

## **Orphan categories in bilingual discourse: Adjectivization strategies in Wolof–French and Fongbe–French**

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### ABSTRACT

When one language has a grammatical category that is rare or lacking in another, this “orphan” category may constrain the types of structures employed when the two languages are combined in bilingual discourse. We systematically examine the effect of categorial nonequivalence on language mixture in two corpora of spontaneous bilingual speech – Wolof–French and Fongbe–French – exhibiting different typological contrasts in adjectival modification structures. Focusing on lone French-origin items in otherwise Wolof or Fongbe discourse, the most frequent, if the most contentious, type of intrasentential language mixture, our method reveals that superficially identical items pattern in markedly different ways in each corpus. In Wolof, their patterns are consistent with Wolof adjectival elements (i.e., verbs), revealing them to be loanwords, while in Fongbe, they pattern with code-switches. We show that this difference is linked to the degree of categorial mismatch in the languages involved. Where categorial equivalence exists (Fongbe–French), code-switches involving French adjectives may occur, as long as structural equivalence between the two languages is maintained at the switch site. Where categorial equivalence is lacking (Wolof–French), code-switching is inhibited, and language mixture is effected via borrowing. This illustrates how, at code-switch sites, both structural and categorial equivalence are maintained.

A consensus has yet to be reached as to the precise formulation of the mechanisms that govern the utterance-internal combination of elements from two languages (Belazi, Rubin, & Toribio, 1994; di Sciullo, Muysken, & Singh, 1986; Myers-Scotton, 1993; Sankoff & Poplack, 1981; Santorini & Mahootian, 1994). However, it is generally agreed that the grammatical rules involved will refer to a set of shared grammatical categories. When one language features a category that is absent from the other, the problem of categorial nonequivalence arises.

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It is uncontroversial enough that, where categorial equivalence does not obtain and when an orphan category is involved, code-switching should be affected. How do speakers go about combining languages in such situations, if at all? <sup>3</sup>

Sankoff and Poplack (1981) proposed that, in order for code-switching to take place, the structural requirements of both languages at the switch site must be met. This constraint, termed the equivalence constraint, is stated as follows:

the order of sentence constituents immediately adjacent to and on both sides of the switch point must be grammatical with respect to both languages involved simultaneously . . . The local co-grammaticality or equivalence of the two languages in the vicinity of the switch holds as long as the order of any two sentence elements, one before and one after the switch point, is not excluded in either language. (Sankoff & Poplack, 1981:5)

Implicit in this formulation of the equivalence constraint is that structural equivalence holds at not only the syntactic level, but also the lexical level; the combined lexicon, then, consists of the conjunction of the set of grammatical categories in both languages. In this context, Muysken (1991:266) asserted that there can never be an exact match between categories in different languages. He noted that, for any pair of languages, regardless of the typological distance between them, there will likely be at least one semantic notion expressed by different categories in each. This is illustrated in (4), where the word meaning “shrewd” is expressed with an adjective in French (*malin*) and a verb in Fongbe (*bí*).

- (4) é bí            ä; il n'a            pas été malin.  
 he be shrewd NEG he NEG+AUX NEG be shrewd.  
 'He isn't shrewd, he wasn't shrewd.' (Fongbe 5:Spkr 05:1034)

Under the strong interpretation of Muysken's claim—that no universal grammatical categories exist—there would be no switching except possibly between major constituents. Empirically, this interpretation is untenable, given that much switching has been documented between numerous language pairs, typologically similar as well as different (e.g., Bentahila & Davies, 1983; Berk-Seligson, 1986; Clyne, 1987; Gardner-Chloros, 1987; Gumperz, 1976/82; Poplack, 1980; Scotton, 1988; Sridhar & Sridhar, 1980). We suggest that the importance of categorial mismatch will vary according to the degree to which the languages involved in the contact situation differ, as determined by quantitative analysis of the distribution and usage of the categories in question in each language.

Abstracting from the suggestions of Muysken (1991) and others, we explicitly test six ways that categorial nonequivalence may influence code-switching:

This is the situation of adjectival modification structures involving elements from French and two languages of the Niger-Congo family: (1) Wolof, a language of the West Atlantic group as spoken in Senegal (Capo, 1988; Greenberg, 1966; Welmers, 1973); and (2) Fongbe, a language of the Kwa group as spoken in Benin. These language pairs, chosen for the typological contrasts they offer, show markedly different preferences in this domain, which should affect code-switching among them. In particular, Wolof uses only adjectival verbs<sup>1</sup> in both attributive and predicative contexts, as shown in the underlined portions in (1).

- (1) a. jabor bu yem, nga ko mɔn+a takk.  
 woman REL is ordinary you pro can+AUX marry  
 'You can (only) marry an ordinary woman.' (Wolof 3:Spkr 04:1274)<sup>2</sup>
- b. croissant rek, xam nga, dɔgɔr+ul.  
 croissant ADV know you solid+NEG  
 'You know, a croissant alone, it's not solid.' (Wolof 2:Spkr 02:1241)

Fongbe has a small class of "true" adjectives, but these are used sparingly, and then, only in attributive contexts, as in (2a). The majority of adjectival meaning is expressed by adjectival verbs in predicative contexts, as in (2b). French, on the other hand, relies almost exclusively on true adjectives, as in (3).

- (2) a. nú yě m̀ò gbè dàgbè ́ c'est à cause de vous.  
 if they see life good DEF it's because of you  
 'If they have the good life, it's because of you.' (Fongbe 3:Spkr 03:1096)
- b. yókpóvú élǎ àyì t̀ón nyó.  
 child DEM thought POSS be good  
 'That child's behavior is good.' (Fongbe 1:Spkr 01:429)
- (3) a. *C'est un gars* intègre.  
 he's a guy honest  
 'He's an honest guy.' (Wolof 1:Spkr 01:1010)
- b. *Je suis* certain.  
 I am sure  
 'I am sure.' (Fongbe 3:Spkr 03:1320)

Assuming that at the moment of switching only shared grammatical categories can be called into play, we may hypothesize that, in the predicative context in Fongbe and in both contexts in Wolof, any French adjective that occurs may belong to an "orphan" category, in that the bilingual grammar could not have produced it.

In this article, we examine how Fongbe-French and Wolof-French bilinguals reconcile the lack of categorial equivalence and, in particular, how they deal with orphan categories when combining adjectival terms from one language with elements from another within the confines of a single utterance.

- (i) Switching is inhibited by categorial nonequivalence.
- (ii) Switching is blind to categorial nonequivalence.
- (iii) Switching is triggered by categorial nonequivalence.
- (iv) Notional equivalence is somehow translated into categorial equivalence.
- (v) Equivalence is established if the categories have partial overlap in features, following Chomsky (1970), Jackendoff (1977), and Stowell (1981).
- (vi) Equivalence is established via a language-internal mechanism specialized for the incorporation of nonequivalent categories.

Based on a large corpus of spontaneous bilingual speech, we make use of the variationist method (Poplack, 1993; Poplack & Meechan, 1995) to choose among these strategies for handling other-language material in bilingual discourse.

## METHODOLOGY

### *Procedure*

Progress on the analysis of code-switching constraints has been hindered by disagreement among researchers as to what constitutes a valid object of research. The key controversy revolves around the advisability of distinguishing between the two major strategies of language mixture: code-switching and borrowing (cf., e.g., Bentahila & Davies, 1991; Boeschoten, 1990; Eliasson, 1989, 1990; Muysken, 1987; Myers-Scotton, 1988, 1990; Poplack & Meechan, 1995; Treffers-Daller, 1990). Even among those who agree that a distinction should be made, there is considerable dissent over what qualifies as an example of each. What is perhaps most controversial is the status of lone incorporations from one language into discourse otherwise of another. Empirical research has repeatedly shown that determining the language membership of such elements cannot be done on the basis of a single instantiation (Poplack & Meechan, 1995; Poplack, Sankoff, & Miller, 1988; Poplack, Wheeler, & Westwood, 1987; Sankoff, Poplack, & Vanniarajan, 1990). This is largely because the phonological, morphological, syntactic, and semantic concomitants of loanword (and code-switch) status are themselves variable. Therefore, evidence for their status can only come from quantitative analysis of the linguistic structures they enter into. Their different rates of occurrence in each structure form a quantitative pattern which can be compared with that of their counterparts in a monolingual context.

A basic requirement of research undertaken within the variationist framework is assessing the variable context, that is, deciding, from any body of data, which tokens are exemplars of the category in question. Thus, the prerequisite to any comparison is to distinguish *operationally* between the different outcomes of language mixture. For the purposes of this exercise, as a first approximation, we class as *unambiguous code-switches* only multiword fragments in one language that are juxtaposed with elements of another.

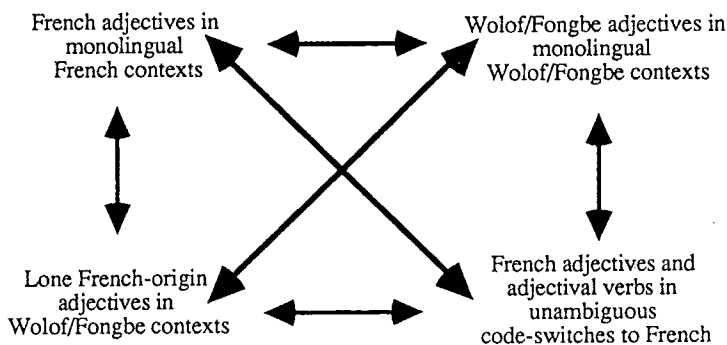


FIGURE 1. Four-way comparison of the distribution of adjektivization strategies.

There is little motivation to class such structures as loanwords, because they typically involve long stretches in one language, followed by stretches in the other. Their behavior is then systematically compared with that of the contentious forms—the lone French-origin adjectives in otherwise Wolof/Fongbe<sup>4</sup> discourse—as well as with that of like items in a monolingual context.

It should be obvious that such a comparison is impossible without acquiring quantitative knowledge of the adjektivization patterns in each of the contact languages as it is *actually* spoken by the bilinguals. Accordingly, we compare adjective use in four types of context, as schematized in Figure 1: (1) monolingual African-language constructions involving only Wolof or Fongbe lexical items, (2) monolingual French constructions, (3) lone French-origin adjectives in otherwise Wolof or Fongbe contexts, and (4) unambiguous code-switches. If the lone French-origin adjectives are functioning as borrowings, our method will reveal them to enter into given structures at rates echoing those of their native lexical counterparts in monolingual Wolof or Fongbe. If, on the other hand, they are functioning as code-switches, they should be found in these structures at rates paralleling those of French multi-word fragments (i.e., unambiguous code-switches) and, all other conditions being equal, those of monolingual French itself.<sup>5</sup>

### Data

The data on which this study is based, described in detail in Poplack and Meechan (1995), come from two corpora of spontaneous conversations among bilingual speakers highly proficient in Wolof and French on the one hand, and in Fongbe and French on the other. From these tape-recorded materials (approximately 4 hours per corpus), all portions containing “mixed” discourse were systematically searched, and all adjectival expressions, regardless of language, were extracted.<sup>6</sup> Adjectival expressions are here defined as those in which some quality is attributed to a referent and where little or no implication of change is involved. For reasons detailed a little later, these

included Fongbe and French true adjectives, as in (2) and (3); French past participles used adjectivally (5a); and Wolof/Fongbe adjectival verbs, as in (5b) and (5c), respectively.

- (5) a. *Il sera satisfait.*  
 he be+FUT satisfied  
 'He will be satisfied.' (Fongbe 4:Spkr 04:289)
- b. *Mais xale u Sénégal Baye, woorul.*  
 but girls of Senegal Baye be trustworthy+NEG  
 'But the Senegalese girls, Baye, are not trustworthy.' (Wolof 3:Spkr 04:989)
- c. *é syén kpèdé.*  
 it be hard a little  
 'It's a little hard.' (Fongbe 3:Spkr 03:1192)

The category of elements used to qualify nouns in many Niger-Congo (as well as other) languages is extremely difficult to define. Some forms that would probably be characterized as adjectives in European languages are either derived from, or in fact are, verbs. Others are more appropriately classified as nouns. Still others belong to a class of "true" adjectives, though these are invariably sparse in Niger-Congo languages (Welmers, 1973). Thus, many concepts conveyed by adjectives in European languages are expressed in Wolof and Fongbe by constructions involving nouns, verbs, or both.

In general, our classification of particular words or expressions as adjectival follows previous analyses whenever available (e.g., Delafosse, 1963; Gamble, 1963; Hounkpatin, 1984-85; Njie, 1982; Samb, 1983; Senghor, 1963). Rough semantic criteria, such as the absence of an obvious actor in the discourse (expressed or otherwise), were also invoked. Cases where the adjectival status of the attributive element could not be disambiguated were excluded from the quantitative analyses reported here. For example, some forms used to designate an attribute of a noun also implied a change of state, as in (6a) and (6b). French past participles used adjectivally are often indistinguishable from the passive verb, as in (6c). In Fongbe, identification of adjectival verbs is further exacerbated by the fact that reduplication, the process for deriving adjectives, is also used for deriving nouns, and these, along with underived nouns, are occasionally found in adjectival structures, as in (6d). In Wolof, nouns may appear in contexts ordinarily reserved for verbs, as in (6e). Data such as those exemplified in (6) were excluded from the present study of adjectival expression.<sup>7</sup>

- (6) a. wolof dafa daanu wala dafa yéég?  
 Wolof AUX+it impoverished or AUX+it enriched  
 'Wolof, is it impoverished or enriched?' (Wolof 1:Spkr 01:161)
- b. *nũ ́ kó vò.*  
 thing DEF MOD finish  
 'The thing was already exhausted.' (Fongbe 3:Spkr 03:995)

- c. *On est contraint.*  
we are constrained  
'We are constrained.' (Fongbe 3:Spkr 03:280)
- d. *mě ná zón nũ ùtò lò.*  
who FUT make thing sewed EMP  
'Who is going to make the orders for suits?' (Fongbe 3:Spkr 03:1439)
- e. *nga y chômer ba dof.*  
you HAB be unemployed until be crazy/craziness  
'You are going to be unemployed until you go crazy.' (Wolof 1:Spkr 01:949)

### *Coding*

A total of 321 unambiguous adjectival expressions in Wolof, Fongbe, and French were retained for this study. These were coded as follows. All Wolof adjectives were considered to belong to the class of verbs. Fongbe adjectives were classified as either true adjectives (capable of direct noun modification) or as adjectival verbs (which must be mediated by a complementizer). French adjectives were divided into two types: participial (including adjectives homophonous with past participles) and lexical. Grammatical items adjacent to each adjectival term (e.g., auxiliaries and/or copular verbs, number and gender markers) were also noted when present.

Because our main goal in this article is to determine the properties of structures containing orphan categories (rather than to test constraints on code-switching more generally), only structures in which the language boundary directly intervenes between the noun and its modifying adjective or verb were included in the quantitative analysis.<sup>8</sup> We first examine proposals for adjectival modification in each monolingual context and then compare them with actual usage data.

## ADJECTIVAL MODIFICATION IN THREE LANGUAGES

### *The expression of adjectival meaning in Wolof*

We noted earlier that adjectival constructions in Wolof have been variously categorized as adjectives (Njie, 1982:61), nouns (Samb, 1983), and "qualifying" verbs (Delafosse, 1963:34; Gamble, 1963:140; Senghor, 1963:126). On the basis of their behavior, we follow Oṃoruyi (1986) in analyzing them as adjectival verbs.

In attributive contexts, adjectival meaning is typically expressed in Wolof via the "adjective" or relative clause marker, *Cu*, formed by the nominal class marker ([b], [k], [g], etc.) + [u]. *Cu* appears immediately to the right of the nominal head, linking it to the adjectival verb, from which it may not be separated within the NP. This is exemplified in (7). The attributive adjectival verb may also be positioned immediately to the left of its head for expressive purposes, preceded or not by *Cu* (Samb, 1983:75).

- (7) *mən+u ñu ko bu baax.*  
 can+NEG they pro REL be good  
 'They don't understand it well.' (Wolof 3:Spkr 04:888)

In predicative contexts, adjectival verbs enter into the same morphological and syntactic structures as regular verbs. They are most likely to occur alone, as in (8a), or with aspect markers or auxiliaries, as in (8b), less often with negative markers, as in (9), and least often with other aspectual affixes, as in (10).

- (8) a. *Sa xol bon.*  
 your heart be bad  
 'You are angry.' (Wolof 3:Spkr 04:1321)
- b. *Sama xol da y bon.*  
 my heart AUX HAB be bad  
 'I am angry.' (Wolof 3:Spkr 04:1361)
- (9) *Mais xale yi Sénagal Baye, woor+ul.*  
 but girls DEF Senegal Baye be sure+NEG  
 'But, Baye, the girls of Senegal are not trustworthy.'  
 (Wolof 3:Spkr 04:989)
- (10) *boo mer+ee il faut nga wax ko.*  
 if you be angry+COND it's necessary you say them  
 'If you're angry, you must say them.' (Wolof 1:Spkr 02:538)

Examination of actual usage of adjectival modification structures in the monolingual Wolof portions of our corpus reveals that these occur in both attributive and predicate constructions. Adjectival expression appears in attributive contexts infrequently (24%), and then with a restricted set of lexical types (e.g., *bees* 'to be new', *bax* 'to be good', and *mel* 'to be like'). In these contexts, adjectival meaning is always (16/16) expressed by means of adjectival verbs mediated by the relative construction in *Cu*. More commonly (76%), however, adjectival verbs appear in predicative contexts (cf. Table 2 on p. 180).

#### *The expression of adjectival meaning in Fongbe*

Adjectival expression in Fongbe varies in structure across attributive and predicative contexts. In attributive contexts, adjectival meaning may be expressed in three ways: (1) by reduplicated forms said to be derived from verbs (e.g., Hounkpatin, 1984-85:82),<sup>9</sup> as in (11); (2) via a small set of true adjectives, as in (12); and (3) with adjectival verbs in a relative clause construction. Both of the first two types of modifier, analogous (if not identical) to the adjectives of European languages, canonically appear to the immediate right of their head. They may be distinguished from Fongbe verbs, adjectival or otherwise, semantically and/or syntactically.

- (11) *yè nó mò mǎwǔ sín nù wíwà.*  
 we HAB see God GEN thing done (reduplicated *wà* 'to do')  
 'We find the things-done (= acts) of God.' (Fongbe 2:Spkr 02:437)
- (12) *nǔ dǎxó dè wè.*  
 thing big DEF FOC  
 'It's an important fact.' (Fongbe 1:Spkr 01:319)

In predicative contexts, Hounkpatin cited two additional options. The first is simply to select an adjectival verb, which, as in Wolof, enters into the constructions typical of the general class of verbs in the language, co-occurring with aspect markers, as in (13), as well as other verbal markers.

- (13) *jǐ ń nó zón bò rues gègè nò gblé.*  
 rain DEF HAB makes that streets many HAB be ruined  
 'The rain ruins many streets.' (Fongbe 2:Spkr 02:630)

The second alternative is to conjoin an adjectival phrase (consisting of one of the true or reduplicated adjectives cited) with the existential or copular verb, *dò*.

Examination of adjectival modification in the monolingual Fongbe portions of the corpus reveals that, although theoretically both true adjectives and adjectival verbs may occur in both Fongbe attributive and predicative contexts, in actuality true adjectives occur exceedingly rarely in any context. In the entire corpus, only two true adjective types ( $n = 7$ ), *dǎxó* 'big' and *dàgbè* 'good', as in (14), occurred in attributive contexts, appearing immediately to the right of the noun.

- (14) *é nyí habitude dàgbè ǎ.*  
 it be habit good NEG  
 'It is not a good habit.' (Fongbe 2:Spkr 02:277)

The overwhelming majority of adjectival expression in Fongbe is found in predicative position. Here, only adjectival verbs, as in (13), are attested. Like their nonadjectival verbal counterparts, these are often accompanied by aspect markers, for example, the future marker *ná*, as in (15).

- (15) *má nyí mǎ ǎ é ná nyó ǎ.*  
 NEG be thus NEG it FUT be good NEG  
 'If it is not so, it would not be good.' (Fongbe 3:Spkr 03:1406)

It is of interest that none of the cases of adjectival modification in the monolingual Fongbe corpus involved the *dò* + adjective construction. We return to this observation later. As with Wolof then, only one type of adjectival modification is in current use in spoken Fongbe and that is by means of the adjectival verb, which overwhelmingly appears in predicative contexts.

TABLE 1. *Comparison of adjectival modification in monolingual Wolof, Fongbe, and French*

Adjective Type	Context	Noun Modification			Predicate		
		Before	After	Relative	Preceding Verb		No Verb
					Copula	Other	
Adjectival verbs	Wolof			16		3	36
	Fongbe			1		4	44
	French						
True adjectives	Wolof						
	Fongbe		7				
	French	34	43	2	65		

### *The expression of adjectival meaning in French*

French has a large productive class of adjectives, including both lexical adjectives and those formed from verbs. These are used attributively and predicatively. With the exception of a small closed set (e.g., *vrai* 'true', *bon* 'good', *grand* 'big', *petit* 'small'), attributive adjectives are generally postposed to their head, particularly in the spoken language (Grevisse, 1986). The normal position of the predicate adjective is postverbal, typically following a copular verb.

Examination of the patterns of adjectival expression in the French spoken by the Fongbe-French and Wolof-French bilinguals in our sample reveals that in both data sets this is fairly equally divided between attributive and predicative contexts. In the former, postnominal position is preferred over prenominal, as is the unmarked case in French. The only apparent exception to this pattern is due to a preponderance in Wolof of a small number of highly recurrent lexical types belonging to the closed set of possible prenominal modifiers in French. (All of the adjectives used prenominally by the Fongbe speakers are also members of this set.) The remaining adjectival modification structures occurred in predicative contexts, where they were all preceded, as expected, either by the French copula *être* 'to be' or, in one case, by copular *devenir* 'to become'. For our purposes, perhaps the most interesting results were: (1) adjectival modification via relative clause constructions, although perfectly acceptable, is vanishingly rare in the French of both sets of bilinguals; and (2) lexical adjectives are vastly preferred over participial adjectives, regardless of position or context. We may thus conclude that the French spoken by our informants does not differ, at least insofar as adjectival expression is concerned, from each other or from Standard French.

Table 1 summarizes and compares the distribution of adjectival modification in monolingual discourse of all three of the languages involved in the contact situation. We observe that Wolof speakers accomplish direct noun

modification by employing adjectival verbs in relative constructions, whereas Fongbe speakers use true adjectives, albeit rarely. Both the Fongbe and Wolof monolingual data consist overwhelmingly of adjectival verbs in predicative contexts. In contrast, adjectival expression in French occurs predominantly as noun modification. All French predicate adjectives are preceded by a copular verb. It is thus clear that the oft-envisaged scenario, whereby languages involved in code-switching converge grammatically to provide more permissible switch sites (Clyne, 1987; Gumperz & Wilson, 1971), is not operative here.

#### PREDICTIONS

Based on the patterning of these languages in their respective monolingual contexts, we may now offer specific predictions for these data with respect to the hypothesized outcomes of categorial nonequivalence, given on page 172.

If the effect of categorial nonequivalence is as in (i),<sup>10</sup> there should be virtually no switching at all.

If the outcome is as in (ii), switching should occur freely with no regard for particular syntactic boundaries.

If the outcome is as in (iii), code-switching should be frequent at the boundary preceding French adjectives, with no requirement for any special switch mechanism.

If, as in (iv), notional equivalence is translated into categorial equivalence, the expectation would be free-switching between French copulas and Wolof/Fongbe adjectival verbs and Wolof/Fongbe subjects and French adjectives. In Fongbe, due to the overwhelming preference for adjectival expression via adjectival verbs despite the existence of other possibilities in the grammar, this strategy should override grammatical exigencies like structural equivalence.

If categorial equivalence can be established from partial feature overlap, as in (v), then adjectives, specified as [+V,+N], can be classified by the bilingual speaker as members of the verb category. In this case, French adjectives should be selected in any context which simultaneously (1) subcategorizes for verbs in Wolof/Fongbe and (2) admits adjectives in French (as in (24)).

If, as in (vi), equivalence is established via a language-internal mechanism, switching will occur preferentially in the vicinity of a specific bridge element, which functions to create a potential switch site that is grammatical in both languages. The frequency of the resulting (code-switched) construction may differ quantitatively from that of its structural counterparts in one or both monolingual contexts.

How do these predictions hold up against the data? To answer this question, we examine the use of French adjectives in Wolof/Fongbe discourse. We turn first to the use of lone French adjectives in otherwise entirely Wolof/Fongbe contexts, as in (16) and (17).

TABLE 2. Comparison of adjectival modification in Wolof corpus across contexts

Language of Context: Language of Adjective:	Wolof				French	
	French		Wolof		French	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
<b>Attributive Adjective Position</b>						
Before noun	7	54	0	0	25	45
After noun	0	0	0	0	28	51
Relative clause	6	46	16	100	2	4
<b>Predicate Adjective Position</b>						
Following copula	0	0	0	0	43	98
Following other verb	5	29	3	8	1	2
No verb precedes	12	71	36	92	0	0
Total attributive contexts	13	43	16	29	55	56
Total predicative contexts	17	57	39	71	44	44
Total adjectival expression	30		55		99	

- (16) *Cours bi moo intéressant ou bien ñi*  
 course DEF FOC interesting or those  
*di def cours bi ñoo intéressant?*  
 HAB do course DEF FOC interesting

'It's the course that is interesting or those that take the course that are interesting?' (Wolof 4:Spkr 03:119)

- (17) *yè nó dò énérvé dò classe.*  
 they HAB be irritated in class

'They are always irritated in class.' (Fongbe 2:Spkr 02:223)

As noted earlier, the status of such elements is potentially controversial, because from informal examination alone it is virtually impossible to tell whether they are loanwords, nonce or established, or code-switches. It is crucial to establish their status if they are to be used for testing constraints on language mixture, as bona fide loanwords adopt the grammar of the recipient language, whereas code-switches should retain that of the donor language.

#### ADJECTIVAL MODIFICATION IN MIXED CONTEXTS

##### WOLOF-FRENCH

##### *The use of lone French-origin adjectives in otherwise Wolof contexts*

Virtually all of the lone French-origin adjectives in otherwise Wolof contexts are true adjectives, not surprisingly, since most of the adjectival lexical stock in the French of these speakers is of this type. Despite the lexical similarity between this group of adjectives and those found in the monolingual French

data, Table 2 shows that lone French-origin adjectives occur overall less frequently in otherwise Wolof contexts than do their counterparts in either of their respective monolingual contexts. In monolingual Wolof, adjectival modifiers occur almost twice as often, and in monolingual French, they occur more than three times as often. This finding is particularly striking considering our criteria for data extraction, which should have biased the frequencies such that more adjectives would occur in mixed contexts.<sup>11</sup> The fact that they did not may be interpreted as a strategy for avoidance of mixed adjectival modification structures on the part of the Wolof–French bilinguals in the sample.

Nearly half of the lone French-origin adjectives occurred in attributive contexts, six of them in relative clause constructions headed by *Cu*, following the canonical Wolof rule of adjective formation. These are exemplified in (18).

- (18) “lɔka” la, ay *affaires* yu *graves*, *paraît-il*.  
 kalɔ FOC IND *business* REL serious it seems  
 ‘It’s *lɔka* [a type of secret language], bad business, it seems,’  
 (Wolof 3:Spkr 04:804)

The remaining seven tokens show ADJ+N order, as in (19).

- (19) sama *vrai gayn* la+woon Baye, *vrai gayn*, xam nga  
 poss real friend LOC+past Baye real friend know you  
*gayn* u boy ah! *vrai gayn* la- sama *vrai gayn* la+woon.  
 friend of kid ah real friend FOC poss real friend FOC+past  
 ‘It was my real friend, Baye, real friend, you know, a childhood friend ah!  
 A real friend- a real friend, . . .’ (Wolof 3:Spkr 04:519)

We have already noted that this order is optional in both Wolof (to mark expressiveness) (Samb, 1983:75) and French (for a closed class of adjectives). Thus, virtually all of the attributive adjectives of French origin appear in positions permissible in both languages. In any event, nearly all of them consist of the same lexical item, *vrai* (uttered by the same speaker in the same conversational context). If the exceptional tokens of *vrai* were removed from the data, the incidence of prenominal modification in Wolof would drop to 14%, yielding a pattern much more consistent with that of monolingual Wolof. In any case, at no time is the canonical French pattern (N+ADJ) found.

The remaining French-origin adjectives ( $n = 17$ ) appear in predicative contexts, as in (20).

- (20) *Timbre* bee *cher*.  
 stamp DEF+FOC expensive  
 ‘That stamp is expensive.’ (Wolof 3:Spkr 01:1505)

All of these are consistent with Wolof verbal constructions, co-occurring with the Wolof aspectual marker *y*, as in (21); the comparative verb *gɔn* ‘to

are preceded by a verb equivalent to copular *être* 'to be' as is the norm in French, despite the existence of possible equivalents.<sup>12</sup>

- (21) danga y *éccœuré*.  
 STAT HAB disgusted  
 'You are disgusted.' (Wolof 2:Spkr 02:892)
- (22) fu gɗn+ɔ̄ *bien, États-Unis* wala Canada?  
 what be more+AUX good United States or Canada  
 'Which is better, the United States or Canada?' (Wolof 3:Spkr 04:379)
- (23) yow yaak sa jabar yeena y diir, *grave*+ul.  
 you and POSS wife you HAB arrange serious+NEG  
 'You and your wife, you arrange it, it's not a problem.'  
 (Wolof 3:Spkr 04:1170)

What is the status of these French-origin adjectives? Are they code-switches violating the equivalence constraint, or are they borrowings, whether nonce or established? If they are (single-word) code-switches, there is no structural reason impeding them from occurring bidirectionally, yet the data only contain French-origin adjectives inserted into otherwise Wolof contexts. By the same token, *violations* should be bidirectional; as we see in what follows, however, every token containing a French-origin adjective in a conflict site conforms to Wolof structure and violates French. To determine the status of these tokens, we make use of several criteria to show that the data are more consistent with a borrowing analysis. We stress, however, that these are all complementary to the main criterion adopted in this article, namely, the quantitative patterning of the lone French-origin adjectives. In the first place, a large number of the French-origin adjectives in otherwise Wolof contexts are widespread and recurrent, a commonly invoked criterion for loanword status. This is bolstered by an examination of their morphological integration. An established loanword is expected to feature the morphological characteristics of the language into which it is incorporated. Because Wolof is an isolating language, possibilities for bound morphology are sharply limited as well as unpredictable, insofar as they are semantically determined. The fact that few of them appeared on lone French-origin adjectives is not very informative as to their status: these affixes are also extremely rare in the general corpus of *native* Wolof adjectival verbs and in fact Wolof verbs more generally. It is nonetheless interesting to note that, in the few cases where we do find bound morphology, as in (23), the morphemes that occur are precisely the ones that are most frequent in Wolof, as would be expected of borrowings.

A more revealing exercise may be to examine whether these adjectives feature donor language (i.e., French) morphology. Of course, the majority of French adjectives in a monolingual context do not feature overt morphology either, with the exception of a small number of participial adjectives and lexical adjectives in the feminine. Only three of the latter were eligible for gender agreement in the corpus (*dangereux, tolérant, intéressant*); none showed

it. Moreover, the participial forms are likely to have been lexicalized, making it difficult to argue that they bear French morphology other than coincidentally. The only French participial adjective showing feminine gender (*ouverte*) was used to describe a masculine noun phrase, a fact that considerably weakens its status as a counterexample.

Further support for their loanword status comes from examining the syntactic placement of these adjectives. French-origin adjectives in attributive contexts are ambiguous with regard to syntactic integration, as the constructions in which they appear (ADJ+N complexes, relative clauses) are grammatical in both languages. However, French-origin predicate adjectives virtually always violate French syntax, with only a few exceptions, to which we return below. At the same time, they are clearly incorporated into Wolof syntax, as is evident from Table 2: they never occur with a preceding copula and, indeed, for the most part (71%) have no preceding verb at all.

Thus, a number of lines of evidence point to the conclusion that most of the lone French adjectives in otherwise Wolof contexts are functioning as loanwords. One fact, alluded to earlier, that may run counter to this analysis is that a disproportionate number (when compared to the monolingual Wolof data) of comparative *gɗn* (represented as “other verb” in Table 2) appears in the context of French predicate adjectives. We return to this finding below.

#### *Adjectival modification in unambiguous code-switches*

An analysis which purports to identify lone French-origin adjectives in otherwise Wolof discourse as borrowed is incomplete unless it can show that they are structurally and quantitatively distinct from unambiguous code-switches. Accordingly, we now examine the adjectival expressions appearing at the boundaries of multiword French fragments in Wolof discourse.

There is only one case of unambiguous code-switching in which the status of the adjective is directly implicated. This is underlined in (24).

- (24) Ñoo      gɗnn    tolérant, ñoo      gɗnn+ɗ||      sécuritaire  
 they+FOC be more tolerant    they+FOC be more+AUX secure  
que le québécois.  
 than DEF Quebecois  
 ‘They are more tolerant, they are more secure than the Quebecois.’  
 (Wolof 4:Spkr 04:411)

Here the language change occurs at the problematic boundary (indicated by the double line in (24)), but simultaneously satisfies the syntactic requirements of both languages. Given the distinctions between French and Wolof adjectival placement, we now examine how this is achieved. Consider the situation at the switch site. On the one hand, we have a French adjective *sécuritaire*, which, to be grammatically incorporated into French, must be preceded by a verb. On the other hand, the Wolof subject/agreement marker *ñoo* must take a verbal predicate. If this were a borrowing situation, the French adjective need only be incorporated into the existing Wolof lexical

class of verbs. Indeed, as we have shown in example (16), this is a common strategy among these Wolof–French bilinguals: in that example, the French adjective *intéressant* assumes the canonical position for a Wolof verb. A code-switch involving *sécuritaire* at a language boundary should present a problem, at least for grammatical switching under equivalence, which requires that the structures be grammatical on both sides of the switch point.

Now there is at least one structure involving adjectival modification where structural equivalence between Wolof and French can be established—the comparative form *gɗn* ‘to be more’. This form, along with the auxiliary suffix *-a* (Samb, 1983), appears in Wolof between the noun phrase and the adjectival form, as illustrated in (25).

- (25) *cours* yee *gɗn+ɗ* neex.  
 courses DEF be more+AUX be agreeable  
 ‘The courses are more agreeable.’ (Wolof 4:Spkr 06:128)

This is also the position of the French comparative *être plus* ‘to be more’. Where *gɗn* is present, its juxtaposition with the French adjective results in a construction that is structurally equivalent in both French and Wolof. Its canonical position is between the Wolof NP and the adjectival form allowing the establishment of structural equivalence between Wolof and French on analogy with the French comparative *être plus*. Recall that, among the lone French-origin adjectives in our data, nearly a third are preceded by *gɗn*, a proportion exceeding that observed in the strictly Wolof context. A plausible explanation is that these are (single-word) switches, rendered equivalent by their juxtaposition to *gɗn*. This is the point at which intrasentential switching in these data may, and does, take place.

In summary, language mixture between Wolof and French in adjectival modification contexts is infrequent and is almost all accomplished by means of borrowing, whether nonce or established. French-origin adjectives thus incorporated into Wolof discourse are not only recurrent, thereby fulfilling one requirement for loanword status, but also feature Wolof morphology and syntax where this is discernible. At the same time, they are inconsistent with French grammatical requirements. Unambiguous code-switching between these two languages in the adjectival context is extremely rare, a finding that is particularly striking in view of the fact that these Wolof speakers (unlike their Fongbe counterparts) code-switch prolifically elsewhere, provided the boundaries are permissible. In adjectival constructions, however, they are clearly avoiding switching.

The dearth of switching between adjective and noun suggests that categorial equivalence could not be established here. We conclude that, faced with lack of categorial equivalence, Wolof speakers avail themselves of two options involving adjectival contexts:

1. One is to *borrow* the adjectives as nonce or established loans. In this case

TABLE 3. Comparison of adjectival modification in Fongbe corpus across contexts

Language of Context:	Fongbe				French	
	French		Fongbe		French	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Attributive Adjective Position						
Before noun	0	0	0	0	9	38
After noun	5	83	7	88	15	62
Relative clause	1	17	1	12	0	0
Predicate Adjective Position						
Following copula	24	96	0	0	21	100
Following other verb	0	0	4	8	0	0
No verb precedes	1	4	44	92	0	0
Total attributive contexts	6	19	8	14	24	53
Total predicative contexts	25	81	48	86	21	47
Total adjectival expression	31		56		45	

only choice is to incorporate them as adjectival verbs, either in the *bu* construction or, more rarely, directly preceding the noun.

- Speakers may *code-switch* after the comparative verb, (in the few cases) where this is semantically appropriate.

#### FONGBE-FRENCH

##### *The use of lone French-origin adjectives in otherwise Fongbe contexts*

For purposes of comparison, we now examine the use of lone French-origin adjectives in otherwise Fongbe contexts, using the same methodology as previously. We first note from Table 3 that only six French adjectives appeared in Fongbe attributive contexts, all post-nominally, as in (12). That this is the canonical position in Fongbe as well as in French means that the syntactic criterion for loanword/code-switch status is not available here. On the basis of both (1) their structure, which is consistent with the grammars of both languages, and (2) their quantitative distribution, which is not inconsistent with either, a code-switching or a borrowing analysis would be equally appropriate.

- (26) é nɔ nyí nũ *inutile* ă.  
 it HAB be thing useless NEG  
 'It's not a useless thing.' (Fongbe 3:Spkr 03:1355)

The overwhelming majority of lone French-origin adjectives appear in predicative contexts. These too are entirely consistent with the grammars of both Fongbe and French, and as such, would also appear to be inherently

TABLE 4. *Complements of d̀̀*

Contexts	Fongbe	French
Locative phrase	25	22
Adverbial	2	0
Prepositional phrase	0	3
Adjective	0	34
Total	27	59

ambiguous with regard to loanword versus code-switch status. Remarkably, all but one of these follows the same existential, or copular, verb *d̀̀* 'to be', as in (27).

(27) *cigar, alcool, action ỳ̀t́n d̀̀ passag̀̀re.*

cigar alcohol action poss be passing

'Cigars, alcohol, their action is passing.' (Fongbe 2:Spkr 02:145)

Houngpatin considered *d̀̀*, which he termed a "neo-auxiliary" (Houngpatin 1984-85:155), an exceptional predicate in that it does not admit the full range of complements, but may only co-occur with adjectivals, adjectival/adverbials, adverbials, and locatives as in (28).<sup>13</sup>

(28) Lomé ́ *tante directe c̀̀ d̀̀kpó ǵn ẁ̀ ñ ǹ̀ d̀̀ d́n.*

Lomé DEF aunt POSS a with it's I stay at there

'At Lomé, I was staying with an aunt.' (Fongbe 1:Spkr 01:220)

In spoken language, the use of *d̀̀* is far more restricted than this. In the monolingual Fongbe portions of our bilingual corpus, *d̀̀* only occurs in two contexts, adverbial and locative, as shown in Table 4. *d̀̀* also occurs in conjunction with French locative phrases, of course, and even with a few prepositional complements. But by far the greatest proportion of *d̀̀* in the corpus occurs in the context of French adjectival phrases. This is particularly striking because not one *Fongbe* adjectival complement occurred following existential *d̀̀*.

Why should it be necessary to collocate *d̀̀* with French adjectives in Fongbe when in Wolof lone French-origin adjectives were for the most part integrated unproblematically as (adjectival) verbs? This result seems all the more inexplicable in view of the finding (Table 1) that Fongbe speakers, like their Wolof counterparts, demonstrate an overwhelming preference for adjectival verbs themselves, and this despite the existence of lexical adjectives in their grammar. The answer resides in the grammar of Fongbe. We remarked earlier that *d̀̀* was restricted with respect to its possible complements, and that (undervived) verbal complements are not permissible in this context. The Fongbe adjectival verb is thus precisely the type of context that excludes *d̀̀*. In view of these facts, it seems inescapable that the Fongbe semiauxiliary *d̀̀* is being

What is the status of these mixed adjectival constructions? We suggest that they are code-switches. In contrast to the Wolof case, this time the lone French-origin adjectives in otherwise Fongbe contexts pattern with the *French* structures and not the Fongbe ones (Table 3). As previously, this conclusion is supported by more traditional evidence. We first note that the lexical types entering into the *dò*+ADJ construction are all different, with the exception of those repeated by the same speaker within the same discourse. Thus, the frequency criterion for loanword status cannot be invoked. As for the criterion of morphological integration, although Fongbe is an isolating language with very few opportunities for affixation, it is still noteworthy that not a single French adjective in the data received Fongbe morphology, in contrast to what was observed in Wolof. More revealing, however, is that every eligible French-origin adjective in a *dò* construction but one<sup>15</sup> shows *French* morphology in the form of gender and/or number agreement, as in (29), where *importante* agrees with its antecedent *langue*.

- (29) *Donc* ɔ nyè mò dò *que langue* ɔ é dò || *importante*.  
 So TOP I see tell that language DEF she be important  
 'So, me I see that language is important.' (Fongbe 4:Spkr 04:480)

Moreover, because the incorporation of *dò* renders the adjectival construction compatible with the syntactic structure of both French and Fongbe, there is nothing to inhibit, and an equivalence site to promote, code-switching at this point. Finally, it is clear that adjectival constructions with *dò* do not follow the dominant pattern of Fongbe adjectival expression. Where there is a choice, it is expected that loanwords will be borrowed into the more productive lexical class of the language (as can be inferred by hierarchies of "borrowability," where closed functional classes are less likely to incorporate loanwords than open lexical classes [Haugen, 1950; Poplack, Sankoff, & Miller, 1988; Treffers-Daller, 1990]). Thus, it is all the more counterintuitive to argue that the *dò*+ADJ constructions are loanwords. These facts, taken together, provide strong evidence in favor of categorizing the lone French adjectives in *dò* constructions as code-switches.

#### *Adjectival modification in unambiguous code-switches*

As previously, we must also compare the patterning of the lone French-origin adjectives in otherwise Fongbe discourse with that of French adjectives appearing at language boundaries, that is, in unambiguous code-switches. As with Wolof, there are very few unambiguous code-switches in the data. We were only able to locate four in this corpus, reproduced in (30).

- (30) a. *produits vivriers* nò dò || *moins chers*.  
 produce HAB be less expensive

TABLE 5. Comparison of adjectival modification in Wolof/Fongbe mixed discourse

Type of Mixture: Corpus:	Lone French-Origin				Code-switching			
	Wolof		Fongbe		Wolof		Fongbe	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Attributive Adjective Position								
Before noun	7	54	0	0	0	0	0	0
After noun	0	0	5	83	0	0	0	0
Relative clause	6	46	1	17	0	0	0	0
Predicate Adjective Position								
Following copula	0	0	24	96	0	0	3	75
Following other verb	5	29	0	0	1	100	1	25
No verb precedes	12	71	1	4	0	0	0	0
Total attributive contexts	13	43	6	19	0	0	0	0
Total predicative contexts	17	57	25	81	1	100	4	100
Total adjectival expression	30		31		1		4	

- b. *médé lé nó dò* || *gravement blessés*.  
 someone PLU HAB be seriously hurt  
 'Some are seriously hurt.' (Fongbe 2:Spkr 02:55)
- c. *yè nó dò* || *rapidement guéris*.  
 they HAB be quickly healed  
 'They are rapidly healed.' (Fongbe 2:Spkr 02:307)
- d. *à mà kà ná nò* || *trop extravagant à*  
 you NEG MOD FUT stay too extravagant NEG  
*éné ó c'est encore mieux*.  
 DEM DEF it's still better  
 'Not to be too extravagant, that's still better.' (Fongbe 3:Spkr 03:434)

Note that all of these involve a language change at the boundary between the subject and a full predicative adjectival phrase (rather than a lone item). Moreover, in every case where this is observable, French-origin adjectives show morphological agreement with their heads, as is coherent with French, but not Fongbe, grammar. In three of four cases, the switch is mediated by *dò*. Although three out of four is hardly overwhelming evidence, an examination of all French adjectival expressions in the unambiguous code-switches of a larger sample of 10 Fongbe-French bilinguals (Meechan, 1992) reveals that all but the one in (30d) are preceded by *dò*.<sup>16</sup>

#### SUMMARY OF FRENCH ADJECTIVAL USE IN FONGBE AND WOLOF MIXED DISCOURSE

Table 5 summarizes the use of French adjectival expressions in Wolof/Fongbe attributive and predicative contexts. Turning first to the lone French lexical

items in Wolof, we found them to be fairly evenly divided between prenominal and relative clause constructions, both perfectly acceptable positions in Wolof. None occurred in the preferred French post-nominal position, suggesting that they are functioning more like native Wolof adjectives, that is, as borrowings. In Fongbe attributive contexts, French-origin adjectives only appeared post-nominally, a position consistent with the structure of both languages. Although in the final analysis these exemplify the *inherent* ambiguity of the lone other-language element in a context of structural and categorial equivalence (see Sankoff et al., 1990, for discussion), auxiliary information provided by our method – such as the findings that (1) no French adjectives occurred preminally (Table 3), and (2) no cases of *unambiguous* code-switching involved this site (Table 5) – makes us lean toward a borrowing analysis here as well.

In predicate position, lone French-origin adjectives in Wolof discourse tend to follow the noun directly, although 29% appeared with the support verb *gɗn*. None co-occurred with a preceding copula, in sharp contrast with the monolingual French context, where all predicate adjectives were so preceded. Rather, the pattern is more consistent with the monolingual Wolof predicative context, where 92% of the adjectival verbs appear with no support verb. On the basis of this evidence, we suggested that the Wolof–French bilinguals were code-switching between *gɗn* and a following adjective. Weak support (due to the paucity of the data) for this suggestion was adduced from a comparison with the one unambiguous code-switch, also introduced by *gɗn*.

In the Fongbe predicative context, all but one of the lone French adjectives appear in the context of the preceding copula *ɗò*. Recall from Table 1 that *no* Fongbe adjectival expression appeared in this context monolingually, although this is theoretically possible. All French predicate adjectives were preceded by a copula. This would suggest that the French adjectives in Fongbe predicative contexts are virtually all code-switches, with the copula *ɗò* serving as a bridge to categorial equivalence. A code-switching analysis of the lone French-origin adjectives in Fongbe discourse is supported by the behavior of the four unambiguous code-switches in the data, three of which appear after *ɗò*. If the adjectival constructions following *ɗò* are code-switches, it would seem reasonable to inquire, by the criterion of bidirectionality invoked earlier, why there are no code-switches in the opposite direction, that is, to Fongbe after a French copula. The answer is simple. In this position, Fongbe adjectives do not occur in the monolingual context, and a fortiori in code-switches.

We conclude that unambiguous switching in Wolof is sharply limited. In Fongbe, the existence of categorial equivalence between Fongbe and French true adjectives, in conjunction with the establishment of syntactic equivalence via specialization of *ɗò* in adjectival contexts, together conspire to make the boundary between *ɗò* and French adjectives not only a permissible, but also a (relatively) productive code-switching site. Indeed, we have seen that nearly all of the mixed Fongbe data involving adjectives occur in code-switches and not in loanwords.

## DISCUSSION

Contrary to much current work (e.g., Eliasson, 1989, 1990; Myers-Scotton, 1993), which simply assumes that all or most incorporations from one language into another are code-switches, we have demonstrated (here and in previous work, e.g., Poplack & Meechan, 1995; Sankoff et al., 1990) that lone other-language items cannot be credited to a particular type of language mixture on a case-by-case basis. This is because they are inherently ambiguous. Only by placing the ambiguous cases in the context of the entire system can we hope to determine their status. As part of our ongoing research on the mechanisms governing the utterance-internal combination of elements from two languages, we have employed the quantitative method illustrated in this article to determine if their distribution reflects borrowed, switched, or yet other patterns. A comparison of the Wolof-French and Fongbe-French contact situations revealed superficially similar lone French-origin items to pattern in markedly different ways. In Wolof, they show a syntactic distribution that is simultaneously different from those found in unambiguous code-switches and similar to that of their counterparts in the language into which they are incorporated. This is as would be expected if they have been borrowed. In Fongbe, these adjectives embrace both the syntactic structure and the distributional patterns of their language of origin, as is typical of code-switches.<sup>17</sup>

We are now in a position to decide among the possible effects of categorial nonequivalence on code-switching. It is apparent that solutions (i) and (ii) cannot be maintained. Clearly, contrary to (i), code-switching is taking place in both data sets, despite nonequivalence. On the other hand, code-switching is not indifferent to categorial nonequivalence, as per (ii). Is it the case that code-switching is triggered by categorial nonequivalence, as suggested in solution (iii)?

Based on the categorial facts of each language, we could construe as counterevidence to the equivalence constraint a preference for code-switching before the orphan category in the Wolof-French case, coupled with complete absence of code-switching in the Fongbe-French case. Under the assumption that categorial nonequivalence constitutes lack of "congruence" (Jake & Myers-Scotton, 1994), such a result would support the Matrix Language Frame model (Myers-Scotton, 1993), which also makes explicit reference to the problem of categorial nonequivalence. In fact, just the opposite effect obtains. Other support for solution (iii), as could be adduced from the finding that code-switching occurs where congruence is deficient (as in Fongbe-French), must be discounted when compared with the dearth of code-switching in a situation where congruence is utterly lacking (Wolof-French). We conclude that solution (iii) is not a universal effect of categorial nonequivalence.

We had hypothesized that a greater degree of categorial mismatch would be associated with a tendency against code-switching. This is borne out. Wolof-French speakers, who encounter complete categorial mismatch in

ers, whose grammar admits a small degree of equivalence. What then is the relationship between categorial nonequivalence and code-switching? The fact that solutions (i) through (iii) cannot be supported indicates that categorial equivalence is clearly a requirement for grammatical switching. How is it effected? Is notional equivalence somehow translated into categorial equivalence, as per solution (iv), where categorial equivalence may be satisfied but structural equivalence is not? The absence of switching between French copulas and Wolof/Fongbe adjectival verbs and Wolof/Fongbe subjects and French adjectives shows that notional equivalence is not used to establish categorial equivalence.

Is the solution linked to formal grammatical properties of adjectives? Since adjectives are specified as [+v, +N], Wolof/Fongbe speakers may select one of these features to establish categorial equivalence, as per solution (v). But because Wolof speakers clearly identify French adjectives with Wolof adjectival verbs, only the feature [+v] appears to be accessed in determining category equivalence. Proof that the feature [+N] is not relevant may be adduced from the behavior of adjectives in the vicinity of the copula *nekk*. *Nekk* subcategorizes for nouns and locatives; hence, the juxtaposition of *nekk* with a French or Wolof adjectival would violate the monolingual grammaticality of Wolof and, by extension, the equivalence constraint. Such constructions never occurred.

The results of this study indicate that both Wolof–French and Fongbe–French bilinguals are ultimately opting for a solution that requires the establishment of equivalence. Our method reveals that equivalence is achieved by means of the comparative *gɗn* in the Wolof case and the auxiliary *ɗɗ* in the Fongbe case. Despite this similarity, the path leading to the establishment of equivalence is apparently language-specific. In the rare instances where they code-switch, Wolof–French bilinguals adopt solution (v). They undoubtedly identify French adjectives with Wolof verbal adjectives, as only these are permissible in the context of *gɗn*.

Although Fongbe–French bilinguals have an equivalent to the French true adjective in their categorial arsenal, it does not appear in Fongbe monolingual discourse. Instead, the preferred form of adjectival expression is via adjectival verbs, which should create the same problems of categorial and structural equivalence observed in Wolof. However, Fongbe grammar disposes of the *ɗɗ* construction for adjectival expression, although, as we have seen, it is virtually nonexistent in monolingual discourse. The *ɗɗ*+ADJ switching strategy prevails, despite its absence in monolingual Fongbe usage, because it allows speakers to fulfill simultaneously the requirements of structural and categorial equivalence imposed by the juxtaposition of the grammars of French and Fongbe. Fongbe bilinguals, unlike their Wolof counterparts, need not resort to strategies such as notional or featural equivalence. They can eschew options (iv) and (v) altogether and proceed directly to solution (vi), utilizing a structure that is grammatically acceptable, albeit quantitatively rare: *ɗɗ*+ADJ.

Despite the parallel predominance of adjectival verbs in both Wolof and

Fongbe spoken discourse, we conclude that, in the case of categorial non-equivalence, the bilingual grammar makes few compromises. Rather, at the point of code-switching, not only categorial but also structural equivalence must be maintained.

## NOTES

1. The term "adjectival verb" used for both Wolof and Fongbe indicates only that, although these items may perform the same semantic function as French (and other Indo-European) adjectives, they are not grammatically distinct from other Wolof/Fongbe verbs. Our use of this term thus does not imply that these constitute any real subcategory of Wolof/Fongbe verbs; rather, their qualification as *adjectival* is intended only for purposes of comparison.

2. Each example is identified by corpus (Wolof or Fongbe), cassette number, speaker number, and line number on the transcript, in that order. The data show phonological variability 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 identify clearly determination types recognized by this study, grammatical markers were glossed with the following codes: ADV = adverb, ASP = aspect marker, AUX = auxiliary, BEN = benefactive, CAUS = causative marker, COND = conditional, DEF = definite marker, DEM = demonstrative, EMP = emphatic, FOC = focus, FUT = future marker, GEN = genitive, HAB = habitual marker, IND = indefinite, LOC = locative, MOD = modal, NEG = negation, PAST = past tense, PLU = plural, POSS = possessive, PREP = preposition or postposition, REFL = reflexive, REL = relator/relative, STAT = stative, TOP = topic marker. Translation of discourse particles in this and ensuing examples is approximate.

3. As pointed out by an anonymous reviewer, research of this type has important implications for theories of language representation. But much more cross-linguistic evidence from a variety of code-switching situations is required before any real conclusions may be drawn. This article is a contribution to the accumulating body of findings in this regard.

4. Reference to the African languages as Wolof/Fongbe here and elsewhere in this article 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.

5. Exclusive reference to French here is not meant to exclude the possibility of Wolof/Fongbe terms appearing in adjectival switches from and borrowings into French. Our wording merely reflects the fact that these processes are unidirectional in these data.

6. The monolingual portions are those that (fortuitously) appeared in the immediate vicinity of the mixed discourse.

7. The remaining ambiguous cases were all predicate expressions, for the most part from the African language data. Their inclusion could only have strengthened the results, because the overwhelming majority of African adjectival expressions are in predicate structures.

8. We thus excluded constructions in which the boundary between adjective or verb and noun is not implicated, that is, switches in which the adjective *fortuitously* appears at the language boundary ( $N = 13$  in Wolof and 26 in Fongbe). Most of the latter can be classified as constituent insertions (Nait M'Barek & Sankoff, 1988). These are examined in detail in Poplack and Meechan (1995).

9. In some cases (e.g.,  $\nu\tilde{\nu}\tilde{\nu}$  'red'), no nonreduplicated verbal counterpart is in current use.

10. Assuming the strong interpretation of Muysken's claim.

11. As noted earlier and detailed in Poplack and Meechan (1995).

12. For example, the Wolof copula *nekk* 'to be' occurs mainly in locative constructions and could easily have been used to create a switch site that would be structurally equivalent to that of French adjectival expressions.

13. *dò* (a possible homonym) also occurs as an auxiliary element in the progressive construction. Before NPS, it is interpreted as a possessive. Such tokens were not included in the analyses reported here.

14. Fongbe also features an equative copula *nyí*, which was never used for this purpose in these data.

15. Even the apparent exception is not necessarily a counterexample because of variability in gender agreement in monolingual French (Barbaud, 1979).

16. The preponderance of unambiguous code-switches in the vicinity of copular *dò* constitutes a counterexample to the Matrix Language Frame Model (Myers-Scotton, 1993), which stipulates that "embedded language islands" (unambiguous code-switches in our terminology) may not occur modified by system morphemes from the "matrix language."
17. As far as borrowing is concerned, the same analysis suggests that the categorial structure of the language into which the borrowing is incorporated must be respected. This explains why all French adjectives are borrowed into Wolof as verbs, the category containing all monolingual Wolof adjectival expression. By the same token, the existence of a class of true adjectives in Fongbe, albeit unproductive, accounts for the small proportion of lone French-origin true adjectives in Fongbe attributive contexts. It is in this sense that we characterize loanwords as adopting the grammar of the recipient language.

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