Nothing in context: Variation, grammaticization and past time marking in Nigerian Pidgin English

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ABSTRACT

Assessment of form/function relationships is notoriously contentious in creole grammars since overt grammatical markers typically alternate with zero in a number of subsystems of the grammar. Categorical perception coupled with the structuralist tendency ro ascribe a single function ro each form rogerher conspire in promoting the widespread notion that both overt and zero forms are grammatical markers *of specific meanings. Exemplifying with the past temporal reference sector of Nigerian Pidgin English (NPE), an extended pidgin said to exhibit prototypical creole features, this paper shows rhar only a small minority of NPE contexts with a particular semantic reference co-occur with an overt form claimed ro encode this reference. Indeed, the overt forms typically appear in a number of diverse contexts. Thus despite considerable grammaticization over the past couple of centuries, none of the overt NPE past temporal reference forms have as yet attained rlie status of grammatical* marker. *It follows that the selection of zero cannot be inferred ro unambiguously signal the absence of a specific associated meaning,* pace *the Bickertonian scenario, whereby each form, overt and null, has a unique semantic interpretation.* (Keywords: grammaticization, linguistic variation and change, form/function asymmetry, past temporal reference, Nigerian Pidgin English, creole prototype, creole languages, zero-rnarked verb, variable rule analysis, *bin, kom, don*).

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RESUMEN

La evaluación de las relaciones forma/función es de notoria controversia en el caso de las gramáticas criollas desde que marcadores gramaticales explícitos alternan normalmente con fexiones cero en numerosos subsistemas de la gramática. La tendencia categórica estructuralista o atribuir una función individual para cada forma contribuye a fomentar la noción tan generalizada de que tanto las formas explícitas como las implícitas (cero) son marcadores *gramaticales de significados específicos. Al ejemplificar con la categoría de referencia temporal de pasado en el inglés pidgin nigeriano (Nigerian Pidgin English, NPE), un pidgin extendido que parece ser que exhibe rasgos criollos prototípicos, el presente artículo muestra cómo sólo un número reducido de colirextos NPE con una referencia semántica específica convive con una forma explícita a la que se le atribuye la codificación de esa referencia. De hecho, las formas explícitas normalmente se dan en una serie de contextos diversos. Por tanto, a pesar de la considerable gramaticalización durante los últimos dos siglos, ninguna de las formas NPE de referencia temporal de pasado ha logrado aún el estatus de* marcador *gramatical. De lo que se desprende que no se puede suponer que la selección de la forma cero indique inequívocamente la ausencia de un significado específico, con el debido respeto para la perspectiva bickertoniana, en el que cada forma, tanto la explícita como la cero, tiene una única interpretación semántica.* (Palabras Clave: gramaticalización. variación y cambio lingüísticos, asimetría formal/funcional, referencia temporal de pasado. inglés pidgin nigeriano, prototipo criollo. lenguas criollas. verbo sin marcas flexivas, análisis de la regla variable. *bm, kom, don*).

I. INTRODUCTION

As grammatical morphemes develop from lexical material. a form may become so intimately associated with a particular meaninp that its ahsence is likewise interpreted to signal ahsence of that meaning. Once an overt morpherne becomes obligatory. or at least highly frequent. the listener is entitled. by conventionalization of implicature, to infer that if it was not used. the inferences associated with it were not intended (Bybee 1994: 235). Beginning with the occasional use of a lexical iteni. the candidate for grammatical status gains frequency. undergoes erosion of its original lexical meaning and comes to occupy a fixed syntactic slot. Concomitant with generalization in meaninp is increased appropriateness and use. Eventually, the grammaticized form may appear not only in contexts where it signals a particular meaning. but also entirely redundantly. whenever its meaning is simply compatible with the general meaning of the utterance (Pagliuca 1994: ix). The more grammatical processes a given linguistic unit undergoes. the more its use becomes obligatory in certain contexts and unprammatical in others (Heine & Reh 1984).

The changes associated with grammaticization do not come ahout ahruptly. hut may perdure for centuries. as fornis pass through a series of transitions from content word to morphological affix. Various stages of this process may therefore he observable in any synchronic state of the language (Hopper & Traugott 1993: 3). This is why the concept of cline defined historically as a path along which fornis evolve. and synchronically. as a continuum— is basic to its study (ihid.: 6). In the early stages a lexical item may he associated

with. but not yet embody. a grammatical meaning: its absence cannot yet be taken to signal absence of the meaning.

Creole languages provide an excellent locus for the study of grammaticization. Because of the extreme sociohistorical circumstances under which they typically develop, normally gradual processes of linguistic restructuring are compressed. Diachronic evidence may thus he telescoped in a single stage of the language. with attendant advantages for linguistic analysis. In addition. the contact languages contributing to the formation of tlie creole (lexifier. substrate) often continue to coexist with ir. offering valuable comparative evidence for the behavior of the forms in question (Mufwene 1996). Perhaps niost important, due no doubt to the widespread variability in pidgin and creole languages of overt and null expressions of grammatical meaning. the above-mentioned scenario. whereby absence of a mark is imbued with a unique semantic interpretation (i.e. ahsence of the meaning associated with the mark). is often invoked. Arguably most influential is Bickerron's creole "prototype" (D. Bickerton 1974: 1979: 1981), which predicts that stative verbs in [-anterior] and punctual verbs in [+anterior], temporal relationship to a preceding reference verb will receive an overt grammatical mark (in English-based creoles. usually *bin* or *ben*); zero is interpreted in this schema as marking [-anterior] relationship in punctual verbs.

In this study we examine the interplay of linguistic variation. ongoing grammaticization and tense/aspect marking through empirical study of past time expression in Nigerian Pidgin English (NPE). an extended pidgin widely held to exhibit prototypical creole features (Agheyisi 1984: Faraclas 1987: Singler 1992). Taking the entire past temporal reference secror as a point of departure. our approach is innovative in examining both 1) the extent to which a given *form*, once selecred. actually signals a given context. as well as 2) the extent to which each *context* is preferentially associated with any of the forms occurring in it. Moreover. we cnntend. and will demonstrate. that only such a multidimensional analysis can reveal the true relationship between form and function, and hence. the degree to which each candidate for morpheme status may appropriately he characterized as *marking* a given function. Special focus on the *absence* of a mark. i.e. zero. in contexts where overt forms are also attested. permits us to determine whether the former in fact has a unique semantic interpretation. An added honus of the analysis is the synchronic portrait it affords of the grammaticization continuum. and the position on it of the different forms within a well-demarcated sector of the NPE grammar at a given point in its evolution.

Typically grammaticization is studied diachronically. From a synchronic point of view. however. it may he viewed as a special case of form-function asymmetry (Heine et al. 1991b: 2). As such we submit that it can be protitably treated within the variationist framework we adopt here, although with the notable exception of Sankoff's work (e.g. 1976. 1977a; 1977b; 1979; 1990). the variationist approach to grammaticization is greatly underrepresented. The analyses that follow will contribute to filling that gap.

11. PAST TIME MARKING IN ENGLISH-BASED CREOLES AND NPE

Perhaps most salient of the properties creoles share is their tense-modality-aspect (TMA) systeni (see Muysken (1981) for summary). Creole languages are widely characterized as being aspect-prominent, expressing aspectual distinctions hy means of preverbal particles, whose use is said to interact with temporal reference and stativity (Bickerton 1973: 1979: 1981)'. Those

expressing past temporal reference in English-based creoles typically include forms like *dɔn*, *bɪn* and zero. These. as well as other particles occurring in past temporal reference contexts. are illustrated with data froni NPE in the following six examples.

(1) ***k a n*** wi ***kɔm drɪŋk*** am wit evritiŋ wey i ***gɪv*** ɔs (041256)'
'We drank it with everything he gave us'

(2) ***dɔn*** i ***dɔn dai*** (1/013)
'He has died'

(3) ***de*** a ***de waka*** fɔ nɔt lef rait an senta (31103)
'I was walking ahout in the North. left. right and center'

(4) ***bm*** a ***bm*** orijinali ***kɔm*** frɔm Inglan (01/7-8)
'I originally came from England'

(5) ***fɪnɪš*** a ***fɔl fɪnɪš*** (2/152)
'I fell'

(6) **zero** imidetli wey de si di demɔsretɔs. de ***šut*** (01270)
'Immediately they saw the demonstrators. they shot'

Although the inventory of attested forrns is quite consistent across creoles. their functions, and thus the grammatical mechanism underlying them, remain controversial.' In particular. researchers have tended to equate like surface forrns with similar functions, although a number of factors (e.g. differential input of suhstrate and lexifier languages) may result in use of similar forms for *different* functions (e.g. Mufwene 1996: Myhill 1991: Sankoff 1990: Singler 1990; Winford 1985).

The few existing characterizations of the contemporary past temporal reference system of NPE. such as those of Agheyisi (1971) and Faraclas (1987). hasically endorse Bickerton's (1974: 1981: 1984) conception of the interaction of an actionlstate distinction and anterior. rather than past. tense in overt and zero marking of past. Thus Faraclas states that "zero marked action verhs are [+past], while zero marked nonaction verhs are [-past]", predicting that only [+punctual] verhs with past temporal reference will surface with no overt morphology. Overt marking of past time is said to he accomplished by the "tense auxiliary" ***bm,*** denoting "anterior past with action verhs and simple past with non-action verbs" (Faraclas 1987: 46). Agheyisi interprets *bɪn* as a marker of remote past for active verhs, hut simple or remote past for statives[4]. *dɔn* is unanirnously characterized as a completive aspectual marker. and Faraclas (ibid.) attrihutes this meaning to *fɪnɪš* as well. Non-punctual aspect (either durative. iterative or habitual) is said to he encoded by the continuative marker ***de.*** Another form. *kɔm* (ka). is characterized by Faraclas as having no direct hearing on time reference or sequence: he interprets it as "a marker of objectivity or realis modality" (ihid.: 50).

Figure 1 summarizes these predictions for past time rnarking in NPE. In what follows we compare them to the forms actually used in our past temporal reference data.

Figure 1:
Summary of Predictions for Past Time Marking in NPE

	Punctual	**Stative**
anterior / remote	*bɪn*	none
simple past	zero	*bɪn*
sequential	none	none
completive	*dɔn / fɪnɪš*	*dɔn / fɪnɪš*
durative / iterative / habitual	*de*	*de*
objective / realis	*kɔm*	*kɔm*

111. DATA AND METHOD

III.1. The Corpus

The data on which this study is based are drawn from a corpus of informal conversations among a social network of 12 Nigerians. All had immigrated to Ottawa. Canada within five years of this writing. but were born. raised and/or long-time residents of predominantly NPE-speaking areas of Nigeria (e.g. Bendel. Rivers. Lagos)'. Though the speakers are highly educated and multilingual in a number of Kwa languages. as well as in NPE and Standard English. the interaction between them and Ejike Eze. an in-group member who collected the data. took place entirely in NPE.

111.2. Coding and Analysis

This study (v. also Tagliamonte & Poplack 1988) differs from its predecessors in that the locus of variation includes *all* verbs with past teniporal reference. here detined as any event or state occurring prior to speech time. All eligible contexts. whether overtly niarked or not, were extracted from the tape-recorded conversations constituting the NPE corpus, giving a total of 4.759 verbal structures referring to events or states in the past.

Each main verb was systematically coded according to nearly a dozen linguistic features extrapolated from the literature on past teniporal reference in creoles and related vernaculars. as well as the relevant African substrate languages, where available. Most central —and elusive— of these are the interrelated features of stativity and temporal relationship. Claims about the links between them are tricky to validate. because 1) their interaction must be taken into account (Tagliamonte & Poplack 1993). and *2)* it is difficult to identify non-applications (Sankoff 1990: 307). The validity of any analysis of these issues resides, in large measure. in the resolution of the above problems. In ensuing sections we describe the methods we have developed to deal with them.

III.3. Temporal Relationship

Available characterizations of *bɪn*'s role as anterior niarker provide no discovery procedure for point of reference in its absence. As previously (Tagliamonte 1991: Tagliamonte & Poplack 1993). we adopt for this purpose the framework of Lo Cascio and associates for identifying temporal structure in discourse (e.g. Lo Cascio & Co Vet 1986). Following this model. which

perniits identitication of temporal relationships according to consistent and systematic criteria. each verh was categorized according to the temporal relationship it entertained with its preceding reference verb. viz. anteriority. sequentiality. coincidence. repetition and reorientiation. Verbs were coded as ANTERIOR when Event 2 was ordered before Event 1. as in (7a-b). and SEQUENTIAL when Event 1 was ordered before Event 2. as in (8). For present purposes. the residue were classed as OTHER NON-ANTERIOR. as in (9)". This categorization schema enabled us to test the requisite application and non-application sites for anterior tense rnarking in the data. Inclusion of non-application sites perniits comparison of marker usage in anterior *and* non-anterior temporal relationships in the semantic domain of past time.

(7a) a no *wan* kɔm. a bnz ***de kɔm*** **go** (81147)
'1 did not want to come. I had been coming and going'

(7b) i *kɔm go* fɔ dat ples wey i ***kɔt*** di tri (41019)
'He went to the place where he had cut the tree from'

(8) a ***kɔl*** ma sista. rna sista ***rijet*** mi (11066)
'I called my sister. my sister rejected me'

(9) i ***du*** beta wɔk. i ***las*** fɔ tu tems ɔv di gɔvment (71110)
'He did a good job. He lasted for two terms of governnient'

111.4. Stativity

In order to capture the elusive category of STATIVITY. we coded each verh hoth in ternis of its inherent punctual or stative qualities and in terms of sentential aspect. Following Quirk et al. (1985). we categorized as stative. verbs representing mental perception. states of emotion or attitude. sensory perception and bodily sensation. as well as verhs of relationship and nieasurerrient. as in (10).

(10a) a no ***laik*** as di ples dey (11016)
'I did not like how the place was'

(10b) a ***hia*** sey na dem fait agens 3s (51363)
'I heard that they were the ones who fought against us'

(10c) di tiŋ ***las*** tri yias oh (7/053)
'The thing lasted for three years'

Punctual verbs included those representing events understood to have occurred once. as in (11).

(11a) i *kɔm* ***tel*** mi ini nem (121137)
'He told me his name'

(11b) ma perens a no no hu ***tel*** dem (11194)
'I don't know who told niy parents'

(11c) Gɔd ***giv*** mi pis wen a ripen (121237)
'God gave me peace when I repented'

(11d) ma hɔsban *kɔm* ***sen*** mi di pepas (131112)
'My husband sent me the papers'

Verbs were also coded as continuous or iterative accordinp to contextual indicators such as adverbs. conjunctions and other disambiguating information. but tabulated separately according to whether they were lexically stative. as in (12). or non-stative. as in (13).

(12a) a *kɔm* ***de rispet*** dat wɔn (51373)
'I was respectinp that one'

(12b) im *de* ***spɔil*** mi (121152)
'He was spoiling me'

(12c) a *dɔn dr* ***hia*** dat kain tiŋ (31287)
'I have been hearing that kind of thing'

(13a) so wi *kɔm* ***de draiv*** de go (131035)
'So we were driving on'

(13b) winta ***kan*** *de* ***kan*** (21130)
'Winter was coming'

(13c) i du beta ***wɔk*** fɔ dem oh (71109)
'He did a good job for them'

(13d) evri dey na im a ***de krai*** (121037)
'I cried every day'

This perrnitted us to disentangle the (often confusing) interface between the stativelnon-stative and punctual/non-punctual dichotornies. Because our schema considered each distinction independently. an exhaustive four-way comparison among factors could he achieved[7].

111.5. Temporal Distance

To test whether verbal markinp is sensitive to temporal distance. as (at least iniplicitly) suggested for NPE by Agheyisi (1971: 134). we categorized verbs in terms of hoth their relative rernoteness from each other and their absolute rernoteness from speech time. This permitted us to distinguish events and states that had occurred in the remote past. as in (14a-b),

from more recent ones. as in (14c-d)

(14a) a se wai yu ***bɔn*** tri pikin? (91182)
'I said. "why did you give birth to three children?"'

(14b) na di mɔn nia fada dai de bɔn ain (81350)
'It was the nionth my father died that he was born'

(14c) wɔn ɔv nia fren ***fen*** di 3da dey. yu no (11181)
'One of my friends fainted the other day. you know'

(14d) di bɔi kil im fren an kil imself ɔlso (61139)
'The boy killed his friend and killed himself also'

111.6. Contextual Disambiguation

A recurrent characterization of pidgins is that context disambiguates temporal reference (e.g. Bakker 1995: 37): functional effects on marking have also been invoked with regard to creoles in general (e.g. Mufwene 1983) as well as to to early varieties of West African Pidgin English (WAPE), a presumed precursor of NPE (Fayer 1982). Such observations suggest that overt morphological marking is promoted by lack of other disambiguating information in the surrounding discourse. To test the effect of local disambiguation on past marking. we examined co-occurrence patterns of verbs with temporal adverbs in the immediate clause. as in (15).

(15a) a *kɔm* hia **etiet** (71470)
'I carne here in eighty-eight'

(15b) a *dɔn ripen* tru tru **dat taim** (121199)
'I had truly repented that time'

(15c) **dat nait** im no *slip* wit am shaa (11269)
'That night he did not sleep with her'

Our own earlier studies of verbal marking in Early Black English in the Americas (Poplack & Tagliamonte 1989: Tagliainonte & Poplack 1993) revealed a counterfunctional trend, whereby an overt mark on a preceding reference form favored a overt mark on the current verb or noun, as exemplified with NPE in (16). We also examine the applicability of this copying, or "parallel processing" (Scherre & Naro 1991) effect in NPE.

(16a) i ***kɔm pil*** ɔl di hol kanda ɔv di banana na im i ***kɔm*** tek am kip am fɔ insaid pɔt (41032)
'He peeled off all the banana peels and put them in a pot'

(16b) a ***kɔl*** ma sista. ma sista ***rijet*** mi (11066)
'I called my sister. niy sister rejected me'

(16c) a ***dɔn rejista.*** a ***dɔn bikɔm*** kanejan man (71036)
'I have registered. I have become a Canadian'

111.7. Other Factors

Because marking patterns in NPE could conceivably have been transmitted by the lexifier, the substrate(s) or hoth. we also examined features found to affect variability in these and related vernaculars. available information permitting. For example. in Igbo, the first language of most of our speakers. the verb surfaces bare in negative sentences with past temporal reference (Emenanjo 1985: Nwachukwu 1983; Okeke 1984). We tested the effect of NEGATION in NPE by distinguishing affirmative. as in (17a-b). from negative (17c-d) sentence types.

(17a) i *kɔm* ***open*** dɔ fɔ mi (13/047)
'He opened the door for me'

(17b) i ***sey*** tudey na ma hɔsbɛn tɔn (61548)
'She said today is my husband's turn'

(17c) i no ***rejista*** wetin im hol (71l18)
'He did not register what he had'

(17d) mɔŋki ***no si*** enitiŋ wey it go it (41009)
'The monkey did not see anything to eat'

PHONOLOGICAL CONTEXT. both preceding and following, has been shown to affect past tense marking in English (e.g. Guy 1980: Neu 1981). Jamaican Creole (Patrick 1991). and Early Black English (Tagliamonte & Poplack 1988: 1993): VERB CLASS (as inferred from morphological patterns across the verh paradigm) and VERB TYPE (i.e. "strong" vs. "weak") condition past tense marking in vernacular varieties of English (e.g. Cheshire 1982: Christian et al. 1988: Hughes & Trudgill 1979) as well as Early Black English (Tagliamonte & Poplack 1993). Results of preliminary analyses showed that none of these features had a significant effect on overt marking in NPE: we do not discuss them further in what follows.

III.8. Analyzing Variability

To detect which of the remaining factors contrihute statistically significant effects to the presence of each of the past temporal reference options when all are considered simultaneously. as well as the relative iniportance of each. we made use of the multiple regression procedure incorporated in GoldVarb 2.0 (Rand & Sankoff 1990). a variable rule application for the

Macintosh. The alert reader will note that the "variable context". or locus of variation, we have defined for this study —viz., the entire past temporal reference system— is somewhat unorthodox in comparison to those traditionally featured in variation studies. This is intended as a heuristic device. warranted by the nature of the problem. To Bickerton's characteiization of the opposition between *bɪn* and zero as privative. Sankoff (1990) had already objected that testing whether *use* of a marker conforms to the prototype. while ignoring whether the *non-uses* so conform could be misleading. We agree. Any accountable report on the relationship between. for example *bɪn* and anterior time. requires isolating all anterior *contexts* (regardless of the presence in them of an anterior [or any other] marker). although this has rarely been attempted (see Myhill 1991: Tagliamonte & Poplack 1993). But we submit. and will demonstrate. that the problem is far more complex. The principle of accountability requires that all the *other* temporal relations *bɪn* enters into be examined as well. No particular propensity for a form to mark one temporal relationship can be established in the absence of information on its propensity to mark all of the other temporal relationships. There are a least three reasons for this. First. the semantic categories are themselves fuzzy. Thus anterior. for exaniple. may also be remote or non-reniote. punctual or stative. Second. the forms. zero included. are inherently variable. and therefore may appear not only in their preferred contexts. but elsewhere as well. A *unique* association between form and context can only be posited after establishing that the form is not likewise associated with other contexts. Finally. as a result of their inherent variability. as well as for other reasons detailed above. there is no a priori means to detern-iine which form, if any. zero is a "non-application" (or variant realization) of. The only solution is to take as denominator the entire past temporal reference space. and as numerator. all the forms attested within it. Section IV presents the results of this exercise.

IV. RESULTS

Table 1 displays the overall distribution of forms across past temporal reference contexts in NPE.

Table 1: Overall distribution of forms used in past temporal reference contexts in NPE

variants	N	%
zero	2612	55
kɔm	1087	23
dɔn	485	10
de	372	8
bɪn	73	1.5
fɪnɪš	68	1.4
English morphology	62	1.3
TOTAL	4759	

A large proportion ofthe semantic domain ofpast is occupied by *kɔm* (23%), and somewhat lesser parts by *dɔn* (10%) and *de* (8%). *bɪn* and *fɪnɪš* account for little more than 1% each of all forms used in past temporal contexts. English morphology. as in (18). is equally sporadic. and is virtually always confined to irregular forms. such as vowel cliange or syllabic pasts. the

majority of which occurred with one speaker.'

(18a) a ***wen*** dia as e sevintin yia ol (31565)
'I went there as a seventeen year old'

(18b) wen gɔd ***krieted*** e man. de giv am wunian (21315)
'When God created nian. they gave hini woman'

Perhaps the most striking finding of Table 1 is the revelation that more than half of the past temporal reference contexts feature no overt niark at all. This raises the question of whether the verbs in these contexts are marked with zero. If so. what is the sense of the zero mark'? Does it systeniatically convey a reading of non-anterior past for punctual verbs. as would be predicted by the creole prototype? Or are these verbs simply *un*marked?

In determining the function of linguistic forms. there are two logical possibilities. The first is that any difference in meaning is embodied in a difference in fomi. This is the position. implicit or explicit. of. e.g. Agheyisi (1971). Bickerton (1975) and Faraclas (1987; 1989). as well as of the traditional and generative linguistic enterprise more generally. The second. as is more typical of spoken language. is that features of the environment will *co-occur* with these fornis in such a way as to indicate whether they are used for similar or different functions. Variable rule analysis enables us to characterize precisely the nature of these co-occurrence patterns by calculating which features of the environment are important and to what degree. Such features will be shown to exert effects that are both *statistically significant* (as deterniined by the stepwise selection procedure incorporated in the variable rule program) and *important* (as judged by the relative *range* of factor effects).

IV.1. Multivariate Analysis

Table 2 depicts the results of six independent variable rule analyses of the contribution of the same six factors (i.e. TEMPORAL RELATIONSHIP. TEMPORAL DISTANCE. LEXICAL STATIVITY. TEMPORAL DISAMBIGUATION. MARK ON PRECEDING VERB and NEGATION) to the probability that each of *kɔm, dɔn, bɪn, fɪnɪš, de* and zero will be selected in a given past temporal reference context. The interpretation is as follows. If. for example. sequential temporal relationship contributes a substantially higher effect (when compared with other possible temporal relationships) to the choice of a form. then that form (whether overt or null) may be inferred to signal. or *mark*, that relationship.

We tirst note from inspection of the ranges that the greatest contribution to the selection of each overt forni but one is contributed by the factor of temporal relationship. This suggests that the particles do indeed play a role in delimiting temporal space. Exaniining factor effects within this factor group for each form. we observe that *kɔm* is promoted in sequential temporal relationship (with a contribution of .70). contrary to Faraclas' claim (1987:49) that it has no bearing on time reference. Both *dɔn* and *bɪn* are favored in anterior contexts (with contributions of .76 and .90 respectively). while *de* is preferred in non-anterior contexts (.64).

The factor of TEMPORAL DISTANCE also exerts a strong effect on *dɔn* and *bɪn*.The former is associated with proximate (or non-remote). and the latter. with remote. anterior time. Note that LEXICAL STATIVITY. to which the expression of anteriority is said to be sensitive. is not selected as significant to the occurrence of either *hni* (the putative anterior marker). or zero

(its putative counterpart). Moreover. the effect of stativity on the occurrence of *kɔm* and *dɔn* is smaller than that of aiiy other factor. It is moderate at best with respect to *de*. Only the cornpletive marker *fɪnɪš* displays a strong influence of this feature. not surprisingly: states tend not to reach completion.

Table 2: Six independent variable rule analyses of the contribution of factors selected as significant to the probability that each form will be used in past temporal reference contexts in NPE

	kɔm	*dɔn*	*bɪn*	*fɪnɪš*	*de*	zero
CORRECTED MEAN:	**0.19**	**0.07**	**0.004**	**0.012**	**0.07**	**0.57**
TOTAL N = 4692						
Temporal Relationship						
Anterior	**.20**	**0.76**	**0.9**	[ ]	**.50**	**0.55**
Sequential	**0.7**	**0.28**	**.21**	[ ]	**.40**	**0.47**
Non-anterior	**.41**	**.65**	**.63**	[ ]	**.64**	**0.51**
RANGE	*50*	*48*	*69*		*24*	*8*
Temporal Distance						
[+remote]	[ ]	**.44**	**0.58**	**.46**	**.54**	**0.51**
[-remote]	[ ]	**.63**	**.32**	**.59**	**.41**	**0.47**
RANGE		*19*	*26*	*15*	*13*	*4*
Lexical Stativity						
[+Stative]	**.55**	**.48**	[ ]	**0.32**	**.38**	[ ]
[+Punctual]	**.48**	**.51**	[ ]	**.57**	**.54**	[ ]
RANGE	*7*	*3*		*25*	*16*	
Temporal Adverb						
Adverb present	**.33**	**.36**	**.65**	**0.17**	**0.63**	**.59**
No adverb	**.52**	**.51**	**.49**	**.54**	**.49**	**.49**
RANGE	*22*	*15*	*16*	*37*	*14*	*10*
Mark on Preceding Verb						
Parallel mark	**.72** (*kɔm*)	**.82** (*dɔn*)	**.95** (*bɪn*)	**N/A**	**.75** (*de*)	**.60** (Ø)
Other mark	**.45**	**.49**	**.48**		**.46**	**.40**
Zero mark	**.41**	**.46**	**.51**		**.48**	
RANGE	*31*	*36*	*44*		*19*	*20*
Negation						
Negative verb	**.14**	(KO=0)	[ ]	(KO=0)	**.38**	**.86**
Affirmative verb	**.53**	(0.05)	[ ]	(0.05)	**.51**	**.47**
RANGE	*39*				*13*	*39*

Note: Square brackets indicate that the factor group was not selected as significant. KO=0 indicates a "knockout", or (in this case) categorical absence of *dɔn* and *fɪnɪš* in past temporal reference contexts containing the factor of negation. Such tokens are removed from the variable rule run. The alternative factor can be considered to have no effect (factor weight = 0.50).

Two additional factors test more general predictions about the role of contextual disambiguation in marking variability in creoles: PRESENCE OF A DISAMBIGUATING TEMPORAL ADVERB and MARK ON PRECEDING VERB. Contrary to the functional effect. whereby grammatical forrns would surface only when absolutely required for informational purposes.

disambiguation from adverbs exerts an effect that is riot only moderate. hut also inconsistent. that any of the options will appear. This is because the strongest predictor that each will be selected. zero included, is after a verh on which it has already occurred.

Taken together. the results in Table 2 reveal the existence of pervasive variability in the past temporal reference sector of NPE. Aside from this. however. they confirm the received wisdom. The NPE past temporal reference system is clearly relational rather than absolute. and some of the overt forms are sensitive to features like temporal distance and temporal disamhiguation.

How do these observations apply to zero? If zero is a variant of one or more of the overt forrns. the contribution of factors to its presence should he in inverse relationship (cæteris paribus) to the same factors' contrihution to the presence of the other forms. From perusal ofthe last column of Tahle 2. it is plain that the factors affecting selection of the overt forms have virtually no effect on zero. First. the effects of TEMPORAL RELATIONSHIP and TEMPORAL DISTANCE are exceedingly small in cornparison with each of the other forms. LEXICAL STATIVITY was not selected as signiticant at all. Only two factors exert any intluence on the choice of zero: the PARALLEL PROCESSING effect. whereby one zero leads to rnore. and especially, NEGATION: zero is strongly favored when the verh is in the iiegative. We have already suggested that the interdiction against overt marking of past temporal negatives is likely a substratum effect of lgbo. the L, of most of the speakers. We returii to the role of zero below.

We observed earlier that *bɪn* and *dɔn* appeared to be functioning as anterior markers. given the great contribution of that factor to their selection (Tahle 2). But recall from Tahle 1 that *bɪn* is exceedingly rare. only accounting for 1.5% of the data. How can these apparently conflicting effects be reconciled'? As noted above, to assess the true role of these forms in marking anteriority (or any other segment of the past time domain). we niust take the semantic *contexts* as a reference point. and examine the distribution of forrns across them. Consider Tables 3-6.

Table 3: Percent Distribution of Forms by TEMPORAL RELATIONSHIP

Variants	ANTERIOR		NON-ANTERIOR		SEQUENTIAL	
	%	N	%	N	%	N
zero	60	523	57	868	51	1049
kɔm	7	60	16	240	38	791
dɔn	19	169	14	209	3	65
bɪn	5	44	1	19	0	3
de	7	65	11	176	5	112
fɪnɪ́	1	6	1	19	2	39
TOTAL[10]		867		1531		2059

Tahle 3 confirms that of *867* anterior contexts isolated. *bɪn* marks no more than 5% of them. Interestingly. *dɔn* marks many more. 19%. Table 4 repeats this exercise by examining TEMPORAL DISTANCE contexts.

Observe that *dɔn* occurs relatively frequently in (anterior) non-remote contexts as conipared to *bɪn* (which never occurs here). explaining the preponderance of the former in anterior relations in Table 3. But *dɔn* is still only used in 15% of non-remote contexts. the remainder of which either co-occur with another overt forrn. usually *kɔm*. or. even more

typically. remain unmarked. Of course it may be objected that the overall rates of occurrence depicted in Tables 3 and 4 obscure any differential usage of forms according to the stativity of the predicate. Accordingly. we now examine their distribution as a function of stativity. as in Table 5.

Table 4: Percent Distribution of Forms by TEMPORAL DISTANCE

Variants	REMOTE		NON-REMOTE	
	%	N	%	N
zero	56	819	51	723
kɔm	23	753	25	358
dɔn	8	264	15	211
bɪn	2	66	0	7
de	9	287	6	83
fɪnɪš	1	37	2	28
TOTAL		3226		1410

Table 5: Percent Distribution of Forms by LEXICAL STATIVITY

Variants	PUNCTUAL		STATIVE	
	%	N	%	N
zero	54	1872	58	680
kɔm	25	879	21	242
dɔn	10	336	12	147
bɪn	1	46	2	27
de	8	293	6	75
fɪnɪš	2	60	1	7
TOTAL		3486		1178

Table 5 confirms that lexical stativity is not a distinguishing factor in the choice of any of the forms: the percentages across punctual and stative contexts are essentially the sarne.

An inescapable finding of Tables 3 through 5 is that zero is by far the most frequently used option in each of the contexts exaniined. This is of course also evident from the very disparate *corrected means*. or overall tendencies of occurrence. in the six independent variable rule runs in Table *2*. The corrected mean for zero is the highest. at .57. while that of the overt forms ranges from a high of only .19 for *kɔm* to a low of .004 for *bɪn*. The likelihood that any of the overt forms will surface is thus very small.

Without taking into account disparities in overall rate of occurrence. the analyses in Table *2* obscure the fact that while *bɪn*. for example. was shown to be highly favored in anterior contexts (with a probability of .90). it actually marks only a very small percentage of such contexts (Table 3). To permit comparison of the probabilities that each ofthe forms will occur in a given context while at the same time controlling for their overall frequency of occurrence in that context. we reanalyzed the data according to the *combined* effect of CORRECTED MEAN and FACTOR WEIGHT. as in Table 6. This allows us to compare the probabilities for a given factor *across* independent runs. in addition to the more traditional comparison of factor weights *within* a single run. The result is a cornposite picture of the entire past temporal reference system. permitting assessment ofthe true role of each form in it.

Table 6 gives strong confirmation of our impressions based on the percentages in Tables 3. 4 and 5. The results for the TEMPORAL RELATIONSHIP. TEMPORAL DISTANCE and

MARK ON PRECEDING VERB make clear that certain contexts highly favor certain forms. But even the iiiost apparently specific of these forms —*bɱ*— whose prohahility of occurrence in (remote) anterior contexts we have seen to he very high. is actually extremely infrequent even in this niost favored context. The prohahility that *bɱ* will occur. when its overall tendency of occurrence is factored in. is now only .04. Compare this with the vastly increased prohahility (.62) that zero will occur in the same anterior context! This ohservation can simply he repeated across tlie board. as can he seen by inspecting the rows featuring tlie probabilities of occurrence of forms across contexts. In every context and for every form. the probability that the overt form will he selected is negligible when compared to that of zero. How can these results he interpreted?

Table 6: Six independent variable rule analyses of the contribution of factors selected as significant to the probability that each form will be used in past temporal reference contexts in NPE, considering the combined effect of CORRECTED MEAN + FACTOR WEIGHT

	kɔɱ	*dɔn*	*bɱ*	*fɱɪ̃*	*de*	zero
TOTAL N = 4692						
Temporal Relationship						
Anterior	.06	.20	.04	.01	.07	.62
Sequential	.35	.03	.00	.01	.05	.53
Non-anterior	.14	.12	.01	.01	.12	.58
Temporal Distance						
[+remote]	0.19	.06	.01	.01	.08	0.58
[-remote]	.20	.12	.00	.02	.05	0.53
Lexical Stativity						
[+Stative]	0.22	.07	.01	.01	.04	.56
[+Punctual]	.18	.07	.00	.01	.08	.56
Temporal Adverb						
Adverb present	0.1	0.04	.01	.00	.11	0.65
No adverb	.20	0.07	.00	.01	.07	0.55
Mark on Preceding Verb						
Parallel mark	.38 (*kɔɱ*)	.26 (*dɔn*)	.08 (*bɱ*)	N/A	.18 (*de*)	.66 (Ø)
Other mark	0.16	.07	.00		.06	0.46
Zero mark	.14	.06	.00		.06	
Negation						
Negative verb	.04	(KO=0)	.00	(KO=0)	.04	.89
Affirmative verb	.21	(0.07)	.01	(0.011)	.07	.53

Note: The figure .00 is due to rounding; it indicates a non-zero weight of less than .005. For explanation of the knockout factor, see note at the bottom of Table 2.

IV.2. Tense/Aspect Forms in NPE

It is clear that NPE makes productive use of tenselaspect distinctions like tertiporal relationship, temporal distance and extended processes. We have demonstrated that some of the forms examined here are highly associated with such distinctions. e.g. *bni* with anterior reniote past. *dɔn* with anterior proximate past. and *kɔɱ* with sequential past. It is equally clear

that overt marking of these distinctions is far from obligatory. as most descriptions of creoles in general. and NPE in particular. would have it. hut rather. variable. Aiiy suggestion that the bare verbs have been contextually disamhiguated. as is said to he typical of overt morphological marking in creoles. does not apply here. On the contrary. the contrihutions of factors testing this effect (i.e. DISAMBIGUATING TEMPORAL ADVERB. and especially. MARK ON PRECEDING VERB iii Table 2) reveal no tendency for overt forms to surface when they are sole bearers of grammatical information. Moreover, most of the past temporal reference contexts we have isolated carry no grammatical indication of tense or aspect at all. other than what is encoded in the (bare) verh itself. This is in striking contrast to the hehaviorf of fully (or even highly) grammaticized morphemes. which are used not only when the meanings they supply are necessary. but also entirely redundantly (e.g. Bybee 1994:235). The fact that none of the overt forms predominates in any of the contexts it is said to "mark" is damaging to the claim that these are structurally specified grammatical markers.

What then is the status of these overt forms'? Our findings suggest that they are forms with grammatical meaning. albeit ones that have not yet completely grammaticized formally to the status of full-fledged morphemes. To evaluate this proposal. we now operationalize a number of indices of grammaticization and apply theni to these candidates for marker status.

IV.3. hleasuring Grammaticization

Although any attempt at precise segmentation of the continuum resulting fi-om grammaticization processes remaiiis arbitrary. there is general agreement (e.g. Byhee 1985: Bybee et al. 1994: Heine et al. 1991a: Heine & Reh 1984: Lehniann 1982: 1986) on the niost salient characteristics associated with them. These include semantic bleaching. increase in syntactic significance. fixation of syntactic position. obligatoriness in some contexts and ungrammaticality in others. semantic. morphosyntactic and phonetic coalescence. loss of phonetic substance and increase in frequency of use.

Table 7: Indices of grammaticization (Bybee et al. 1994) for selected candidates for marker status in NPE

Forms	INDEX				
	OVERALL FREQUENCY	FREQUENCY IN ASSOCIATED SEMANTIC CONTEXT	PHONOLOGICAL REDUCTION	RIGIDIFICATION OF SYNTACTIC POSITION	
			consonant assimilation	open class intervention	position preceding verh
fɪnɪs	1.4%	N/A	0%	47%	0%
bɪn	2%	5% (anterior)	7%	3%	96%
dɔn	10%	15% (non-reniole)	13%	3%	100%
kɔm	23%	38% (sequential)	44%	.5%	99%

Table 7 applies to the overt forrns used in NPE past temporal reference contexts five indices adapted from Byhee et al. (1994) nieasuring. respectively. frequency. phonological reduction. and rigidification of syntactic position. These include: 1) overall frequency of occurrence. 2) frequency of occurrence in the specific seniaiitic context with which the form is purportedly associated. 3) consonant assimilation. a measure of phonological reduction. and two measures of syntactic placenient: whether open class items are permitted to intervene

between the particle and the main verb. and position of the particle with regard to the main verb.

The regularity ot'the relationship between indices and forms is striking. The form that is highest in overall frequency —*kɔm*— also scores highest on each of the other measures. It occurs in specifically sequential contexts exponentially more than any other overt form, it undergoes far more phonological reduction, it is virtually never separated from its main verb by intervening material and altnost always appears in the fixed position preceding the main verb. Compare *bɪn*, which we have seen to he extremely rare. not only overall. hut also in specitically anterior contexts. *bɪn* may be observed to undergo far less phonological reduction. admit more intervention of open-class material hetween it and the main verb, and to he placed in more syntactic positions. And the other forms are neatly ranyed around these. forming a continuum. with the intermediate *dɔn* scoring higher. and the rarer *fɪnɪš*, lower, on these measures. Thus. if there is *any* candidate for morpheme status in the NPE past temporal reference system, it certainly is not hni. contra claims to that effect in virtually all the literature on NPE in particular. and English-based creoles more generally. The most highly grammaticized form in the system is clearly *kɔm*[11].

This observation is bolstered by a comparison of the distrihution of forms across the individuals in our sample, as in Tahle 8. It is clear that *kɔm* is abundantly used by tnost speakers. In contrast. two thirds of the tokens of *bɪn* come from the same two. A full third of the speakers never used *hm* at all.

Table 8: Overall Distribution of Variants by Speaker

Speaker#	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
Variant	N	N	N	N	N	N	N	N	N	N	N	N	N	N
zero	201	200	108	133	417	160	342	245	154	124	42	272	212	2610
kɔm	76	92	41	178	53	13	4	75	13	18	4	287	233	1087
dɔn	54	36	33	8	61	37	48	41	22	22	31	46	42	481
de	21	20	7	17	53	15	28	53	23	13	5	71	45	371
bɪn	28	2	7	-	4	4	1	20	-	-	-	6	1	73
fɪnɪš	5	7	4	13	5	4	2	-	-	-	-	14	14	68
TOTAL	**385**	**357**	**200**	**349**	**593**	**233**	**425**	**434**	**212**	**177**	**82**	**696**	**547**	**4690**

Figure 2. based on Tables 3 and 4. provides perhaps the first empirically-motivated portrait of a grammaticization continuum. illustrating with the NPE past temporal reference system. The hars indicate the portion each form currently occupies of the subdomains representing the different temporal relationships and distances.

Because grammaticization involves diachronic change. it is most meaningfully assessed by comparing different stages of a language. Especially instructive in this regard are Fayer's (1982; 1986) analyses of 18th and 19th century WAPE texts. Interestingly. throughout the period she studied. there was almost no evidence of the cohort of markers typical of creoles. *dɔn*, the only form denoting aspect attested in the early data, is vanishingly rare. with an overall frequency of only .3% (Fayer 1982: 313). *bɪn* increases from a low of .2% in the 18th century to a high of 4% in some of the 19th century texts. At the outset, verhs were normally disambiguated by temporal conjunctions and prepositional phrases occurring in sentence-initial

position. By the 19th century. Fayer notes a qualitative change in distributional patterns: temporal niodification appears in other sentence positions (p. 286), and preverbal markeis increase in frequency (p. 313).

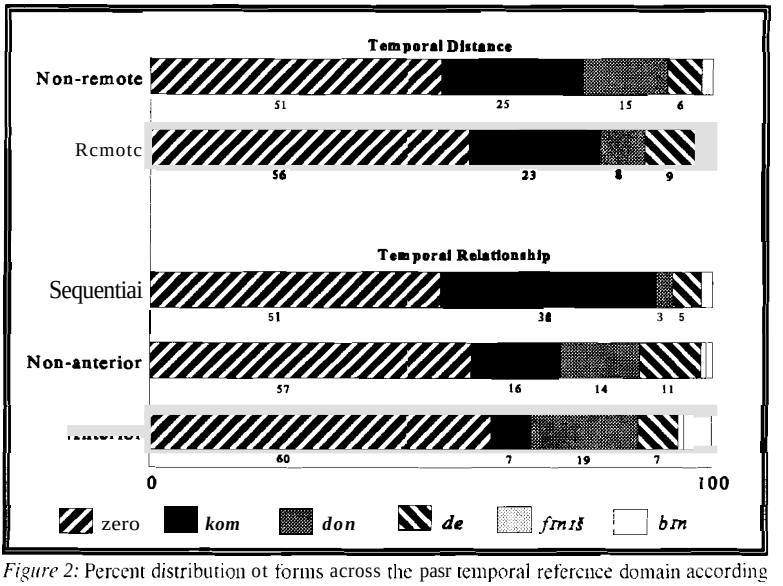

Figure 2: Percent distribution ot forms across the pasr temporal reference domain according to teiiiporal distance and temporal relationship.

These data, taken together with the conteinporary distributions in Table 1. provide unequivocal evidence that use of overt forms in NPE has increased draniatically over the duration[12]. Observe that *dɔn,* once accounting for no more than .3% of the past temporal reference space. has now risen to a full 10%; ***de,*** with no earlier textual attestations. now occupies 8%; even *bm* has increased from near non-existente to 1.5%[13]. But zero still accounts for most of the conceptual space.

IV.5. The Role of Zero and Overt Forms in Marking Past Time

We may now return to the question raised earlier regarding the function of zero in NPE. Can we infer from the progression of overt forms along the grammaticization cline that zero signals the absence of one of them? To qualify as a zero marker. according to Bybee et al. (1994: 239). the interpretation ofthe zero-inarked form must he "specitic and unambiguous". and the inferences speakers make regarding its choice should form part of its explicit meaning. If this were the case. we should observe a particular association of zero witli one or more of the semantic suhdomains we identified. None obtains. Our finding that zero is preferred over every overt form in each context. with no particular favoring effect for any (except the substratal negation effect) militates against identifying it as the specific *marker* of any one of theni. Because the overt forms occupy such a small part ofeach semantic subdomain (Figure 2). and e v e n more damaging to their identification as grammatical morphemes-- because they may occur in several of them (albeit with differing degrees offrequency). none of them can he said

to unambiguously signal a specific rneaning. It follows that zero cannot signal the ahsence of that meaning (Labov 1984).

What then is the function of these forrns in marking past time? Bybee (1994: 239) distinguishes "zero meaning", i.e. the meaning expressed hy a zero *marker*, and "open meaning", conveyed by the abseiice of an (optional) grammatical morpheme. We suggest that zero has "open meaning": it functions as the default rnarker of past temporal reference. In this sense its use is similar to the "neutral" form described by Welmers (1973) for Efik, which is used simply to state what happenrd without any particular emphasis. or the NPE "invariant form" described by Agheyisi (1971: 133). which contiasts with those conveying "tense aiid aspect variations". In order to *divert* the basic tendency toward the neutral. or default. interpretation of past time to. say. a narrative or sequential one. *kɔm* can he employed. For a continuous reading, *de* rnay he selected. For an anterior remote meaning, *hɑm* is an option, and so on. As pointed out hy Sankoff (1990: 309) in connection with *ben* in Sranan and Tok Pisin. selection of an overt form is not an autornatic part of the syntax. hut proceeds according to an optional systeni. as is typical of the initial stages of grarnrnaticization. While sernantic distinctions are being created, use of the forms expressing thern must be sensitive to discourse-pragmatic concerns.

Open rneaning rnay develop into zero meaning via some of the same rnechanisms niotivating grammaticization of overt material (Bybee 1994). Chief aniony thern are increased frequency of an overt forrn and concornitant licensing of the inference that. in its absence. the meaning associated with it was not intended. Eventually. other senses come to be conventionally associated with the ahsence ofthe form. This has not yet occurred in NPE.

The distrihution ofzero and overt forms in NPE hears little resemblance to the creole prototype. Nor does it derive froni thr superstrate. which has an entirely different system of past time marking via inflection. i.e. -ed . as the default option. We suggest that the ohserved variability in zero marking is a residur of the substrate. A number of independent lines of evidence point in this direction. For one thing, thr conceptual space covered hy zero in NPE corresponds closely to that covered hy the unmarked past in at least some West African languages. For another. the strong effect of negation (Table 2) is a known characteristic of Igbo. Finally, we have already ohserved significant substratum effects on other unrelated areas of the NPE grammar (Tagliamonte *et al.* 1997).

CONCLUSIONS

By taking *past time* as our reference point. rather than the *markers* said to encode it. we have succeeded in delimiting thr different sernantic suhdornains making up the NPE past temporal reference sector. This in turn enahled us to scientifically test the role of each. as well as that of lexical stativity. in predicting the occurrence of overt and zero forms in discourse. We have established that relative tense organization of the past temporal reference system is certainly operative in NPE. On the other hand. our findings do not support the characterization of aspect prominence typically associated with creoles in general. and NPE in particular. This can he inferred from the findiiigs that 1) ovrrt aspectual forrns are rarely used. and 2) LEXICAL STATIVITY does not distinguish among thern or zero[14]. We stress that these results could only have been revealed by examination of the different temporal *contexts*, in addition to the usual analysis of the distribution of fornis across them.

Categorical perception coupled with the structuralist tendency to ascribe a single function to each form —like *bin* embodying anterior temporal relationship— together conspire in promoting the widespread notion that the fornis studied here are gramatical *markers* of specific nieanings. We have shown that only a small ininority of NPE contexts witli a particular semantic reference are accompaiiied hy an overt form claimed to encode this reference. Moreover. the overt forms typically appear in more than one context. Thus although they have grammaticized considerably over the past couple of centuries. iione of the forms considered here, zero included. may be said to have as yet attained the status of gramatical *marker*. Rather we have suggested that selection of an overt form may serve special discourse-pragmatic needs. typical of earlier stages of grammaticization. It follows that the selection of zero cannot be inferred to unambiguously signal the absence of a specific meaning, *pace* the Bickertonian scenario. whereby each form. overt and null. has a unique interpretation.

NOTES:

1. Though identification of the iiiteracrioii between temporal reference aiid stativity as a particularly "creole" characteristic is usually attributed to Bickerton; it was already noted in Welmer's (1973) descriptions of West African languages, as well as in Agheyisi's (1971) description of NPE.

2. Codes in parentheses refer to speaker number and location of her/his utterance in the NPE corpus. Transcription protocol generally follows Agheyisi (1971) where possible.

3. Recent work in creolistics makes clear tliat pidguis aiid creoles in facr exhibit far more diversity in their TMA systems tlian previously assunird (e.g. (Mufwene 1986: 1991) Singler (1990: xiv) aiid several of the papers therein).

4. Schneider (1966) equates *bin* with undifferentiated pasi.

5. See Tagliamonte et al. (1997) for detailed description of tlie corpus

6. The few verbs tor which oiie of these relationships could not bc inferred were exeluded from the calculations. Furtlier information regarding the codiiig of temporal relationships in discourse can be found in Tagliamonte (1991) aiid Tagliamonte & Poplack (1993).

7. Pilot tests of all possible resulting combinations yielded substantially similar results; in what follows we present those for *lexical* stativity. aiid distinguish only puiictual aiid stative verbs.

8. Moreover. tiie overt marks surfacing in this domain will be observed in ensuing analyses to be used to say *different* things. Thus they do iioi correspond to tlie strict definition of variants of a variable as alternative ways of saying tlie same thing.

9. Combinations of more than one form (often cited ui tiie literature) are extremely rare aiid are luiiited to *dɔn* + *kɔm* sequeiices (.08%, $N=4$). Tlie only exception is *de*. which co-occurs witli all tlie otlier forms. Recall tliat *de* is a coiitiiiiuous marker whicli. unlike the other markers examined here, has iio iiidepeiidetit connotation of past: we include it only by virtue of its occurrence in past temporal reference contexts. In Tables 2 aiid 6. members of 89 sequeiices were examined independently with the remainder of their coliort.

10. Percentages may iioi add up to 100 duc to rounding

11. To any suggestion tliat tlie discrepancy between our results aiid the claims made for NPE may he due to the contact these speakers have had witli Ottawa English over the past five years. we respond tliat eveii if contact-induced grammatical change were possible over a time span of five years or less (itself highly doubtful). the behavior of *kɔm*

has no counterpart in English. It thus caiuiot he attributed to this source. See Tagliamonte *et al.* (1997) for fuller discussion of this issue. Such discrepancies are often observed when empirical analyses of spoken language data arr compared with other types of analysis. (Cf. Bickerton (1975) uith Sankoff (1990) aiid Myhill (1991) for another case in point)

12. Iii contrast, English-like inflectional and auxiliary constructions, which make up the balance (nearly 30%) of the tense and aspeer markers in tlic *Diary of Amera Duke* (Fayer 1982: 278) have all hur disappeared.

13. The most dramatic change would appear to involve the current front-runner, *kɔn*, although it is unclear whether its ahseiice from Fayer's counts is dur to its ahseiice froiii the texts or to its not having been considered.

1J. Nor is this a recent innovation. Fayer's early WAPE data include (extremely rare) attestation of only one aspect marker, *dɔn*. Interestingly, there is iio evidence of a LEXICAL STATIVITY effect there either (ibid.: 313-14). These findings challenge tlic characterization of aspect as the major underlying mechanism of the past temporal reference system in (earlier or contemporary) NPE.

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