constituency of French, but occurs at syntactic boundaries compatible with Fongbe. These correspond to the elements we have identified as constituent insertions.

Both types of (multiword) switches to French pattern internally with the (monolingual) lexifier language. Switches under equivalence occur at points around which the word order of the languages involved in the switch is homologous; constituent insertions, in contrast, need only respect the word order of the language into which they are inserted. Given the surface similarities among these classes of multiword fragments, we stress that neither their characteristics nor the distinctions between them could have been uncovered without reference to the quantitative details of their internal and external *patterning*, as revealed by the variationist method.

We have made no operational attempt to distinguish between nonce borrowings and established loans in this paper, because there is ample evidence that there is no difference between them with regard to their syntactic integration into the recipient language (Poplack *et al.* 1988a; Poplack *et al.* 1988b).²² In any event, their exact status in no way impinges on the inescapable finding, confirming those in Poplack *et al.* (1987) and Sankoff *et al.* (1990), that lone other-language-origin nouns behave *differently* from multiword fragments, regardless of whether the latter can be identified as code-switches under equivalence, as in the Wolof case, or constituent insertions, as in the Fongbe case. This is the most compelling evidence that these results of language contact must be distinguished for the purposes of constructing a theory of constraints on either of their structures.

How can the preference for constituent insertion in Fongbe–French bilingual discourse be explained? This may well be a community strategy, comparable to the preference for flagged code-switching between English and French in Ottawa–Hull (Poplack 1985), as was found by Sankoff and Naït M'Barek (1990) in comparing language mixture in two communities of fluent Arabic–French bilinguals. We suggest that the explanation may be (at least in part) structural.

There are basically no equivalence sites for intraclausal switching between Fongbe and French in the vicinity of the noun.²³ It is reasonable to inquire

why use of French is not then simply restricted to borrowing, with long stretches eschewed altogether. In a sense, it is. Constituent insertion is exceedingly rare, not accounting for more than 5% of all mixed structures involving nouns (Figure 10.2). Indeed, although insertion has sometimes been proposed as a general model for language mixture (e.g. Rivas 1981; Joshi 1985; Myers-Scotton 1993), we note that, in contrast to equivalence-based switching, in the languages in which it has been identified empirically, its scope of application is highly limited. In the Moroccan Arabic–French discourse studied by Sankoff and Naït M'Barek (1990), only the determiner phrase (DP) (Abney 1987) is affected, in Tamil–English (Sankoff *et al.* 1990), only quotative clauses are involved and in the Fongbe–French case studied here, only a complement of DP is involved. Clearly, constituent insertion is not exploited by bilinguals in a wholesale manner, but rather involves only some constituents on a situation- and language-specific basis.

Now constituent insertion imposes weaker constraints on the languages involved than switching under equivalence. While it too requires that the internal grammaticality of the switched fragment be preserved, for its placement it need only refer to the word order of the language into which it is inserted. The only possibilities for (and sites of) switching under equivalence in Fongbe–French bilingual discourse are in numeric determination structures and in the small set of French constructions which admit null determiners. We may speculate that, depending on the structure of the languages at their disposal, speakers will opt to relax one of the requirements of the equivalence constraint rather than refrain from code-switching completely, albeit for a limited class of constituents. Strong support in favour of this suggestion comes from comparison with Wolof, where the structural conflict with French is only partial. In contrast to Fongbe, *all* of the French multiword fragments that could unambiguously be identified as code-switches within the Wolof DP occurred at the equivalence site between indefinite articles and nouns. We may thus infer that only where the grammar provides no other option do compromises with equivalence occur.

Whether or not this suggestion accounts for the (sporadic) use of constituent insertion among the Fongbe–French bilinguals in this study in no way detracts from the major findings of this study. These are as follows: other-language multiword fragments functioning as code-switches are distinct from lone other-language items, most of which are borrowings, in their patterning and their distribution. Therefore borrowings, whether nonce or established, not only can but must be distinguished from code-switches, of the types discussed here or others, in any attempt to construct a theory of the behaviour of either. Models which fail to do so necessarily run the risk of concealing important structural distinctions.

APPENDIX

Table A. *Patterns of modification on Wolof nouns in Wolof contexts and French nouns in French contexts*

Language of noun and its context	Wolof		French		Stats.	
	N	%	N	%	χ^2	sig
Marker:						
Definite	94	35%	164	41%	1.84	
Indefinite	19	7%	80	20%	20.37	✓
None	80	30%	45	11%	38.03	✓
Other modification	72	27%	114	28%	.10	
Total N	265		403			

Table B. *Patterns of modification on lone French-origin nouns in an otherwise Wolof context, as compared with monolingual Wolof and French nouns*

Language of context	French		Wolof			
	French		French		Wolof	
Language of noun:	N	%	χ^2	sig	χ^2	sig
Marker:						
Definite	173	30%	12.84	✓	2.84	
Indefinite	90	15%	3.25		11.18	✓
None	142	24%	26.98	✓	3.21	
Other modification	179	31%	.67		1.09	
Total N	583*					

*This total is not 584 because one token had both Cenn and Ci.

Table C. *Patterns of modification on Fongbe nouns in Fongbe contexts and French nouns in French contexts*

Language of noun and its context	Fongbe		French		Stats.	
	N	%	N	%	χ^2	sig
Marker:						
Definite	89	16%	93	40%	53.99	✓
Indefinite	60	11%	39	17%	5.51	✓
None	278	50%	68	29%	28.00	✓
Other modification	129	23%	31	13%	9.64	✓
Total N	556		231			

Table D. *Patterns of modification on lone French-origin nouns in otherwise Fongbe contexts as compared with monolingual French and Fongbe nouns*

Language of context	French		Fongbe			
Language of noun	French		French		Fongbe	
Marker:	N	%	χ^2	sig	χ^2	sig
Definite	80	13%	81.48	✓	1.64	
Indefinite	53	9%	11.73	✓	1.31	
None	293	48%	24.08	✓	.19	
Other modification	182	30%	24.10	✓	6.62	✓
Total N	608					

Notes

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¹ Each example is identified by corpus (Wolof or Fongbe), cassette number, line number on the transcript and speaker number, in that order. The data show phonological variability which is not necessarily represented in the orthography. Examples are glossed, where possible, with the corresponding English lexical item rather than grammatical labels. Where the exact English correlate was not clear, or to clearly identify determination types recognised by this study, grammatical markers were glossed with the following codes: 1sg = first person singular, 2sg = second person singular, 3sg = third person singular, 1pl = first person plural, 2pl = second person plural, 3pl = third person plural, ADJ = adjective (pre- = prenominal, post- = postnominal), ADV = adverb, ART = article, ASP = aspect marker, AUX = auxiliary, CAUS = causative marker, CL = clause, COND = conditional marker, CONJ = conjunction, DEF = definite marker, DEM = demonstrative, EMP = emphatic, FOC = focus, FUT = future marker, GEN = genitive, HAB = habitual marker, IMP = imperative, IND = indefinite, LOC = locative, MOD = modal, NEG = negation, PAST = past tense, PLU = plural, POSS = possessive, PREP = preposition or postposition, PRO = pronoun, PRT = particle, REF = reflexive, REL = relator/relative, SUBJ = subjunctive, TOP = topic marker. Translation of discourse particles in this and ensuing examples is approximate.

- ² Reference to the African languages as Wolof/Fongbe here and elsewhere in this chapter is conventional only and in no way implies that they may be equated in any sense other than in their relationship to French in the mixed constructions examined here.
- ³ If the lone nouns are more appropriately construed as code-switches, as predicted by, among others, the Matrix Language Frame (MLF) Model (Myers-Scotton 1993), our coding system should also reveal no systematic distinction between our categories of lone French-origin nouns and multiword fragments. This is because most, if not all, of the lone French-origin nouns (identified as code-switches in the MLF model) would be expected to follow the 'matrix language' (ML) grammar, as would some (unknown) proportion of the multiword fragments. Since our category of multiword fragments comprises both Myers-Scotton's 'embedded language' (EL) 'islands' and ML+EL constituents, each of which is predicted to behave differently, no coherent pattern of noun modification *systematically* relating the lone nouns to the multiword fragments should emerge.
- ⁴ Proper nouns, which often behave idiosyncratically with respect to determination, along with nouns that are ambiguous as to language origin, were excluded from the study.
- ⁵ Wolof/Fongbe contexts, on occasion, include French-origin verbs independently found to have been borrowed into Wolof/Fongbe, as in the following example:

fokk naa moom moo la envoyerwoon lettre bi quoi.
 think I him FOC+he you send+past letter DEF what
 [I think it's him that had sent you the letter eh.]
 (Wolof 3: 1442: Spkr 1)

- ⁶ Conjunctions like *mais* and *parce que* were considered extracausal for these purposes and so did not play a role in determining the language of the clause.
- ⁷ There is no theoretical reason for limiting the study to French multiword fragments; these simply constituted the overwhelming majority of the available data.
- ⁸ Although no Wolof adjectives actually appeared prenominal in the corpus, we note that the structural position exists (Grelier 1970).
- ⁹ Adjectival modification in Wolof is canonically expressed through a (postposed) relative clause, as in the example below, taken from Meechan and Poplack (1993).

jabar bu yem, nga ko mɔna takk.
 woman REL be ordinary you pro can marry
 [You can (only) marry an ordinary woman.] (Wolof 3: 1274: Spkr 04)

- ¹⁰ Wolof determiners are formed by attaching a class-marking consonant *C* (e.g. [b], [j], etc.) to the root morpheme. [y] indicates plural. Only one singular determiner of the form *aC* appeared in these data (in a frozen form).
- ¹¹ The functional and structural status of the Fongbe article is ambiguous. As our informant was unable to reliably distinguish the topic function from the defi-

nite reference function, when the marker $\dot{\text{b}}$ was not syntactically disambiguated as to function, we simply coded nouns modified with it as definite. As will be seen, even if some of the items we coded as definite are in fact, topic markers (assuming the distinction between them is meaningful), this would only strengthen our findings.

- 12 The χ^2 test for significance requires that each category contain a minimal number of tokens, necessitating that other modification categories be collapsed.
- 13 Lone French-origin nouns showed no variability, insofar as all occurred at the syntactic boundaries required by the language into which they were incorporated. Some of these may of course have coincided with French syntactic boundaries, thereby rendering these boundaries equivalence sites, but this is fortuitous.

$$\chi^2 = \sum_{i=1}^2 \frac{(\chi_i - n_i \hat{\theta})^2}{n_i \hat{\theta} (1 - \hat{\theta})}$$

where $\frac{x_1}{n_1}$ and $\frac{x_2}{n_2}$ are the proportions of the marker in question in French and Wolof/Fongbe and

$$\hat{\theta} = \frac{x_1 + x_2}{n_1 + n_2}$$

Significance was set at the .05 level.

- 15 The one apparent counterexample, involving more possessive marking in monolingual Wolof nouns, was revealed to be semantically, rather than structurally, motivated.
- 16 Note that even the one example featuring N + Adj. order admits an analysis based on Wolof syntax. The adjective involved (*québécois*) is identical with its corresponding noun, making the structure ambiguous with the permissible Wolof N (*u*) N modification construction.
- 17 The only exception involves the following example which, parenthetically, constitutes the only palindromic switch structure (cf. Sankoff *et al.* 1990) in the data.

le terme technique nga y utiliser plus que euh l' anglais
 DEF term technical you ASP use more than uh DEF English
courant bi.
 everyday DEF
 [It's technical terms that you use more than uh- everyday English.]
 (Wolof 4: 146: Spkr 04)

- 18 Some of them (e.g. those modified with indefinite determiners) may well be single-word code-switches. This does not affect our point which is simply that these cases are ambiguous as to status and therefore shed no light on the structure of code-switching.
- 19 Note that we adopt a stricter version of equivalence here than that defined in section 1. According to the latter, switches violating the equivalence constraint would fall to 52%.

- ²⁰ Making use of the additional argument that they tend *not* to occur at equivalence sites would be circular in this context, since this is the issue at hand.
- ²¹ The numeral + noun and 'N de N' constructions shed no light on this issue as their structures are coincidentally homologous in both members of the language pair.
- ²² The results of this study may be added to the accumulating body of evidence supporting this claim.
- ²³ This difficulty may be exacerbated by the possibility that Fongbe may, in fact, lack a category of determiners comparable to French, thereby compounding structural non-equivalence with categorial non-equivalence. Resolution of this issue must await a typological analysis of Fongbe nominal structure.

Bibliography

- Abney, S. (1987) The English noun phrase in its sentential aspects. Unpublished Ph.D. dissertation. Cambridge, Mass.: MIT Press.
- Akoha, A. B. (1980) *Quelques éléments d'une grammaire du fon-gbè: nominal et syntagme nominal*. Thesis for 'le doctorat de troisième cycle'. Université de Paris III.
- Bentahila, A. and Davies, E. E. (1991) Constraints on code-switching: a look beyond grammar. In *Papers for the symposium on code-switching in bilingual studies: theory, significance and perspectives*. (Held in Barcelona, 21–23 March 1991.) Strasbourg: European Science Foundation, 369–405.
- Berk-Seligson, S. (1986) Linguistic constraints on intrasentential code-switching: a study of Spanish/Hebrew bilingualism. *Language in Society*, 15: 313–48.
- Boeschoten, H. (1990) Asymmetrical code-switching in immigrant communities. In *Papers for the workshop on constraints, conditions and models*. (Held in London, 27–29 September 1990.) Strasbourg: European Science Foundation, 85–100.
- Brousseau, A.-M. and Lumsden, J. (1990) Nominal structures in Fongbe. In C. Lefebvre ed., *La genèse du créole haïtien: un cas particulier d'investigation sur la forme de la grammaire universelle. Études syntaxiques, phonologiques et lexicales*. Université du Québec à Montréal, 1–32.
- Eliasson, S. (1989) English–Maori language contact: code-switching and the free morpheme constraint. *Reports from Uppsala University Department of Linguistics*, 18: 1–28.
- (1990) Models and constraints in code-switching theory. In *Papers for the workshop on constraints, conditions and models*. (Held in London, 27–29 September 1990.) Strasbourg: European Science Foundation, 17–55.
- Gamble, D. P. (1963) Elementary Wolof grammar. In G. Manessy and S. Sauvageot eds., *Wolof et Serer: études de phonétique et de grammaire descriptive*. Dakar: Publications de la Section de Langues et Littératures, 131–61.
- Grelier, S. (1970) *Essai de comparaison morpho-syntaxique de l'anglais, du wolof et du français*. Dakar: Centre de Linguistique Appliquée de Dakar.

- Grevisse, M. (1986) *Le bon usage* (12th edn). Paris: Duculot.
- Joshi, A. K. (1985) Processing of sentences with intrasentential code-switching. In D. R. Dowty, L. Karttunen, A. M. Zwicky eds., *Natural language processing: psychological computational and theoretical perspectives*. Cambridge University Press, 109–205.
- Ka, O. (1994) *Wolof phonology and morphology*. Lanham, Md.: University Press of America.
- Meechan, M. and Poplack, S. (1993) Orphan categories and adjectival expression: a comparative study of Wolof–French and Fongbe–French bilingual discourse. Manuscript, University of Ottawa.
- Muysken, P. (1987) Neutrality in code mixing. In *Eigen en vreemd: identiteit en ontleuning in taal, literatuur en beeldende kunst: handelingen van het 39ste Nederlands Filologencongres, Vrije Universiteit, Amsterdam, 18–19 December, 1986*. Amsterdam: VU Uitgeverij, 359–73.
- (1991) Needed: a comparative approach. In *Papers for the Symposium on Code-switching in Bilingual Studies: theory, significance and perspectives*. (Held in Barcelona, 21–23 March 1991.) Strasbourg: European Science Foundation, 253–72.
- Myers-Scotton, C. (1993) *Duelling languages: grammatical structure in code-switching*. Oxford: Clarendon Press.
- Naït M'Barek, M. and Sankoff, D. (1988) Le discours mixte arabe/français: des emprunts ou alternances de langue? *Canadian Journal of Linguistics/Revue Canadienne de Linguistique*, 33 (2): 143–54.
- Njie, C. M. (1982) *Description syntaxique du Wolof de Gambie*. Dakar: Les Nouvelles Éditions Africaines.
- Poplack, S. (1980) Sometimes I'll start a sentence in Spanish Y TERMINO EN ESPAÑOL: toward a typology of code-switching. *Linguistics*, 18: 581–618. Also in J. Amastae, L. Elías-Olivares (1982) eds., *Spanish in the United States. Sociolinguistic aspects*. Cambridge University Press, 230–63.
- (1985) Contrasting patterns of code-switching in two communities. In H. J. Warkentyne ed., *Methods V: Papers from the Fifth International Conference on Methods in Dialectology*. University of Victoria Press, 363–86.
- (1990) Variation theory and language contact: concept, methods and data. In *Papers for the workshop on concepts, methodology and data*. (Held in Basel, 12–13 January 1990.) Strasbourg: European Science Foundation, 33–66. Also in D. Preston (1993) ed., *American dialect research: an anthology celebrating the 100th anniversary of the American Dialect Society*. Amsterdam: Benjamins, 251–86.
- Poplack, S., Clément, R., Miller, C., Trudel-Maggiore, M. and Purcell, K. (1988a) Peut-on entendre l'intégration d'un emprunt? Paper presented at NWAVE 17, November 1988, Université de Montréal.
- Poplack, S., Sankoff, D. and Miller, C. (1988b) The social correlates and linguistic processes of lexical borrowing and assimilation. *Linguistics*, 26: 47–104.
- Poplack, S., Wheeler, S. and Westwood, A. (1987) Distinguishing language contact phenomena: evidence from Finnish–English bilingualism. In P. Lilius, M. Saari eds., *The Nordic languages and modern linguistics*, 6. (Proceedings of the Sixth International Conference of Nordic and General Linguistics in Helsinki, 18–22 August 1986.) 33–56. Also in K. Hyltenstam, L. K. Obler

- (1989) eds., *Bilingualism across the lifespan. Aspects of acquisition, maturity and loss*. Cambridge University Press, 132–54.
- Ramnaud, J. B. (1963) De la détermination en wolof. In G. Manessy and S. Sauvageot eds., *Wolof et Serer: études de phonétique et de grammaire descriptive*. Dakar: Publications de la Section de Langues et Littératures, 11–23.
- Rand, D. and Patera, T. (1992) Concorde. Version 1.1S. Montreal: Centre de recherches mathématiques.
- Rivas, A. (1981) *On the application of transformations to bilingual sentences*. Amherst: University of Massachusetts, Department of Spanish and Portuguese.
- Samb, A. (1983) *Initiation à la grammaire Wolof*. Dakar: Institut Fondamental d'Afrique Noire.
- Sankoff, D., Monpetit, C. and Dupont, M. (n.d.) Issues in bilingual syntax: Tagalog–English code-switching and borrowing. Manuscript, Université de Montréal.
- Sankoff, D. and Naït M'Barek, M. (1990) Dramatically contrasting language mixture strategies in two communities of fluent Arabic–French bilinguals. Paper presented at NWAVE 19, October 1990, University of Pennsylvania.
- Sankoff, D., Poplack, S. and Vanniarajan, S. (1990) The case of the nonce loan in Tamil. *Language Variation and Change*, 2: 71–101.
- Treffers-Daller, J. (1991) Towards a uniform approach to code-switching and borrowing. In *Papers for the workshop on constraints, conditions and models*. (Held in London, 27–29 September 1990.) Strasbourg: European Science Foundation, 259–77.