

PLURAL MARKING PATTERNS IN NIGERIAN PIDGIN ENGLISH¹

Sali Tagliamonte

University of York (UK)

Shana Poplack and Ejike Eze

University of Ottawa

This paper examines the pluralization system of Nigerian Pidgin English (NPE). Extrapolating from proposals in the literature on English-based creoles as well as other vernaculars, we utilize quantitative methodology to assess the contribution of syntactic, semantic, and phonological features to variability in plural marking.

Although the English plural marker *-s* is most robust in the data, its patterning reflects neither English grammar nor a conventional functionalist distribution. Instead, surface variability in NPE is conditioned by two factors: animacy and nominal reference. Our findings suggest that these are substratal features whose effects are sensitive to speaker position on the creole continuum. This is strong empirical confirmation that the grammar underlying variable linguistic elements may be inferred from the distribution and conditioning of surface variants, even when none of them originate from that grammar.

Introduction

The origin and function of overt and null marks on nouns with plural reference in creole languages has been the subject of recent debate in the field. Some previous studies of creoles — for example, Bickerton (1975), Alleyne

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(1980a), Dijkhoff (1983, 1987), and Mufwene (1986) — have claimed that variable instantiation of morphological marking results from an underlying grammar sensitive to type of nominal reference and/or prior number disambiguation. Empirical quantitative analyses of marking patterns on nouns with plural reference in known creoles and varieties of African American Vernacular English, however, have been unable to provide unanimous support for these claims. For example, the results of Singler's (1989) study of Liberian English showed these "creole" characteristics, but these were not replicated in either Rickford's (1986) analysis of Gullah, or Patrick, Carranza, and Kendall's (1993) study of Jamaican Creole.

In this paper we hope to contribute to the understanding of plural marking in African varieties of English by studying the pluralization system of Nigerian Pidgin English, one of a number of related dialects of West African Pidgin English (Agheyisi, 1984, p. 211). We address several key problems in earlier work by 1) examining simultaneously the contribution of syntactic, semantic, and phonological features to this process while at the same time controlling for interaction between them, and 2) enhancing cross-linguistic comparability by applying to a new data set the detailed coding system developed in our earlier work on this subject (Poplack & Tagliamonte, 1994). The results will have implications both for the empirical characterization of number marking in another English-based creole, and for our ongoing program of determining the structure of the antecedent(s) of contemporary African American Vernacular English.

Nigerian Pidgin English

Despite its name, West African Pidgin English, which by some accounts (Fayer, 1982, 1990, p. 185), was spoken in what is now southeast Nigeria as early as the 18th century, is more appropriately characterized as a constellation of English-based pidgins *and* creoles (Barbag-Stoll, 1983; Mafeni, 1971). According to the traditional definitions of these terms, NPE may be qualified as an extended pidgin (Alleyne, 1980b; Todd, 1974), indistinguishable from creoles on linguistic grounds, but not yet having undergone (or only now undergoing) nativization to mother tongue status. Where extended pidgins and creoles differ crucially is with regard to influence from the substrate, which is far greater in the former (Singler, 1988), since substrate languages present at the inception of the pidgin typically persist as the L₁ of its speakers (Singler, 1988, p. 31).

Despite the imposition of colonial rule and the attendant emphasis on the teaching of (Nigerian) Standard English, NPE has continued to coexist with Standard English as well as with a multiplicity of indigenous languages, such that from its original, restricted use in trade contexts, NPE now qualifies as a lingua franca (Agheyisi, 1988; Faraclas, 1989; Fayer, 1990; Mafeni, 1971; Shnukal & Marchese, 1983). Although its use is most widespread in the urban areas of southern Nigeria, particularly in Bendel, Delta, Rivers, and Cross River states, as well as in metropolitan Lagos, and among the younger generations, the developing linguistic situation is that NPE is now the preferred means of communication amongst Nigerians of mixed ethnic groups in informal settings (Agheyisi, 1988; Mafeni, 1971).

Number Marking in Nigerian Pidgin English

Very little is known about number marking in NPE specifically, other than the widespread assumption that it is optional (Agheyisi, 1971, p. 131; Faraclas, 1989, p. 353), and apparently has been since at least the 18th century (Fayer, 1982, p. 102). According to Faraclas (1989), most nouns are assumed to be singular in NPE unless otherwise indicated by morphosyntactic or pragmatic contextual cues. In addition, a generic reading is said to be available for bare nouns. Among the morphosyntactic means reported to signal plurality in these sources are the following (illustrated with data from our NPE corpus): prenominal determiners, such as numerals and number-transparent indefinite quantifiers, as in (1a–b); and postnominal *dem*, as in (2), which is claimed to be the most common (Faraclas, 1989, p. 352), if not the only (Mafeni, 1971, p. 110) plural marker in NPE. Not specifically listed among plural markers in the sources we consulted on NPE (though it is cited in Faraclas' (1989) example 768 as a "borrowing") is the Standard English affix *-s*. This is exemplified in (1) and (3). Other ways of signaling plurality in the absence of a mark are said to be contextual, relying on prior information to disambiguate the number of the noun in question.

- (1) a. A dɔn taya kɔs a bɪn put **fiftin** awas tude. (01/538)
'I'm tired because I put in fifteen hours (at work) today.'
- b. **Meni** giels wan mek a bi dea boifren. (09/2261)
'Many girls wanted me to be their boyfriend.'
- (2) Bifo na dɔg, dey de sen ... nao yumɛn bi:n **dem** de go ...
(07/293)

'Before, it was dogs that they were sending ... now human beings are going [to the moon].'

- (3) a. If yu go daun Walkley, at *taim* na brəd, ɔrdinəri brəd, at *taims* na kek. (06/257)
'If you go down to Walkley, at times it's ordinary bread; at times it's cake.'
- b. Awa pipɪ se wen mɔni no kil man, *frens* an ɔda *rileʃn* no kil am, wuman no kil am, se im go las lɔng. (09/1744)
'Our people say that if money doesn't kill a man, friends and other relations don't kill him, women don't kill him, he'll last a long time.'

These observations correspond in essence to descriptions of plural marking in other English-based creoles (e.g., Alleyne, 1980b; Dijkhoff, 1983; Mufwene, 1986); see Poplack and Tagliamonte (1994) for detailed discussion.

There are also clear parallels with the number systems in the various West African languages spoken by our informants (which presumably provided input into NPE). These languages tend not to distinguish singular and plural by means of morphological affixation on the noun (Carnochan, 1962; Lawal, 1986; Welmers, 1973). Rather, in both Igbo and Yoruba, for example, bare nouns receive generic reading; individuation (singular or plural) can only be expressed through the addition of specific modifiers. In Igbo, the L₁ of most of our informants, a prior distinction must be drawn between animate and inanimate nouns. Bare inanimate nouns have generic reference, while bare human nouns receive a singular interpretation, unless plurality is otherwise specified (Welmers, 1973, p. 220). A similar contrast between [\pm human] and [\pm animate] is found in a number of other West African languages (Welmers, 1973, p. 221).

Data and Method

The Corpus

The data on which this study is based were provided by 12 NPE speakers currently residing in Ottawa, Canada. All were born, raised, or have lived extensively in predominantly NPE-speaking areas of Nigeria (e.g., Bendel, Rivers, Lagos), and had immigrated to Canada within the last five years. Each

belongs to at least one Nigerian community association where NPE is used regularly. Sample members include 11 adults (eight male and three female), ranging in age from 28–52, and one child, aged 11. All (the adults) are highly educated, having completed secondary education or better in Nigeria, and can be qualified as middle class. Several were employed as teachers or in other professional capacities before emigrating. As is common among educated Nigerians, the speakers constituting our sample are all multilingual in a number of African languages, as well as in NPE and Standard English. The first language of most (8/11) is Igbo, a Kwa language of the Niger-Congo group. In addition, there is one L₁ speaker of each of Ijò and Yoruba (Kwa), Efik (Benue-Congo), and Edo. All informants report having used NPE regularly at home, at work, and at school in Nigeria, and (as a condition for inclusion in our sample), habitually use NPE in in-group situations in Ottawa as well.

Given the sociolinguistic conditions for use of NPE (versus Nigerian and/or other varieties of Standard English), access to the Pidgin system is largely contingent on access to the appropriate interactional setting. In an effort to obtain a valid representation of NPE, we adopted a participant observation technique of data collection. The field worker/participant (Eze) is himself an active community member, and the informants, all participants in his (predefined) social networks. The sociolinguistic interviews comprise approximately 18 hours of intense discussion about intimate aspects of daily life — testimony to their vernacular nature. Except for the occasional code-switch to an African language or Standard English, these conversations were carried out entirely in NPE. The resulting corpus is comparable to the very few corpora on pidgins and creoles collected, transcribed, and coded by participants, insofar as it is entirely comprised of spontaneous interaction among members.

The Variable Context

The variable context for this study is the set of all individuable nouns with plural reference, regardless of whether they are accompanied by an overt plural mark or not. From the tape recorded interviews constituting the NPE corpus, we first extracted a minimum of 70 and a maximum of 300 tokens of such nouns from each speaker. As is standard practice in variation studies, we then excluded from the quantitative analyses reported in ensuing sections a number of constructions which were either ambiguous, as in (4a–b), or showed no variability in marker usage (remaining categorically bare or

categorically marked). These include frozen expressions, as in (4c), a small number of invariant irregular nouns, as in (4d), and circumstantially invariant count nouns, as in (4e). A total of 1316 tokens of semantically plural nouns was retained for the quantitative analysis.

(4) Ambiguity:

- a. Dey go fɔ bič go ekspoz dea *bɔdi* evritij. (06/152)
 ‘They went to the beach and exposed their [body or bodies?] and everything.’

Neutralization contexts:

- b. Studen[s] [s]e dey no want am. (9/2019)
 ‘Students said they didn’t want him.’

Frozen expressions:

- c. ɔnles wi go fit si *ways and means* ɔf produsin tijz. (03/5)
 ‘Unless we can see ways and means of producing things.’

Invariant irregular nouns:

- d. Di *men* hia no get pawa. (06/222)
 ‘The men here are not strong.’

Circumstantially invariant plural count nouns:

- e. Wɔn ɔf ɪm *pikin* na mai frɛn. (09/919)
 ‘One of his children is my friend.’

Coding and Analysis

Each token was coded for a series of phonological, morphological, lexical, syntactic, and semantic factors selected to replicate our earlier analyses of plural marking in three varieties of Early Black English (Poplack & Tagliamonte, 1994), as well as empirical analyses of Gullah (Rickford, 1986, 1990) and Liberian English (Singler, 1989, 1991). Choice of factors and coding decisions is described in detail in Poplack and Tagliamonte (1994) and will not be reproduced here. In addition, we incorporate the factor group of animacy, to assess whether this key determinant of number marking in the West African languages that are our informants’ L₁ also plays a role in their NPE.

The data are analyzed by GoldVarb, a variable rule application for the Macintosh (Rand & Sankoff, 1990). This enables us to detect which effects are *statistically significant* (as determined by the stepwise selection procedure incorporated in the variable rule program) and to what *degree* (as determined by the magnitude of the range of factor weights within a factor group). The hypothesis informing this, as well as our recent related research, is that underlying grammatical structure can be discerned from the distribution and conditioning of markers. Using a broadly comparative approach, we then assess relationships among varieties by confronting details of the resulting constraint hierarchies. If they are shared, we may reasonably conclude that they derive from a common ancestor, with the proviso that the detailed structure of surrounding varieties can be ruled out as not explanatory.

Results

Table 1 gives the overall distribution of plural markers in our NPE data. We first note that postnominal *dem* (5), claimed (though not shown) to be the most commonly utilized means of signaling plurality in NPE nouns (Faraclas, 1989, p. 352; Mafeni, 1971, p. 110), is vanishingly rare, not even accounting for 1% of the data.

- (5) An ɔl doz *tijz dem*, a no de si. (02/887)
 ‘And all those things, I don’t see them.’

It is of particular interest that the English affix *-s*, not specifically mentioned in any of the treatments of number marking in NPE we consulted, actually represents the most frequent variant in our data. Can this be construed as evidence that these materials have been influenced by contact with Standard English, and that the English plural marker has been “borrowed”

Table 1. *Overall Distribution of Plural Markers in NPE*

	% of data	N
<i>-s</i> affix	59	783
[Ø]	39	519
post-nominal <i>dem</i>	.7	9
Doubly-marked contexts:		
<i>-s</i> + <i>dem</i>	.4	5
TOTAL N		1316

into NPE, as also intimated by Faraclas (1989, p. 358)? The response to this question lies not in the mere presence or absence of the form in the corpus, but rather in the *conditioning* of linguistic variability, as revealed by the results of the stepwise multiple regression procedure incorporated in the variable rule program. If the factors determining the appearance of *-s* in the data are consistent with those relevant to an English system of plural marking, we may conclude in the affirmative.

Since a primary goal of this study is to compare NPE plural marking patterns with those found, using the same methodology, in our studies of Early Black English (which in turn tested predictions for English-based creoles), we first coded the data so as to replicate those studies exactly. The results are as in Table 2.

As a first observation, in striking contrast to previous findings, note that neither preceding nor following phonological segment is significant to the morphological expression of plural. Unlike the case in the Early Black English varieties, where phonological factors exercised a robust and statistically significant effect, a null mark on a noun with plural reference in NPE cannot be construed as resulting from the application of a phonological rule, and should rather be viewed as the output of a grammatical process. What is this process? The same table shows that two nonphonological factors were selected as significant — semantic classification of the noun and NP constituency.

As detailed in Poplack and Tagliamonte (1994), the factor group labeled semantic classification is meant to capture an effect widely acknowledged to condition the variable occurrence of plural *-s* in English. Nouns of weight, measure, and monetary denomination, among others, have been attested as favoring zero plural in English. Table 2 reveals that this effect is *not* characteristic of NPE. Instead, such nouns disfavor zero (with a probability of .29), favoring instead an overtly marked plural in *-s* (.54), as exemplified in (6a–b). This result is already familiar to us from our studies of Early Black English varieties.

- (6) a. A dey siks *mɔns* wɪt am fɔ Englən. (01/13)
 ‘I was with them for six months in England.’
 b. I gɪv mi wɔn hɔndrəd *pounds*; a valyu dat wɔn hɔndrəd *pounds*.
 (09/994–5)
 ‘He gave me one hundred pounds; I valued that one hundred pounds.’

Table 2. *Variable Rule Analysis of the Contribution of Phonological, Structural, and Semantic Factors to the Probability of ZERO PLURAL in Nigerian Pidgin English*

CORRECTED MEAN:	.397	Log Likelihood	-854.200
TOTAL N	1316	Significance	0.018
Factors considered		Factor Weight	N
NP constituency			
Generic		.57	511
Partitive quantifier		.57	23
Possessive		.51	86
[-numeric, +individuating] Q		.49	227
Definite article		.46	160
[+numeric, +individuating] Q		.42	235
Demonstrative		.39	74
	<i>Range</i>	18	
Semantic classification			
Non weight/measure		.54	1141
Weight/measure		.29	175
	<i>Range</i>	25	
Preceding phonological segment*			
Non-sibilant consonant	[]	604
Vowel	[]	361
Following phonological segment			
Consonant	[]	552
Vowel	[]	165

FACTORS NOT SELECTED:

Preceding phonological segment, Following phonological segment.

* Square brackets indicate the factor group was included, but not selected as significant in the analysis.

More revealing is the effect of the factor group we refer to as “NP constituency.” This factor group was originally conceived as an operationalization of the predictions of Mufwene (1986) and others regarding plural marking in creoles; viz. that individuated nouns with plural reference should be delimited with the postnominal pluralizer, which in turn typically co-

Table 3. *Marking Predictions for Nouns with Plural Reference in English-Based Creoles (Reproduced from Poplack and Tagliamonte [1994] after Mufwene [1986, p. 40])*

DELIMITER	MARK
Definite article	<i>dem/-s</i>
Possessive pronoun	<i>dem/-s</i>
Demonstrative \emptyset	
[+numeric, +individuating] Q	\emptyset
[-numeric, +individuating] Q	\emptyset
Generic reference	\emptyset

occurs with a possessive or the definite article. Individuated nouns delimited with other determiners remain bare. Moreover, the plural marker *dem* — or an analog to it — is only affixed to a noun which is both 1) individuated and 2) not otherwise disambiguated for number within the NP it heads. These predictions are depicted graphically in Table 3.

The key difference between English and creoles, at least according to this scheme, would reside in the category of generic reference. In creoles, generics are construed as nonindividuating, and, as such, remain “bare.” Empirical tests of these predictions on Liberian Settler English and Liberian English (Singler, 1989, 1991) revealed that while they could not be shown to hold in detail, one important effect could be confirmed: NPs with generic reference, exemplified in (7) with NPE, showed a greater propensity to surface bare (7a) than any other NP type. Singler referred to this tendency as a “creole characteristic” (Singler, 1989, p. 58).

- (7) a. Na de wey *got* de slip. (09/955)
 ‘That’s where goats sleep.’
- b. Wi *get frɛns* wey wi de cɔmɔt ɔl di taim. (01/647)
 ‘We have friends that we go out with all the time.’

Table 2 demonstrates that NPE resembles Liberian Settler English in showing a high generic effect compared to other factors in the NP constituency group. This result supports both the predictions for creoles, as well as Singler’s empirical findings, at least insofar as the behavior of generics is concerned. But the generic effect in Table 2 is not as clear as that found by Singler: in NPE the distinction between the effect of generic reference

Table 4. *Distribution of Data Across Contexts of Reference and Determination in Nigerian Pidgin English (N = 1316)*

TYPE OF DETERMINER	TYPE OF NOMINAL REFERENCE		
	Definite	Indefinite	Generic
Numeric quantifier	4%	45%	—
Non-numeric quantifier	—	24%	2%
Definite article	36%	3%	4%
Demonstrative	35%	—	—
Possessive	19%	—	—
No determiner	5%	28%	93%
TOTAL N	450	483	383

and that of the other factors is gradient, rather than sharp. This result could be due 1) to sparse data for some of the factors (rendering their positions in the constituent hierarchy spurious), or 2) to different locations on the creole continuum of the comparison varieties. A more likely explanation is inherent in the data themselves, as we shall see in what follows. Poplack and Tagliamonte (1994) had already noted that the categories of reference and determination are inextricably linked. Table 4 shows that in NPE as well, most nouns with indefinite reference are delimited by a quantifier, as in (8a); those with definite reference are delimited with a definite article, demonstrative, or possessive pronoun, as in (8b); and most strikingly, virtually all nouns with generic reference are undetermined, as in (8c). The fact that the two categories are so highly correlated among themselves makes it particularly difficult to disentangle the effects of reference and determination.

- (8) a. I no wes laik **tu** mɔns, di bɔɪ mari. (09/1788)
 ‘The boy didn’t waste like two months, he got married.’
- b. **Doz** wɔns wey de kɔm klɔb na gutaimas. (01/610)
 ‘The ones who come to the club are goodtimers.’
- c. Yu no az **toilet** de dey. (13/263)
 ‘You know how toilets are.’

A final possibility is that the factor(s) responsible for most of the variability in the NPE data have not been taken into account. We noted earlier that animacy is a key determinant of morphological structure in many West African languages, as well as other languages of the world (Comrie, 1981, p. 181).

One opposition that correlates closely with animacy (or with its common linguistic reflex, the distinction between human and nonhuman) is the existence of number. It is generally the case that NPs ranking higher on the animacy hierarchy (e.g., those referring to humans) feature a number distinction, while those ranking lower do not (Comrie, 1981, p. 181). In variable terms, this means that if the NPE data we have been examining result from, say, an Igbo(-like) grammar of plural marking, the factor of animacy can be expected to exercise a statistically significant effect on the presence of overt and null marks, with animate nouns favoring the former. This is exemplified in (9a–b).

- (9) a. Di *bɔiz* de lisin tu am. (01/639)
 ‘The boys were listening to him.’
- b. A kɔm ɛnta bigɪn wash *plet*. (01/098)
 ‘I came in and started washing plates.’

The following analyses examine these hypotheses by distinguishing the structural and referential properties of the nouns in our corpus and testing each configuration separately. In one analysis we consider only the syntactic structure of the NP. In the other we consider only the referential status of the noun, regardless of its structural characteristics. This eliminates the effects of interaction. In each run we also include the factor of animacy. The results may be seen in Tables 5 and 6.

When the data are coded according to structural characteristics of the NP, as in Table 5, both type of determiner and animacy of the noun are selected as significant. Number-neutral determination structures, including possessives, definite articles, and bare nouns favor a null mark on nouns with plural reference, while those with number-transparent determiners (e.g., the demonstratives *diz* and *doz*, and both numeric and non-numeric quantifiers) tend toward overt marking with *-s*. This runs counter to the received wisdom about plural marking in creoles, according to which a mark should be favored in contexts where plurality has *not* been otherwise disambiguated in the NP headed by the noun in question. In NPE, in contrast, precisely these contexts show the *highest* rates of zero plural (Table 5). Note too that these include possessives and definites, just the determiners predicted to receive overt marks in creoles. What seems to be operating here is not a “functional” effect, as has been invoked for other English-based creoles, but a counter-

Table 5. *Variable Rule Analysis of the Contribution of Phonological, Structural, and Semantic Factors to the Probability of ZERO PLURAL in Nigerian Pidgin English*

CORRECTED MEAN:	.397	Log Likelihood	-844.788
TOTAL N	1316	Significance	0.000
Factors considered		Factor Weight	N
Animacy of the noun			
[-animate, -human]		.55	992
[+animate, +human]		.35	324
	<i>Range</i>	20	
Type of determiner			
Undetermined		.59	515
Possessive determiner		.57	86
Definite article		.53	192
Demonstrative		.50	162
Non-numeric quantifier		.44	122
Numeric quantifier		.29	237
	<i>Range</i>	30	
Preceding phonological segment			
Non-sibilant consonant		[]	604
Vowel		[]	361
Following phonological segment			
Consonant		[]	552
Vowel		[]	165

FACTORS NOT SELECTED:

Preceding phonological segment, Following phonological segment.

functional one, akin to the principle of saliency proposed by Lemle and Naro (1977) with regard to subject-verb agreement in Brazilian Portuguese. In NPE as well, plural tends to be marked overtly in contexts in which its absence would be most noticeable. This is illustrated in the examples in (10), where the nouns follow number-transparent determiners.

- (10) a. A kɔm du sociology fo *tri yias* a kɔm kɔm aut. (013/217)
 'I did sociology for three years. I came out.'

- b. ɔl *doz* deti *jobs* wey ɔl *doz* yeye *bɔis* wey dey fo strit de du
 yu no. (01/479)
 'All those dirty jobs that all those worthless boys in the street
 do, you know.'

Such an effect is understandable among educated L₂ speakers seeking to apply a grammatical rule (in this case morphological marking of plural) not native to them. We note that the greatest probability of zero marking is contributed by the undetermined nouns, which we know to consist mainly of generics (Table 4). This effect is confirmed in Table 6, which displays the same data recoded according to referential status of the NP.²

Table 6. *Variable Rule Analysis of the Contribution of Phonological, Referential, and Semantic Factors to the Probability of ZERO PLURAL in Nigerian Pidgin English*

CORRECTED MEAN:	.403	Log Likelihood	-869.482
TOTAL N	1316	Significance	0.004
Factors considered		Factor Weight	N
Animacy of the noun			
[-animate, -human]		.54	990
[+animate, +human]		.38	324
	<i>Range</i>	<i>16</i>	
Type of nominal reference			
Generic		.57	383
Indefinite and definite		.47	933
	<i>Range</i>	<i>10</i>	
Preceding phonological segment			
Non-sibilant consonant		[]	604
Vowel		[]	361
Following phonological segment			
Consonant		[]	552
Vowel		[]	165

FACTORS NOT SELECTED:

Preceding phonological segment, Following phonological segment.

² Definite and indefinite reference are treated together because no difference was found between them.

Generic reference favors a zero mark, albeit modestly, with a probability of .57. Recall that in creoles, even count nouns with generic reference are construed as nonindividuating, and as such are predicted to remain bare. But this “creole” effect is in the first instance an African language effect. Consider, for example, Igbo, which is the L_1 of most of our informants. Carnochan (1962) observes that “nouns in this language are neither singular nor plural.” Indeed, because Igbo is basically devoid of nominal inflectional morphology, the bare noun (which can be considered the unmarked case) normally receives a generic reading. As mentioned above, the animacy distinction crosscuts those of nominal reference and determination, such that bare [-animate, -human] nouns are construed as generic, while bare [+human] nouns are interpreted as singular, unless overtly marked for plural (Welmers, 1973, p. 220). If a system analogous to the Igbo system were operating in NPE, we should expect to find most zero plural on [-animate] nouns and most overt marking on [+human] nouns. And indeed, the factor of animacy contributes a strong (Range = 20 in Table 5), if not the strongest (Range = 16 in Table 6), effect to the probability that plural will be morphologically marked in NPE, in the direction posited.

Summarizing, the results of our analyses indicate that variability in plural marking in NPE is conditioned by two factors. One is the animacy of the noun, such that nouns with human referents receive more overt marking of plural. The other is some combination of the syntactic structure of the noun phrase and the referential status of its head, particularly insofar as this is manifested in the behavior of undetermined nouns, which in turn tend to have generic reference. Such nouns display the highest rates of null marking of plural. There is very little to choose between Tables 5 and 6 with respect to the goodness of fit between analysis and model. We observe, however, that the factor of “type of determiner” represents a more detailed version of the “type of nominal reference” factor group in Table 6. The latter has a smaller range than the former, first because some of the distinctions are compressed, and second, because we adopted a very restrictive definition of generic, including in this category only reference to *all* members of a class. When the set of quasi-generic indefinites (modified only by an adjective) is

classed as generic (not shown here), the contribution of this factor increases dramatically.³

How do our findings hold up against the predictions described for creole systems in general? First, marking in creoles is predicted to occur least in otherwise disambiguated contexts; Table 5 shows that the opposite is the case here: the *undisambiguated* nouns (those that co-occur with possessive, definite article, or no determiner at all) show least marking. Second, more overt marking is predicted in definite contexts, yet definiteness is not a distinguishing factor in our data (Table 6). Third, and perhaps foremost, is the prediction that nouns with generic reference will surface with no overt mark. This effect does obtain in our analysis of NPE, although we have seen that it cannot be unambiguously disentangled from the undetermined status of most generic nouns in the plural. Thus, of the creole predictions, at least as enunciated by Mufwene (1986) and others, our results support only the latter. A similar finding was reported by Singler (1989) for Liberian Settler English.

On the other hand, the factors contributing significant effects to plural marking in NPE are entirely consistent with a scenario involving substratum influence from Igbo, the first language of most of the speakers in our sample.

³ This raises the question of whether the observed effect is semantic (due to generic reference), or syntactic (due to lack of determiner), or whether the two are equivalent. The extent of the interaction described in Table 4 is such that for 95% of the data, in which generic nouns are undetermined and definites are determined, this is impossible to ascertain. Any attempt to distinguish the effects would require comparing the behavior of *determined* generics, as in (1), and *undetermined* definites, as in (2).

- (1) Yu go yuz lif, but a no sabi tay **da livz**. (08/291)
'You'd use leaves but I don't know how to tie leaves.'
- (2) Wi bi **fren**. (09/1748)
'We are friends.'

If undetermined generics behave like undetermined definites, we could conclude that the syntactic effect predominates, since referential status does not distinguish them. If determined generics behave like undetermined generics, the semantic effect must be preeminent, since noun determination has no effect. In any case, calculations show that in both of the small subsets of such rare examples in our data, zero marking exceeds that of undetermined generics. Thus, given the definition of generic outlined and operationalized in this work, its still cannot be established whether the effects are independent or whether both act in concert. For purposes of clarity, we continue in this paper to refer to this as the "generic effect," although it should be understood to refer, here and wherever *generic* is similarly operationalized, to the combined (and indistinguishable) effect of generic reference and undetermined status of the noun.

To test this hypothesis we reanalyzed the data according to the informants' ethnicity/ L_1 . The results are as in Table 7.

Table 7. *Variable Rule Analysis of the Contribution of Phonological, Referential, and Semantic Factors to the Probability of ZERO PLURAL in Nigerian Pidgin English according to Ethnicity/ L_1 of the Speaker*

	Igbo	Non-Igbo*
CORRECTED MEAN:	.387	.475
TOTAL N	781	476
Factors considered		
Animacy of the noun		
[-human]	.55	.56
[+human]	.38	.34
<i>Range</i>	17	22
Type of nominal reference		
Generic	.58	[]
Definite and indefinite	.47	[]
<i>Range</i>	11	
Preceding phonological segment		
Non-sibilant consonant	[]	[]
Vowel	[]	[]
Following phonological segment		
Consonant	[]	[]
Vowel	[]	[]
FACTORS NOT SELECTED:		
Preceding phonological segment	×	×
Following phonological segment	×	×
Type of nominal reference		×

* Because languages other than Igbo are represented in our sample by only one speaker each, we treat them together here. Fifty-nine tokens of the circumstantially invariant lexical item *year*, which is virtually always marked with *-s*, are almost all concentrated among the Igbo speakers. They were excluded from the calculations in Table 7.

The factors selected as significant, as well as their relative contributions, are nearly identical to those found for the amalgamated data set in Table 6, except that type of nominal reference was not selected for the non-Igbo speakers. A possible explanation is that in one or more of the four languages combined under the heading “non-Igbo,” referential status may play little or no role in number marking. But the L₁/ethnicity distinction is also correlated with speaker access to Standard English.⁴ Table 8 displays the contribution of the same factors to the probability that semantically plural nouns will surface unmarked, according to this factor.

Regardless of the speaker’s exposure to (and command of) Standard English, the factor of animacy again contributes the greatest effect to the probability the plural will be marked with *-s*. Interestingly, what distinguishes speakers with different degrees of proficiency in Standard English is their behavior with regard to the factor of nominal reference. Table 8 shows that the favorable effect of generics on zero is restricted to those who have had less access to Standard English, supporting our earlier suggestion. Table 8 thus may be viewed as a graphic depiction of (a portion of) the creole continuum: the plural marking system of speakers located in the mesolectal sector of the NPE continuum is affected by two substratal features, while those closer to the acrolectal pole show only one. At the same time, no factors relevant to, or even consistent with, an English system of plural marking were selected in any of the data configurations in Tables 2–8⁵ — despite the extensive

⁴ A rough measure of access to Standard English may be obtained by calculating the number of years of English language-medium education completed in Nigeria. Speakers coded as having considerable access to Standard English all completed postsecondary schooling, while those coded as having moderate access completed secondary schooling. We shall assume, for the sake of argument, that all speakers have had maximal contact with Standard English *since* their arrival in Ottawa.

⁵ In African American Vernacular English studies, a phonological effect has traditionally, if controversially, been conflated with a phonetic process operating to delete or conserve the underlying English plural affix *-s*. The selection in Table 8 of following phonological segment for speakers with moderate access to Standard English, and preceding phonological segment among those with considerable access, is due to one or two individuals in each group with a strong phonological effect coupled with a large proportion of tokens. We therefore regard this result as spurious. Indeed, when we compare the hierarchy of effects for both preceding and following phonological segments for each informant in our sample, we find no consistency either within or across individuals in terms of CV versus VC hierarchy. We conclude that the results for the amalgamated data (Table 6), where phonological factors were not selected as significant, provide the closest approximation to the true status of these factors in the data.

Table 8. *Variable Rule Analysis of the Contribution of Phonological, Referential, and Semantic Factors to the Probability of ZERO PLURAL in Nigerian Pidgin English according to Speaker Access to Standard English*

	Access to Std E	
	Considerable	Moderate
CORRECTED MEAN:	.319	.509
TOTAL N	529	787
Animacy of the noun		
[-human]	.54	.54
[+human]	.39	.37
<i>Range</i>	15	17
Type of nominal reference		
Generic	[]	.59
Definite and indefinite	[]	.47
<i>Range</i>		12
Preceding phonological segment		
Non-sibilant consonant	[]	.54
Vowel	[]	.44
Following phonological segment		
Consonant	.52	[]
Vowel	.43	[]
<i>Range</i>	9	
FACTORS NOT SELECTED:		
Preceding phonological segment	×	
Following phonological segment		×
Type of nominal reference	×	

contact experienced by all speakers with that language, both in Nigeria and in Ottawa. Rather, the factors selected as significant may only be construed as relevant to the substrate or to NPE itself.

Moreover, although the (English-inspired) factor of semantic classification was selected as significant in Table 2, its effect goes in the opposite direction from that predicted for that language.

Relationship of the Nigerian Pidgin English Data to the Problem of Creole
Origins of Contemporary African American Vernacular English

What are the implications of these results for assessing the creole origins of contemporary African American Vernacular English? To be valid, any inferences in this regard should be based on a systematic comparison with patterns of plural marking in precursors of African American Vernacular English as well as in other English-based creoles. Table 9 compares our findings for NPE with the results of several analyses of this same phenomenon in English-based creoles, as well as those of our own studies of three varieties of Early Black English (Poplack & Tagliamonte, 1994), now recoded for the factors of animacy and nominal reference for ease of comparison.

We note first that the factors conditioning plural marking in Early Black English could hardly differ more from those operative in NPE. Early Black English shows a robust phonological effect, NPE has none. Early Black English shows a local disambiguation effect, with more morphological marking in contexts that are number neutral (Poplack & Tagliamonte, 1994, p. 27), while NPE indicates the opposite, with more plural marking in contexts that are number transparent (Table 2). Generic reference, or zero determiner, co-occurs with the lowest rates of zero marking in the Early Black English varieties in which it was selected as significant and with the highest rates in NPE. The effect of animacy was not selected as significant in any of the Early Black English varieties; it contributes the strongest effect in NPE. We interpret the latter two effects as being related to substratum influence in the NPE case and lack thereof, in the Early Black English case.

How do the NPE results compare with those of the other pidgin/creole varieties? The accountable empirical methodology afforded by the variationist paradigm is beginning to yield the reliable cross-linguistic effects lacking in earlier studies.⁶ We first note that preceding phonological segment is

⁶ In fact, the quantitative results in Table 9, though all derived from variable rule analyses, are not entirely analogous, for reasons relating to coding practices, factor group configurations, and number of factor groups included in the analysis. In Table 9, we include only factors directly comparable to the ones discussed here. For example, factor weights for Liberian English and Liberian Settler English were given for *-s* presence. For ease of comparison, we simply converted them to probabilities for zero. Although generic reference was tested in the analysis of Liberian English, it is part of a larger factor group (including possessive, definitizer, demonstrative, numeral *sɔn*, *plɔni*, and so forth). Because no N's were given in that study, we could

Table 9. *Variable Rule Analysis of the Contribution of Factors to the Probability of ZERO PLURAL in Samaná English (SE), the Ex-Slave Recordings (ESR), African Nova Scotian English (ANSE) (Poplack & Tagliamonte, 1994), Gullah (Rickford, 1986, Table 3), Nigerian Pidgin English (NPE), Liberian Settler English (LSE) (Singler, 1989, Table 9), and Liberian English (LE) (Singler, 1991, Table 36.2)*

	Early Black English Varieties			Pidgin/Creole Varieties			
	ANSE	ESR	SE	Gullah	NPE	LSE	LE
CORRECTED MEAN:	.34	.25	.23	.22	.40	.35	
TOTAL N:	1353	427	1672	128	1316	574	571
Factors considered							
Animacy of the noun							
[-animate, -human]	[]	[]	[]	—	.54	[]	.67
[+animate, +human]	[]	[]	[]	—	.38	[]	.33
Type of nominal reference							
Generic	.44	.27	[]	[]	.57	.59	.65
Definite and indefinite	.52	.58	[]	[]	.47	.41	lower
Preceding phonological segment							
Non-sibilant consonant	[]	.58	.55	.65	[]	.64	.72
Sibilant consonant	[]	.27	.56	.59	[]	.37	.21
Vowel	[]	.45	.42	.26	[]	.49	.63
Following phonological segment							
Consonant	.71	.53	.62	.61	[]	[]	—
Vowel	.41	.37	.46	.23	[]	[]	—
Pause	.46	.65	.43	.60	[]	[]	—

only reproduce the probability for the generic category and indicate that all the other factors in Singler’s “number/individuation” factor group contributed a lesser effect to the probability of zero plural. The results reproduced from these studies of English-based creoles all come from runs including several other factor groups, which may have affected their relative importance (as assessed by the range), and even whether or not they were selected as significant. We therefore limit our comparison to the constraint hierarchies. We follow convention in referring to the speech of “Mrs. Queen” as Gullah, and that of Singler’s three informants as Liberian Settler English. As previously, factor groups indicated by square brackets were included, but not selected as significant in the analysis. Factor groups indicated by a dash were not included in the analysis.

almost always selected as significant to plural marking. Although phonological conditioning is no doubt as relevant to creoles as to other languages, the *diagnostic* capacity of this factor would be diminished if its effect were universal and not creole-specific. And, in fact, although the effect of a preceding sibilant varies across the board, in all of the varieties in which this factor was selected as significant, a preceding consonant always favors zero realization of the marker while a preceding vowel inhibits it. This means that all such varieties feature a variable process of consonant cluster simplification, although they handle epenthetic vowel insertion after sibilants differently. Where the Early Black English varieties differ from the English-based creoles is with regard to *following* phonological segment.⁷ In each of the former (but none of the latter), we observe the (by now familiar) effect that consonants favor zero realization while vowels disfavor it.

What of the generic effect? Because generics did not particularly favor zero in their Jamaican Creole data when compared to some other factors in the same factor group, Patrick, Carranza, and Kendall (1993) recently questioned the appropriateness of positing a creole pattern of plural marking at all. Table 9 examines the effects of generic versus non-generic reference in isolation, with no contamination from the factors of a lexical, syntactic, or other nature typically included in this factor group.⁸ It is plain to see that in the English-based creoles considered here, nominal reference contributes a consistent effect to plural marking: generic reference favors zero realization of plural, while both definite and indefinite reference favor an overt marker.⁹

⁷ With the exception of Gullah (on whose status we take no stand), which patterns like the Early Black English varieties. Rickford himself observed that the absence of the plural marker in Mrs. Queen's speech was best described as a deletion rule with phonological constraints (1986, p. 57; 1990, p. 157).

⁸ Cf., for example, the "NP constituency" factor group in Table 2, or the "individuation/overt number" factor group in Singler (1989), or the "genericity/determiner type" factor group in Patrick, Carranza, and Kendall (1993), as well as Table 4 and accompanying discussion.

⁹ Patrick, Carranza, and Kendall's own Jamaican Creole data are actually silent on this issue. Their marginal percentages clearly confirm the generic effect in the direction shown here, but in their variable rule analysis the main effects of the syntactic and semantic factor groups are lost or reversed. This type of discrepancy results from poor data distribution or lack of independence between factors, and cannot be properly evaluated without further analysis.

The status of animacy as a pan-creole characteristic is less clear. Its effect is apparent in NPE and Liberian English: in both varieties, this factor group was not only selected as significant, but the factor weights correspond exactly to each other and to the animacy hierarchy (Comrie, 1981; Welmers, 1973). In Jamaican Creole, even when the data are rendered comparable, the hierarchy is interrupted by a disproportionate association of nouns with [+animate, –human] referents with null marking.¹⁰ Assessment of whether the animacy effect is regional, or due to different substrates, or is inherent in the data distribution or factor configuration in these varieties cannot be made on the basis of the available information.

Conclusions

In this paper we have complied with Bickerton's (1986, p. 25) caveat that similarity between languages cannot be proven "by simply producing superficially similar surface structures in those languages, [but rather] by producing grammars which [are] substantially identical."

With the aid of the comparative possibilities offered by the constraint hierarchies derived from variable rule analysis, we have determined that plural marking in NPE is variably conditioned by two factors: animacy and nominal reference. We have suggested that these are substratal features, since they are precisely the ones attested in the African language which is the L₁ of most of our speakers, as well as in others. This type of influence is exactly what would be expected of an extended pidgin like NPE, among whose characteristics are continued contact with the substrate(s). The factor of animacy is the most robust. It is selected as significant regardless of how the data are configured. On the other hand, the generic effect — which also obtains in other English-based creoles — is most evident among NPE speakers 1) whose L₁ is Igbo, and 2) who have had the least contact with the superstrate in Nigeria. We have interpreted these effects, displayed in Tables 7 and 8, as a graphic depiction (in variable terms) of the creole continuum, with different numbers of substrate-related factors selected as significant for speakers located at different points on the continuum.

¹⁰ Patrick, Carranza, and Kendall (1993) do report, however, that the animacy hierarchy obtains in their analysis of *dem* number marking in the same Jamaican Creole texts they studied for *-s* marking.

An intriguing observation is that neither the overt creole, nor the Igbo plural *form(s)* figure in the productive inventory of plural marker variants in our NPE data (Table 1). Instead, the English affix *-s*, and its counterpart \emptyset (of unknown provenience) account disproportionately for the plural marking options here. Assessment of whether decreolization, or convergence with Standard English, is an appropriate explanation for NPE plural marking patterns has been one of the goals of this paper, using the comparative methodology outlined in the section on coding and analysis. It may be argued that decreolization, whether postmigration or not, could invalidate these NPE data as representative of an English-based pidgin or creole, and by extension, as a comparison point for the Early Black English varieties we have been investigating. This issue must be addressed in any study of pidgin/creole grammars, including, of course, those of NPE speakers who have never left Nigeria. In this connection, Agheyisi (1984, p. 217) observes that:

there is noticeable variation within . . . NPE dialects which may be traced to two sources: 1) its use by the educated and 2) its use for interethnic group communication. The former yields an anglicized NPE speech, while the latter provides the prime channel for the infiltration of indigenous loans.

Indeed, as is common when a pidgin or creole coexists with its associated superstrate variety, influence from Standard English is said to be especially characteristic of NPE. Thus, educated speakers of NPE (as is the case of all the members of our sample) will typically manifest varying degrees of interference from Nigerian Standard English in their speech (Agheyisi, 1984). In view of the nature of the NPE continuum, our findings regarding the conditioning of plural marking in NPE are all the more remarkable. This is clear evidence, contra Singler (personal communication, January 1994), that the data on which this study is based are indeed representative of (some dialect[s] of) NPE, despite the fact that they were recorded outside of Nigeria. Indeed, no other explanation could account for the results of this study, since the attested contributions of animacy and nominal reference are alien to the grammar of plural marking in any variety of English on which we have reports, whether modern or historical, dialectal or standard (Poplack & Tagliamonte, 1994).

The behavior of the factors conditioning plural marking in NPE provides strong empirical confirmation, contra Patrick, Carranza, and Kendall (1993), of our earlier demonstrations — following Bickerton (1975) and Singler (1990) (cf. also Mufwene, 1984; Rickford, 1977; and Winford, 1985)

— that the grammar underlying variable linguistic elements may be inferred from their distribution and conditioning. This is the case even when none of the surface forms originate from that grammar. This finding is all the more remarkable when we consider the speakers' level of education and fluency in Standard English, as well as the fact that they have resided for the last several years in Canada.

We have also made use of these data for comparative purposes in our ongoing program of determining the origins of contemporary African American Vernacular English. If African American Vernacular English were a prior creole, earlier stages should have featured residual creole and/or African-language elements. In this context, it is of extreme interest that none of the effects reported for NPE are operative in any of the Early Black English varieties that we have studied. An explanation for this result based on decreolization of the latter seems highly unlikely. If such effects showed up in the NPE of highly-educated and fluent speakers of Standard English, why are they not apparent in the speech of the largely uneducated and relatively isolated informants who provided the data for our three Early Black English corpora (Poplack & Tagliamonte, 1994)?

The results of this research permit us to reaffirm and even strengthen our earlier contention (Poplack & Tagliamonte, 1994) that the grammar of plural marking in Early Black English, insofar as this is instantiated in Samaná English, the Ex-Slave Recordings, and African Nova Scotian English, owes little, if anything, to the influence of either African languages or English-based creoles.

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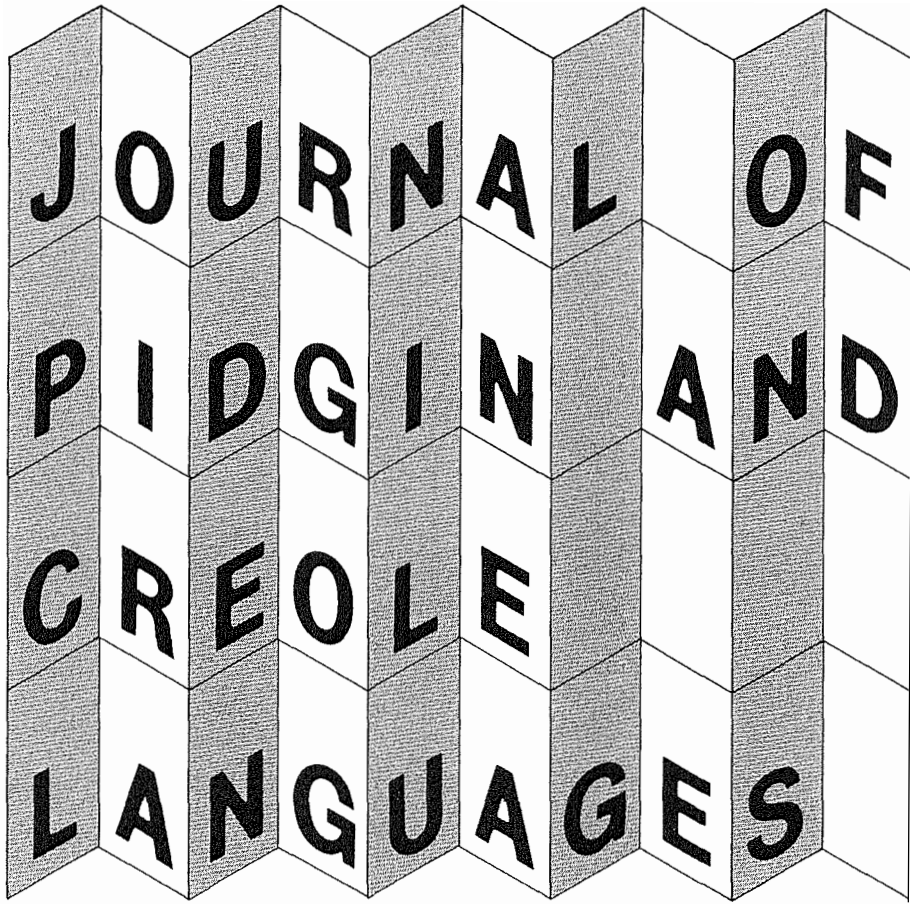
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