

THE ZERO-MARKED VERB: TESTING THE CREOLE HYPOTHESIS

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This paper examines the past temporal reference system in two data sets representing “early” Black English: Samaná and the Ex-slave Recordings, with a view to discovering the structure underlying variable use of overt verbal morphology. Extrapolating from proposals in the literature on the behavior of past temporal reference structures in known creoles, as well as in black and white vernaculars, we propose and test an analytical model based on quantitative methodology and making use of the stepwise selection procedure incorporated in a variable rule analysis. Competing hypotheses were operationalized as factors in the analysis and systematically tested on the same data set.

Perhaps the most striking result of our study is that no matter which way the data are configured, the same three factor effects obtain. These reflect *general* constraints on language use and language processing rather than specific creole phenomena, such as the patterning expected of a relative tense system sensitive to stativity and anteriority. These findings lead us to suggest not only that an English-like system of absolute tense marking, expressed by both marked and unmarked verbs, prevails in these materials, but also that the temporal organization of these materials is not consistent with what has been posited for creole languages.

1. *Introduction*

Theories of the origins and development of African American Vernacular English (AAVE) grammatical structures have been crucially dependent on a priori assumptions with regard to the data on which they are based. Data sets that have been assumed to be (and analyzed as if they were) English-like have generally been found to behave like that language, while the opposite holds true for those that have been assumed to be creoles. This is at least partially due to the fact that the grouping, interpre-

tation and even inclusion or exclusion of data will necessarily differ according to the underlying grammar that is posited.

The system for marking past time lends itself well to the study of the underlying structure of AAVE, since the general realm of past temporal reference requires representation of a wide array of temporal, aspectual, and discourse meanings, as well as of ordering relationships among verbs. Not surprisingly then, the verb phrase is the site of the most controversial linguistic research in this area. Although the exact meaning and function of specific tense/aspect categories in AAVE are widely disputed, the attested inventory of linguistic elements, for example *bin*, *-t/d*, *don*, is actually quite consistent. Auxiliary-like preverbal forms, inflections, and stem changes provide information as to tense, aspect, and mood. However, the AAVE system is said to make more aspectual distinctions than does Standard English (Std E), as well as to allow more freedom with respect to the marking of verbs overall, since it permits more morphological alternation between marked and zero forms. Such alternation affects past temporal indicators on main verbs as well as pre-verbal markers (including apparent inflections and auxiliaries). All of these are variable contexts for some process(es), the application of which result(s) in the surface absence of some portion of their potential surface morphology.

We focus in this paper on verbs with no surface tense and/or aspect morphemes, as illustrated in the examples in bold italics in (1a–d) with data from “early” Black English.

- (1) a. They only ***fix*** somethin’ — somethin’ there and they ***give*** her and so she ***came*** home. (SE/14/380)¹
 b. And so I ***run*** down in the field and ***whooped*** and ***holler*** and ***tol’*** them that the Yankee comin’. (ESR/2/22)
 c. As they ***return***, the doctor ***went***. And when the doctor ***went***, she ***come*** and she ***work***, she ***work***, she ***work***. (SE/2/1176–7)
 d. I ***came*** up here over here from Mr. Y. ... and ***come*** to Mr. Y’s place up here. And he ***kep’*** me there until he — he ***died***. (ESR/3/21–23)

It has been observed that the study of zeroes is particularly difficult because surface examination alone cannot reveal whether the form carries meaningful tense/aspect information, although not manifested morphologically, or is simply a bare form (Labov 1984, Sankoff 1990). We submit that the study of surface morphological marks is just as difficult. There are at least three reasons for this. First, the surface mark may be in and of itself

ambiguous as to system membership: for example a form like [bɪn] may represent a creole anterior marker or result from auxiliary deletion from the perfect construction (*have*) *been* in White English Vernacular (WEV). Second, a particular usage may be representative of two systems simultaneously. For example, the “polyvalence” ascribed to zero-marked verbs with past temporal reference in creoles by Mufwene (1984), is virtually identical to the wide range of interpretations available for the English (simple) past tense. Moreover, although Std E prescriptive usage implies that verbs are always marked for past tense, in spoken vernaculars this is not necessarily the case. Inflections may be subject to removal by phonological reduction processes, while some strong verbs (e.g., *come*, *run*) frequently appear in their base form, as the examples in (2), taken from a Nova Scotian WEV, attest.

- (2) a. Interviewer: Now, your — your father came over to Nova Scotia then?
 Informant: Yes, he *come* over, well, around the — little after ‘bout nineteen — around the turn of the century, he *come* over — (NSVE/1/028–34)
- b. My father, they used to have — the men on the north shore used to have salmon nets and they fish salmon and my father *run* a — ... sailboat from the cove over ‘cross the bay to pick up the salmon. (NSVE/2/148–160)

Finally, a surface form from L_1 may pattern entirely according to L_2 rules, e.g., Mufwene (1984:209), Singler (1990a:215), and Winford (1985:352). This is what Bickerton (1975) has claimed for the distribution of *-t/d* in Guyanese Creole and also what Rickford (1977) has suggested with regard to *had* + verb in AAVE. This means that the mere presence of zero-marked or overtly marked verbs in a given variety cannot be used as evidence for either an English-like or a creole-like system, since the same surface forms appear in both. What may be expected to differ is the way in which these marks (or lack thereof) are organized in the discourse. Prototypical creoles are said to have relative (anterior) tense whereby the temporal relations of verbs to one another determine how they will be marked. In English, on the other hand, absolute tense, in which time is measured from a single fixed point (e.g., simple past tense) predominates.²

In this article, we make use of these facts to explain the variable use of verbal morphology in Samaná English and the Ex-slave Recordings. We make no a priori assumptions as to the provenance of the surface forms.

Instead we systematically test competing hypotheses by means of three independent analyses of the same data set. The first takes a creolist perspective, contrasting all overtly marked verbs (strong, weak, auxiliary, and main) with zero-forms, which we here consider to be *zero-marked* for tense. Because this configuration forces the data into a paradigm which is alien to the English system, as detailed in section (3.2.), we also test two additional assumptions based on a scenario where the data are representative of English: 1) that weak verbs surface as bare forms due to phonological reduction processes, and 2) that strong verbs surface as bare forms due to alternation with irregular variants.

We assume that the variable appearance of marked and unmarked verbs will be systematically conditioned regardless of which grammar is underlying. Extrapolating from observations made by Bickerton (1975, 1979, 1981), Mufwene (1983, 1984), and Rickford (1977, 1987), we hypothesize that if marking is conditioned by, for example, distinctions of stativity and anteriority in the direction posited for creoles, and is at the same time incompatible with generalizations on English varieties, the underlying system is plausibly creole-like. If, on the other hand, marking can be shown to be conditioned by factors associated with English, which conflict with expectations for creole varieties, the opposite is likely the case.³

Of course, there is no reason to expect an exact replica of the creole pattern⁴ in these data, since no one would claim that either corpus represents a basilectal, or prototypical, creole. If they can be considered as creole-like at all, they should by now have reached a stage of advanced decreolization. Mesolectal, or decreolizing, varieties are presumably characterized by features associated both with English and with creoles. Because it is unclear why the latter should have arisen spontaneously in the English of our informants, we will interpret the appearance in our data of creole features used in prototypical creole functions as evidence of a creole origin.

What of features attested in both English and creoles, e.g., *-t/d* deletion? These cannot in and of themselves be used as evidence for either parent form. In such cases we appeal to the notion of constraint hierarchy to determine the relative contribution of factors. In this connection, Bickerton (1975) suggested that what appeared to be alternation between morphologically marked and unmarked forms in Seychelles Créole (Corne 1977, Bollée 1977) was in fact an epiphenomenon reflecting different creole

marking patterns in past-reference stative and nonstative verbs. If it is true that grammatical constraints typical of the underlying creole grammar continue to exercise powerful effects even late in the process of decreolization, then it is reasonable to expect that vestiges of that creole could well be preserved in early Black English. In the case at hand, this could be evidenced, for example, by a result whereby distinctions of anteriority and stativity outweigh phonological considerations as predictors of past marking.

Recent empirical studies (e.g., Myhill 1991, Sankoff 1990) have cast some doubt on the accuracy of the creole characteristics described below. We make no claim as to their validity. Such issues are explored extensively elsewhere (e.g., Singler 1990b) and will only be dealt with briefly (section 4.). Instead, we use them as a heuristic device in the ongoing endeavor of uncovering the mechanisms giving rise to past temporal marking patterns in contemporary AAVE.

2. *Data and Methods*

2.1. Data

The materials on which this study is based come from two corpora which we take to represent an earlier stage of AAVE. The Samaná English corpus is made up of tape-recorded interviews with 21 native English-speaking descendants of American ex-slaves, who settled the remote peninsula of Samaná in the Dominican Republic in 1824. We consider the dialect of these informants, aged 71–103 in 1982, to derive from a variety of English spoken by African Americans in the early nineteenth century.⁵ The Ex-slave Recordings are a series of mechanically recorded interviews, made mostly in the 1940's, with 11 former slaves born in six Southern states between 1844 and 1861 (see Bailey, Maynor, & Cukor-Avila 1991 for a number of studies based on the Recordings). This corpus constitutes the only known audio-taped record of the speech of former slaves who had never left the southern United States; it may be considered to represent a prototype variety of early Black English (BE).

2.1.1. Circumscribing the context of variation

We stated earlier that we make no *a priori* assumptions with regard to the provenance of the forms we study here. However, not only the process of coding the data, but even the very circumscription of the variable context

may impose an analysis upon them. This caveat was foreshadowed in Bickerton's (1975) critique of the early studies of *-t/d* "deletion" (Fasold 1972, Labov 1972b, Wolfram 1969). Bickerton suggested that if those studies had considered creole categories, such as distinctions of punctuality, it would be revealed that the zeros resulted, not from deletion of English morphemes, but from a pattern of overt and zero-marking peculiar to creoles. But even if the studies had incorporated a factor capable of capturing such distinctions, it is questionable whether its effect (if any) would have materialized, because the emphasis on *-t/d* "deletion" entailed that many, if not most, of the contexts in which such distinctions could operate would have been missing.

Our focus here is on the mechanism giving rise to the observed variation in surface marking, rather than on the distribution of variants per se in a single temporal context. The configuration of the data must thus permit the testing of different possibilities — deletion of inflections as well as relative tense marking. Because in a relative tense system every verb by definition has the possibility of being marked (as either [+anterior] or [–anterior] in relation to some other verb), the variable context for a study of this type is of necessity the entire past temporal reference system, for instance every verb referring to an event or state that occurred prior to speech time. In order to test the specific claim that English-origin morphemes will pattern according to a creole system, the principle of accountability requires examination of all past temporal reference contexts — [+anterior] and [–anterior] — and inclusion of all types of morphological marks. Accordingly, we extracted from the tape-recorded interviews every verbal structure with past temporal reference, totaling 8,046 instances from the Samaná English corpus and 2,114 from the Ex-slave Recordings.⁶

Moreover, since there is no reason to expect that the rules for past temporal marking described, for example, by Bickerton for creoles, will operate categorically (cf. Patrick 1991 on variability in *-t/d* expression in mesolectal Jamaican Creole and Sankoff's (1990) demonstration of the non-privative nature of the *zero/bin* opposition in Tok Pisin and Sranan), we will interpret a result whereby *any* English morpheme appears more frequently in [+anterior, +stative] contexts than in other contexts as empirical support for Bickerton's claim.

2.1.2. Exceptional distributions

Every context that did not have unambiguous *past* temporal reference was excluded from the variable context, such as cases where distinct

processes produce identical surface forms in which the temporal sector could be either present or past, as with the italicized verb in (3).

- (3) a. And every once in a while Morris will come to see the Samaná folks, you know. He grew up here in Samaná and he *remain* {past or present temporal reference?} with that love of Samaná. (SE/14/610–12)

Nontemporal uses of verbs were also excluded, including 1) speculative statements in the past referring to a probabilistic interpretation of events rather than the events themselves, as in (4a); 2) verbal constructions referring to unrealized events, such as future in the past, as in (4b); 3) uses of the modals *could* or *would* with hypothetical meaning, as in (4c); 4) use of the past tense to convey impossibility in unreal conditions, as in (4d); and finally, 5) all syntactically transparent hypothetical expressions, such as those contained in *if* clauses, as in (4e).

- (4) a. And we gave him a little bit of the medicine what the doctor had sent. I think that *must have killed* him more quicker. (SE/2/735)
 b. She told me that she *was coming*. (SE/17/483)
 c. She had the idea that maybe they *would not do* us nothing. (SE/2/329)
 d. I wish I *was* ninety. (SE/3/365)
 e. Because if they *had buried* the body, the bones [would have] *had* to be there. (SE/2/926–7)

Fixed expressions, as in (5a), and quoted speech, as in (5b), which may be imitative, were also excluded.

- (5) a. Interviewer: How were they able to go back?
 Informant: Well, I *couldn't say*. (SE/17/37)
 b. Then I spoke to her, “listen doctor, I *brought* this lady.” (SE/19/596)

As with all naturally-occurring speech, accurate interpretation of verbal constructions may on occasion be impossible. Characteristics of oral discourse like ellipsis, as in (6a), false starts and hesitations, as in (6b–c), often lead to difficulty in interpretation, and the rare instances of code-switching, as in (6d), can lead to lack of a complete context. Any unclear or ambiguous context was excluded from the analysis.

- (6) a. Interviewer: You don't have to keep it wet?
 Informant: No, we *didn't*. (SE/18/888)
- b. I lent — I lent it to an American once and I l -- lent and I got
 — I didn't lose it. (SE/6/514)
- c. I didn't ... knew — knew how to talk it, yes. (SE/6/343)
- d. My niece what went over there, she was — she *had just graduado del normal* ('graduated from normal school') and she went to the States. (SE/5/287–8)

2.2. Coding and analyses

Each verbal structure retained in the data base was coded for a series of factors which could have an effect on marking. Those posited to be prominent features in creole and/or decreolizing varieties (and which were also quantifiable) include: distinctions of stativity and anteriority, marking of the preceding reference verb and the presence of disambiguating temporal features within the sentence (temporal conjunction, adverb). Factors predicted to play a role in English include preceding and following phonological environments, verb class, and discourse context.⁷ These are described in succeeding sections.

2.2.1. Stativity/anteriority

The most salient features of creole grammar are the stative/nonstative distinction and the (relative) tense mechanism of anteriority. We determined values for these factors independently and then combined them to capture Bickerton's claim that [–anterior] statives and [+anterior] punctuals should be morphologically marked, while [–anterior] punctuals will receive a zero mark.

2.2.1.1. Aspect

Stative verbs were identified on the basis of their lexical form. Following Quirk, Greenbaum, Leech, & Svartvik (1985), we designated as stative all verbs representing mental perception (e.g., *know, think, understand*), states of emotion or attitude (e.g., *want, like, care*), states of sensory perception (e.g., *see, hear, feel*), states of bodily sensation (e.g., *hurt, feel*), stance or relationship verbs (e.g., *hold, depend, belong, live, stand, sit, lie, last*), or verbs of measurement, (e.g., *weigh, cost, measure*), regardless of their discourse environment. Because nonstative verbs may be construed as punctual, durative, or iterative depending on context, we determined their aspect by means of contextual indications (e.g., adverbs, conjunctions, and

other disambiguating temporal information) when available. We treat as punctual verbs representing events understood to have occurred once, as in (7).

- (7) Right away I *called* the children to send a car and they *came* with it and then they *went*. (SE/19/584)

2.2.1.2. Temporal relationship

In Bickerton's characterization of the prototypical past temporal marking system in creoles, temporal relationship is inextricably linked with stativity. As recently pointed out by Sankoff (1990:307), these claims are exceedingly difficult to test empirically, for at least two reasons. First, anterior temporal relationships, already very rare, must be identified.⁸ We made use of the framework outlined in Lo Cascio (1986), Lo Cascio & Rohrer (1986), and Adelar & Lo Cascio (1986), to determine the preceding referent for a given past temporal reference verb. Second, although the relationship between overt marking and the feature of [+/-anterior] may not be privative (cf. Myhill 1991; Sankoff 1990), the relationship, if operative, can still be captured in terms of the relative *frequency* of marking in [+anterior] as opposed to [-anterior] contexts. For example, a count of the markers in [+anterior] temporal reference contexts only would not allow comparison with the frequency of these same markers in [-anterior] contexts. Even if the rate of anterior markers in the former contexts is low, it may well be higher than in the latter, a result which would speak to the favorable effect of anteriority on marking. But without contrastive figures, no comparison can be made. To obtain these, we include in the variable context all [-anterior] temporal relationships as well as [+anterior] ones. This enables us to compare the rate of morphological marking in [+anterior] versus [-anterior] contexts.

Each verb was coded according to one of five potential temporal relationships it could entertain with its preceding reference verb: posterior, anterior, coincidence, repetition, and reorientation. Verbs are coded as posterior, that is in sequential order, when Event 1 is ordered before Event 2, as in (8a), and anterior when Event 2 is ordered before Event 1, as in (8b).

- (8) a. When I *sen*_[E1] the vessel 'round her rudder *touch*_[E2] $\{\emptyset\}$ the bar. [E1 before E2] (SE/1/898)⁹
 b. My daughters *went*_[E1] with all the profile what she *drawed*_[E2] for us. [E2 before E1] (SE/1/1225-6)

If either the preceding reference verb or the current verb is an event with some duration, 1) one event can include the other, 2) they can coincide exactly, or 3) they can overlap partially, for example (9a–b). Such cases were coded as coincident.

- (9) a. I had an old chair. I *used to sit* and the people *used to come* from the street. (SE/3/975–6)
 b. They *had* two womens *was coming* to the hospital. (SE/5/576–7)

In the spoken language, the temporal frame of the discourse is often interrupted, producing a temporal sequence which is discontinuous (see Tagliamonte 1988:41 for detailed discussion). If the current verb repeats an earlier verb, it is coded as a repetition, as in (10)¹⁰; if it is temporally discontinuous but not repetitive, it is coded as a reorientation.

- (10) My father, he *came* out too ... well then, after the many years rolling up and down and passing over and thing, he *came* and he married with Mrs. Johnson ... (SE/2/82)

Reorientation relationships are found when verbs from narrative complicating action clauses summarize a preceding series of verbs, as in (11a), after a preceding discourse that has been interrupted by questions or comments, as in (11b), and in expansions and elaborations, as in (11c).

- (11) a. Look like they had some vessel what did steal them out and come and throw them out in the ... Dominican land. And so, my great-grandfather, he *came* with a little boy ... (SE/2/64)
 b. Interviewer: Have you ever been there?
 Informant: No, I have never been yonder. They *had* a captain ... (SE/4/277–8)
 c. Mama, here, she was Mrs. C's, uh, house girl there. Papa and Mama got — got together somehow. I don't know how they got together. But anyhow, m -- my Papa an' Mama, uh, Mr. C hired my — my father to be a yard boy. (ESR/Y/81/3)

Cases in which temporal reference cannot be unambiguously determined, for example when there is no identifiable reference time, were coded as indeterminate, as were reference verbs used by speakers other than the informants which were unordered with respect to the time line, for example (12a). If the verb is preceded by a question or is in direct response to the interviewer, the reference verb is taken to be the verb of the preced-

2.2.2.1. Mark on preceding reference verb

The most obvious disambiguating feature is the existence of a morphological mark on the preceding reference verb. Here we code three possibilities. The preceding reference verb was: 1) zero-marked, as in (14a), 2) overtly marked with no change in temporal reference, as in (14b), and 3) overtly marked with changed temporal reference, as in (14c).

- (14) a. They only *fix* something — something there and they *give* her and so she *came* home. (SE/14/380)
 b. I *was going* down street and he *was coming up*. (SE/7/1892)
 c. I *have* four ministers *have come out* from my preaching. (SE/6/1999)

2.2.2.2. Temporal adverb

Given their function as temporal indicators, a logical extension of the role of disambiguation would include temporal adverbs and conjunctions. To assess their effect, we first coded each verb according whether it occurred in a clause containing a temporal adverb, as in (15a), or not, as in (15b).

- (15) a. I *came last Saturday*. (SE/2/523)
 They *made* 'lasses *way back then*. (ESR/Z/17)
 b. They *came* from yonder. (SE/2/77)
 I *slep'* like in this room here and they *slep'* 'joinin' rooms to me. (ESR/6/15–6)

2.2.2.3. Temporal conjunction

Subordinating conjunctions with temporal value also help to restrict the temporal freedom of their associated verbs (Chung & Timberlake 1985:209). As previously, each verb was also coded for the presence or absence of a temporal conjunction (e.g., *when*, *until*, *before*, *after*, *while*, *since*, *by the time*, *as soon as*, etc.) as in (16).

- (16) But **when** he *came* from America, he *came* with them two boy. (SE/2/25)

Note that the contribution of features associated with temporal disambiguation cannot unambiguously shed light on the question of origins. It is unclear in the case of past-tense marking if and how a specific “creole” effect could be distinguished from a straightforward functional effect, itself language-independent, whereby past temporal reference need not be overtly marked if indicated otherwise.¹² As a working hypothesis, we nonetheless

treat a negative correlation between temporal disambiguation and morphological marking as a creole characteristic by virtue of the widely recognized predisposition of creoles to minimize redundancy in syntax and rely on context for interpretation, e.g., Decamp (1974:16) and Mufwene (1984: 219).

The foregoing factor groups permit independent assessment of the temporal reference and relationships of each verb retained in the study regardless of its morphology. The following two factor groups investigate the most widely-attested factors conditioning inflectional morphology on past temporal reference verbs in varieties of English: the phonological configuration and surrounding environment of the verb, e.g., Fasold (1972); Labov (1972a); Labov, Cohen, Robins, & Lewis (1968); Wolfram (1969); and Wolfram & Fasold (1974).

2.2.3. Preceding and following phonological environment

Each verb was coded for the phonological segment preceding the potential suffix: 1) a vowel, for example *die*, 2) an alveolar stop [t] or [d], for example *start*, *end*, 3) another consonant, for example *walk*, or 4) a consonant cluster, for example *change*, *ask*, as well as for the following phonological context: vowel, consonant, or pause. Phonological conditioning has been attested in both English (Guy 1980, Neu 1981) and in creoles (Patrick 1991); however, its *relative* contribution vis-à-vis other (grammatical) factors can be expected to differ in each.

2.2.4. Verb class

Lack of past-tense marking has also been attested in WEV's. Christian, Wolfram, & Dube (1988) have reported the use of nonstandard forms, including zero, in strong verbs, e.g., *give*, *begin*, *eat*, *see*, *sit*, particularly those in which the participle is equivalent to the base form, e.g., *come*, *run*. We distinguish 1) verbs in which the base and past participle form are the same in Std E, for example *come/came/come*, 2) verbs in which the preterit and past participle form are the same in Std E, for example *meet/met/met*, and 3) verbs in which the base, preterit, and past participle form are all different, for example *go/went/gone*.¹³

2.2.5. Discourse context

The considerations of anteriority and stativity that determine the distribution of zero-marked verbs in creoles should in theory apply without distinction across all discourse types. In English, however, discourse context is a primary determinant of verb morphology (Fleischman 1985, Labov

& Waletzky 1967, Schiffrin 1981, Wolfson 1979). In particular, choice of the Std E Historical Present, a surface form identical to the creole zero-marked verb (except in third person singular, e.g., *he/she says* versus *I/you/we/they say*∅), is highly favored in the complicating action clauses of a (structured) narrative. We therefore distinguish narrative complicating action clauses from all other discourse.¹⁴

Nonetheless, a number of reports (Bollée 1977, Corne 1977, Mufwene 1984, Rickford 1987) suggest that the distribution of unmarked verbs in creoles parallels that found for the English Historical Present tense. This may be due to the fact that narrative complicating action clauses (in the sense of Labov & Waletzky 1967), are the primary locus for iconically ordered past-reference punctual verbs, for instance, those predicted to receive a zero-mark in creoles (e.g., Givón 1979), or to the fact that such clauses are maximally disambiguated because temporal orientation is, by definition, provided by narrative structure (Comrie 1985:61), or both. Thus, as in the case of the phonological and disambiguation factors, an effect of discourse context cannot, in and of itself, be considered indicative of origin; again, it is reasonable to assume that this may be inferred from its relative contribution.

3. *Results*

3.1. Variable rule analysis

In this section, we analyze these data by means of GoldVarb, a variable rule application for the Macintosh (Rand & Sankoff 1990). This method is particularly suited to the issues raised here, as it is capable of revealing the hierarchy of effects within factor groups as well as the relative weight contributed by each factor to the process under consideration when all are considered simultaneously. The stepwise multiple regression procedure incorporated in the program retains only those factors that are statistically significant and “rejects” the others. We make use of these features to uncover the grammatical system underlying our data in three ways: by determining 1) whether the factor effects are statistically significant, and if so, 2) whether they are ordered in the direction predicted by one or the other of the hypotheses, and 3) the relative contribution of the factor effect vis-à-vis the others considered. The predictions outlined in the preceding sections may be summarized as in (17):

(17) Direction of effects supports the creole-origin hypothesis:

- a. More zero-marking in [+punctual, –anterior] verbs
- b. More zero-marking in temporally disambiguated contexts as represented by:
 - a preceding overt tense or aspect morpheme from the same temporal sector (i.e., no change in temporal reference)
 - a clause-internal temporal adverb
 - a clause-internal temporal conjunction

Direction of effects supports the English-origin hypothesis:

- a. More unmarked forms in verbs in which the base and past participle are the same

Direction of effects supports both hypotheses (although *relative contribution may differ*):

- a. More unmarked forms in the environment of a preceding consonant
- b. More unmarked forms in the environment of a following consonant
- c. More unmarked forms in narrative complicating action clauses

In addition, if prior creole origin is responsible for the observed synchronic variability, the contribution of stativity/anteriority to the probability of zero-marking should outweigh that of other factors, regardless of verb type (strong or weak). If the English-origin hypothesis provides a better account, this should be evidenced by the greater contribution of phonological factors to marker deletion in weak verbs, while verb class should outweigh other factors in strong verbs. By the same token, discourse context could be expected to play a major role in favoring zero-marked verbs in complicating action clauses if these data were creole-like; in English, on the other hand, the coexistence in these clauses of overtly marked past-tense verbs would dilute such an effect.¹⁵

3.2. Analysis I: Zero versus overt marking

We first examine the factors contributing to the probability that past temporal reference verbs will be zero-marked. In this analysis, we treat as “marked” all verbs which feature 1) surface preterit morphology, 2) any combination of pre-verbal auxiliary (e.g., *bin*, *did*, *had*, *have*) and preterit-

marked or bare verb, (e.g., *had walked*, *had walk* \emptyset), or 3) overt present tense morphology with unambiguous past temporal reference. Verbs with no inflectional morphology, for example *walk*, *buy*, *see*, *start*, and those marked only by progressive *-ing*, for example *I going*,¹⁶ were coded as “unmarked.” This is illustrated in (18), where italicized verbs are counted as marked and those in bold italics, as unmarked.

ANALYSIS I

Zero versus Overt Marking

	<i>Marked</i>	<i>Unmarked</i>
	<i>walk</i> [t]	walk
<i>had</i>	<i>walk</i> [t]	walk [ing]
<i>had</i>	<i>walk</i>	
<i>have</i>	<i>walk</i> [t]	
<i>have</i>	<i>walk</i>	
<i>did</i>	<i>walk</i>	
<i>used to</i>	<i>walk</i>	
<i>'ll</i>	<i>walk</i>	
<i>would</i>	<i>walk</i>	
<i>was</i>	<i>walk</i> [ing]	
<i>been</i>	<i>walk</i> [ing]	
<i>had/has been</i>	<i>walking</i>	
<i>been</i>		

- (18) a. And when I *got* like from here over there to Miss Lizah, there the troops \emptyset *coming* down to go to town again. (SE/2/361–2)
- b. In that time we *did buy* sugar four cent the pound, you hear, time of Trujillo. From — since that, look, the sugar *had went* up even to thirty cents and it *come* back now to twenty and eighteen and *stay* so, you hear. (SE/2/889/891)
- c. Sometime in a year we'd *get* three month's school, you hear, and there we *have* no more school. (SE/2/223)

Table 1 displays the results of this analysis.

Table 1: Variable rule analysis of the contribution of factors selected as significant to the presence of zero-marking in Samaná English and the Ex-slave Recordings.¹⁷

	SE		ESR	
CORRECTED MEAN:	.167		.123	
TOTAL N:	8046		2114	
	Probability	N	Probability	N
Stativity/Anteriority				
[+punctual] [–anterior]	.63	(2899) ¹⁸	.71	(367)
[+punctual] [+anterior]	.54	(268)	.58	(32)
[+stative] [+anterior]	.35	(141)	.39	(20)
[+stative] [–anterior]	.34	(2212)	.33	(718)
Mark on preceding reference verb				
No mark	.69	(1054)	.63	(247)
Marked with change in temporal reference	.48	(538)	.49	(83)
Marked with no change in temporal reference	.46	(5005)	.33	(1584)
Discourse context				
Narrative complicating action	.65	(1365)		
Non-narrative	.47	(6681)		
Presence of temporal conjunction				
[+conjunction]	.57	(730)		
[–conjunction]	.49	(7316)		
FACTORS NOT SELECTED:				
Discourse context			X	
Conjunction			X	
Presence of temporal adverb	X		X	

At first glance, it appears that both Samaná English and the Ex-slave Recordings display the pattern of marking expected in a creole system with respect to the features of stativity and anteriority. Table 1 shows that [–anterior] punctuals favor zero-marking at .63 and .71 respectively, while [+anterior] punctuals show a lesser probability at .54 and .58. But the big difference here is between punctuals (which show probabilities of .54 or higher) and statives (which all show probabilities of .39 or lower), and not between the features [+anterior]/[–anterior]. In fact, when we test this observation by treating punctuals and statives separately (Tables 2A and 2B), the factor of anteriority is not selected as significant for either.

Table 2A: Variable rule analysis of the contribution of factors selected as significant to the presence of zero-marking of *STATIVE* verbs in Samaná English and the Ex-slave Recordings.

	SE		ESR
CORRECTED MEAN:	.075		.079
TOTAL N:	3066		749
	Probability	N	Probability ¹⁹ N
Discourse context			
Narrative complicating action	.85	(63)	—
Non-narrative	.49	(3003)	(749)
Mark on preceding reference verb			
Unmarked	.61	(246)	(65)
Marked with change in temporal reference	.54	(1882)	(18)
Marked with no change in temporal reference	.48	(202)	(65)
Presence of temporal adverb			
[+adverb]	.63	(323)	(66)
[-adverb]	.49	(2743)	(683)
FACTORS NOT SELECTED:			
ANTERIORITY	X		X
Presence of temporal conjunction	X		X
Presence of temporal adverb	X		X
Discourse context			n/a
Mark on preceding reference verb			X

If the factor of anteriority is not significant to the probability of zero-marking when statives and punctuals are treated in isolation, it seems reasonable to inquire why the combined factor group of stativity/anteriority should have been selected as significant. We suggest that this is an artifact of the way the tokens were divided. Recall that this data set includes *all* marked forms. Closer inspection reveals that over three-quarters of the verbs coded as [+stative] consist of instances of *had* or *was*, and these occur in their marked form 99% of the time. This explains the very low probabilities of zero-marking of stative verbs depicted in Table 1.

Table 2B: Variable rule analysis of the contribution of factors selected as significant to the presence of zero-marking of *PUNCTUAL* verbs in Samaná English and the Ex-slave Recordings.

	SE		ESR	
CORRECTED MEAN:	.272		.266	
TOTAL N:	3567		638	
	Probability	N	Probability	N
Discourse context				
Narrative complicating action	.63	(1242)		
Non-narrative	.43	(2325)		
Mark on preceding reference verb				
No mark	.66	(632)	.60	(96)
Marked with change in temporal reference	.46	(227)	.32	(41)
Marked with no change in temporal reference	.43	(2257)	.50	(451)
Presence of temporal conjunction				
[+conjunction]	.57	(462)		
[-conjunction]	.49	(3105)		
FACTORS NOT SELECTED:				
ANTERIORITY	X		X	
Presence of temporal conjunction			X	
Presence of temporal adverb	X		X	
Discourse context			X	

When we remove these lexically invariant verbs from the original configuration of the data sets, the factor of stativity/anteriority is no longer selected as significant, as can be seen in Table 3.²⁰ The table now shows three factors to be significant to the presence of zero-marking in Samaná English: discourse context, the mark on the preceding reference verb, and the presence of a temporal conjunction. In the Ex-slave Recordings only one factor contributes a clear effect: preceding reference verb. We first note that the effect of temporal disambiguation, although statistically significant, is minimal. The presence of a temporal conjunction favors zero-

marking in Samaná English slightly, at .56. On the other hand, temporal adverbs exert no significant effect on surface morphology in Samaná English and an unclear effect in the Ex-slave Recordings. As noted in section (2.2), the propensity for zero-marking when the past-reference verb appears in the environment of a temporal conjunction suggests (creole-like) reliance on context for temporal disambiguation. This effect, however, is far outweighed (to judge by the range) by the opposing effect of a mark on the preceding reference verb, selected as significant in both corpora. Here we observe a concord effect, whereby lack of marking on a preceding reference verb leads to a greater probability of zero-marking on the current verb (at .68 for Samaná English and .66 for the Ex-slave Recordings), while overt marking leads to more marking. According to Mufwene (1984), the zero-mark should appear once the frame of reference has been established. Thus one of the foremost locales for zero-marking in creole-like varieties should be in contexts where there is no change in temporal reference. The table shows that such a distinction does not condition verbal marking in Samaná English or the Ex-slave Recordings, since whether the current verb is preceded by one with past or present temporal reference, (overt) marking is favored.²¹

A final effect on overt versus zero inflection in Samaná English comes from the discourse context. Here, narrative complicating action clauses contribute to zero inflection with a probability of .64. Of course, in narrative complicating action contexts, temporal disambiguation is at its maximum; thus it is not surprising that zero-marking is most frequent here. But, as we have already shown in an earlier study of these data (Tagliamonte & Poplack 1988), this is also the context where most Historical Presents — which are also unmarked except in third person singular — occur. Such verb forms were of necessity included in this study by virtue of their past temporal reference. Although this factor is not selected as significant in the Ex-slave Recordings, the hierarchy of constraints is the same.

In sum, when the data are divided into morphologically marked and zero-marked verbs, there is little to suggest that the factors conditioning surface morphology behave in ways predicted by the creole prototype. Only the effect of temporal conjunction may be so construed. Note, however, that this factor contributes the smallest effect of those retained; it is not selected at all in the Ex-slave Recordings. The factor reflecting the stativity and anteriority of the verb, presumably primordial to any creole, was not selected as significant to the process of verbal marking, even though, unlike

Table 3: Variable rule analysis of the contribution of factors selected as significant to the presence of zero-marking in Samaná English and the Ex-slave Recordings; *had/was* excluded.

	SE		ESR	
CORRECTED MEAN:	.252		.277	
TOTAL N:	5834		1556	
	Probability	N	Probability	N
Discourse context				
Narrative complicating action	.64	(1355)		
Non-narrative	.46	(4479)		
Mark on preceding reference verb				
No mark	.68	(904)	.66	(193)
Marked with change in temporal reference	.46	(390)	.30	(68)
Marked with no change in temporal reference	.43	(3647)	.49	(1159)
Presence of temporal conjunction				
[+conjunction]	.56	(625)		
[-conjunction]	.49	(5209)		
Presence of temporal adverb				
[+adverb]			.56	(143)
[-adverb]			.49	(1413)
FACTORS NOT SELECTED:				
Stativity/Anteriority	X		X	
Presence of temporal adverb	X		X ²²	
Presence of temporal conjunction			X	
Discourse context			X	

the case with previous studies, the data here were configured so as to be entirely conducive to its operation. On the other hand, the greatest effect is contributed by the factor of preceding mark, but in a direction counter to any mechanism of functional or contextual disambiguation: here, one mark leads to more, regardless of whether reference time has already been expressed or not.

We now need to turn to two additional ways of looking at these data.

3.3. Analysis II: Suffix deletion

As noted, previous studies of past-tense marking in AAVE, such as those of Labov (1972a, 1968), Wolfram (1969), and Fasold (1972), tended to view the unmarked verb as the result of deletion of an underlying (simple) past tense morpheme. Although Bickerton (1975) also found the influence of following phonological environment observed in AAVE to operate in Guyanese Creole, he maintained that if the AAVE materials were reanalyzed according to a creole model, the aspectual effects on past-tense marking would outweigh phonological ones, as he found in his analysis of Guyanese Creole (1975:159). This specific claim has not yet been empirically investigated. Accordingly, we next examine the factors affecting these same data sets, now configured according to the assumption that the process involved is suffix deletion.

In this analysis, in contrast with the previous one, we include only weak main verbs with no co-occurring auxiliaries. While these are not the only forms eligible for suffix deletion (verbs preceded by auxiliary *had/have* and passive structures are also eligible), they are the only forms in which the sole possible overt morphological mark is suffixal in Std E. Here we exclude from consideration all verbs with do-support, [+syllabic] verbs (to which the same phonological simplification processes do not apply), complex verbs of any type (e.g., *used to have to V*, *would begin to V*, *did be V-ing*, and so on), and verbs with present tense morphology. This partitions the data into marked and unmarked forms, as illustrated in (19), where the italicized verbs are counted as marked and the ones in bold italics, as unmarked.

ANALYSIS II

Suffix Deletion

Marked

walk[t]

Unmarked

walk

- (19) That's got how many years since they *kill* Papito? ... Yes, since they *killed* him. (SE/3/614–616)

Table 4 shows that the greatest and most significant effects conditioning suffix deletion in both Samaná English and the Ex-slave Recordings proceed from the nature of the preceding and following phonological environments, in directions already familiar to us from previous studies of *-t/d* deletion in both African American and white varieties of English. Other

factors retained in Samaná English include the presence of a temporal conjunction and the effect of concord marking — both in directions similar to those observed in the analysis of overt versus zero-marking.²³

We note that the factor of stativity/anteriority again failed to be selected as significant by the stepwise regression procedure in either data set. This result is particularly telling in view of the fact that, if anything, Analysis II provides a truer test of the contribution of anteriority than Analysis I, since the data used here are not contaminated by English pre-verbal anterior markers (e.g., *had*), which were of course treated as marked.

Table 4: Variable rule analysis of the contribution of factors selected as significant to the deletion of suffixal inflections in weak verbs in Samaná English and the Ex-slave Recordings.

	SE		ESR	
CORRECTED MEAN:	.401		.289	
TOTAL N:	1234		283	
	Probability	N	Probability	N
Preceding phonological environment				
Consonant cluster	.81	(87)	.73	(11)
Single consonant	.62	(754)	.57	(192)
Vowel	.22	(393)	.31	(80)
Following phonological environment				
Pause	.72	(132)	.82	(20)
Consonant	.59	(498)	.65	(124)
Vowel	.38	(604)	.32	(139)
Mark on preceding reference verb				
No mark	.71	(200)		
Marked with change in temporal reference	.45	(86)		
Marked with no change in temporal reference	.45	(763)		
Presence of temporal conjunction				
[+conjunction]	.63	(143)		
[-conjunction]	.48	(1091)		
FACTORS NOT SELECTED:				
Stativity/Anteriority	X		X	
Presence of temporal adverb	X		X	
Discourse context	X		X	
Mark on preceding reference verb			X	
Presence of temporal conjunction			X	

3.4. Analysis III: Overt versus base-marking

In the third analysis we examine the propensity of *strong* verbs to be marked overtly or to retain their base form. Here, we include only strong main verbs without co-occurring auxiliaries. This is illustrated in (20), where italicized verbs are counted as marked, and those in bold italics, as unmarked. The forms *had*, *was*, and *did*, which are categorically marked, were excluded from the following calculations, as were unmarked verbs when it could not be determined whether they derived from underlying preterit morphology or auxiliary deletion.

ANALYSIS III

Overt versus Base-marking

Marked
came

Unmarked
come

- (20) When they *came* this last time — this last time they was — they didn't come... And so they ***come*** — all that group ***come*** right there. 'Twas forty-two thousand. Forty-two thousand what ***come*** right on Santo-Domingo there. (SE/4/438–442)

This variable has never, to our knowledge, been studied quantitatively with the purpose of exploring whether factors relevant to a creole system affect the occurrence of a bare base form. With the exception of phonological conditioning, which is not relevant to strong verbs, the factors we examine here are identical to those in preceding analyses, with the addition of verb class, which has been found by Christian, Wolfram, & Dube (1988) to be a significant predictor of base morphology in WEV varieties.

Table 5 shows the factors contributing to the probability that the base form of strong verbs will be used for past temporal reference. Here the greatest and most significant effects in both Samaná English and the Ex-slave Recordings are contributed by 1) verb class, in exactly the direction predicted by Christian, Wolfram, & Dube (1988) for Appalachian and Ozark English, and 2) preceding mark, in the direction already familiar from previous analyses.

The other factors retained for Samaná English duplicate the effects displayed earlier for the other data configurations. Note again that in the case of strong verbs the appearance of the base, or unmarked, form cannot be said to depend on underlying stativity and/or anteriority distinctions, since

Table 5: Variable rule analysis of the contribution of factors selected as significant to the occurrence of base (zero) morphology in strong verbs with past temporal reference in Samaná English and the Ex-slave Recordings.

	SE		ESR	
CORRECTED MEAN:	.211		.203	
TOTAL N:	2445		499	
	Probability	N	Probability	N
Mark on preceding reference verb				
No mark	.69	(453)	.73	(65)
Marked with no change in temporal reference	.46	(1580)	.48	(369)
Marked with change in temporal reference	.35	(140)	.28	(33)
Verb Class				
V _{base} = V _{part} (e.g., <i>come(came/come)</i>)	.73	(423)	.97	(61)
V _{pret} = V _{part} (e.g., <i>bring/brought/brought</i>)	.46	(1595)	.38	(254)
V _{base} ≠ V _{pret} ≠ V _{part} (e.g., <i>take/took/taken</i>)	.40	(427)	.39	(184)
Discourse context				
Narrative complicating action	.63	(928)		
Non-narrative	.42	(1517)		
Presence of temporal conjunction				
[+conjunction]	.51	(297)		
[-conjunction]	.43	(2148)		
FACTORS NOT SELECTED:				
Stativity/Anteriority	X		X	
Presence of temporal adverb	X		X	
Presence of temporal conjunction			X	
Discourse context			X	

this factor was not even selected as significant by the multiple regression procedure, despite the fact that Analysis III, like Analysis II, also excludes English anterior markers.

4. *Discussion*

In sum, creolists and variationists have long been at cross-purposes, at least insofar as varieties of AAVE are concerned, because initial assumptions about the data — which can be translated into the way in which the data are divided, analyzed, and so on — must irrevocably influence the conclusions drawn. In this paper we proposed and tested an analytical model which minimizes this circularity, based on quantitative variationist methodology and making use of the stepwise selection procedure incorporated in a variable rule analysis. Extrapolating from proposals in the literature on the behavior of past temporal reference structures in known creoles, as well as in black and white vernaculars, we operationalized these, where possible, as factors in a variable rule analysis, and systematically tested them on the same data set.

For example, rather than simply examine the effect of punctuality or anteriority, as has been done in previous work, including our own, we specifically attempted to assess the effect of their *interaction* on past marking in our data. This in turn required formulating a way to systematically determine temporal relations in discourse, which, we soon discovered, cannot adequately be done by restricting the domain of study to the behavior of a single tense, for example simple past, or a single discourse type, for example narrative, or to isolated sentences where temporal reference can only be determined with respect to speech time. We then proceeded to analyze our data, first by contrasting all overtly marked forms with their zero-marked counterparts, as would be appropriate to a creole or decreolizing system, and then by examining two processes characteristic of past-tense marking in English: suffix deletion in weak verbs and the alternation of base and overt morphology in strong verbs. Wherever the data configuration permitted we incorporated into the same analysis factors relevant to each system, thus rendering the particular subset of data equally amenable to both hypotheses. The resulting possibility of comparing results across the different configurations significantly increased the explanatory power of each analysis in isolation. This, in turn, enabled us to truly assess the relative contribution of each type of factor to the process in question, and thereby shed light on the nature of the grammar underlying it.

Perhaps the most striking result of our study is that no matter which way the data are configured, the same three factor effects obtain. In addition, the constraint ranking, or the order in which the factors constituting

each group affect the process under consideration, is basically the same for each data set. The fact that discourse context is selected as significant indicates that the likelihood that a past reference verb will surface with no mark has more to do with its appearance in a narrative complicating action clause than with distinctions of stativity or anteriority. Moreover, comparison of the analyses reveals that differences in the strength of this effect are a direct result of the different data configurations (and/or scarcity of tokens in some cells for the Ex-slave Recordings). In the analyses of strong verbs (Analysis II) and all verbs (Analysis I), the high probability of zero-marking in complicating action clauses directly reflects the elevated rate of Historical Presents in such contexts. In weak verbs, the phonological reduction effect, which emerged as the overriding influence on marking, blurs the difference between complicating action and noncomplicating action clauses. This explains why discourse context was not selected as significant here. We noted earlier that a favorable effect of complicating action clauses on zero-marking was not in isolation indicative of the underlying system. However, the result that the factor of discourse context is selected *only* in data configurations containing verbs on which phonological constraints are *not* operative is hardly explicable in terms of an underlying creole grammar, according to whose predictions marking should be entirely independent of verb type.

By the same token, although phonological reduction processes may apply in creole and English varieties, it is the magnitude of their effect, relative to creole features such as anteriority and stativity, that can be taken as evidence of an English grammatical system.

Another recurrent effect is contributed by the existence of a mark on a preceding reference verb. Here, contrary to the pattern posited for creole verbal marking, as well as to any functional hypothesis, a preceding mark increases the probability of a mark on the current verb, while a preceding zero leads to more zeros. This effect, first described by Poplack (1979), in relation to Puerto Rican Spanish plural marking, has recently been studied in Brazilian Portuguese as well as a number of other languages by Scherre & Naro (1991), who have found this kind of formal parallelism to be so widespread that they consider it a candidate for universal status.

Finally, a small, though consistent effect on zero-marking is contributed by the presence of a temporal conjunction. This is the *only* factor in all of our analyses that may be said to behave in accordance with (at least some) predictions for a creole system, if we accept the hypothesis that a

negative correlation between temporal disambiguation and morphological marking is a creole characteristic (see section 2.2.2.3.). We reiterate, however, that the relationship of this factor to specifically creole, as opposed to more general, functionally-motivated patterns, is as yet unclear. In any event, this effect is far outweighed by the counter-functional effect of formal parallelism.

Indeed, the consistent discourse effects on marking in these data — the concord effect and the narrative/nonnarrative distinction — appear to reflect *general* constraints on language use and language processing rather than specific creole phenomena, such as the patterning expected of a relative tense system sensitive to stativity and anteriority. In analyses where the data configurations are neutral with regard to their system of provenance, such as in the strong and weak verb runs, the strongest factor effects are linguistic, and these cannot be explained without reference to an English-like underlying system. We stress that the factors most relevant to creole temporal marking had the same chances of being selected as any others; indeed, better chances in at least one data configuration. In this context, it is particularly striking that the factor of stativity/anteriority was rejected in each run. Such findings lead us to suggest not only that an English-like system of absolute tense marking, expressed by both marked and unmarked verbs, prevails in these materials, but also that the temporal organization of the marked and unmarked verbs is not consistent with what has been posited for creole languages.

Of course, in the current state of the art, many of the premises on which our comparison is based are perforce themselves open to question. If Bickerton's original proposals were incorrect, as has frequently been suggested, this would invalidate our interpretation that the system underlying these data are not creole-like. Indeed, it has even been suggested (Schneider 1990:79) that "there is no set of distinctive criteria that unequivocally establishes the category of creole languages or serves to identify any of its members." Singler's (1990b) compilation of seven articles on the tense/mood/aspect systems of individual pidgins and creoles may be viewed as a case in point. Two (Fayer 1990, Spears 1990) support Bickerton's characterization unequivocally, another (Silva 1990), with slight deviations, and the remainder propose more substantial modifications.

Until quite recently, very little empirical work was available which was capable of assessing the applicability of the [+punctual]/[-punctual] and [+anterior]/[-anterior] distinctions in terms of tendencies (cf. section

2.1.1.), rather than from an all-or-nothing perspective.²⁴ We now have available at least four empirical studies of marking of past time in creoles which address this issue directly or indirectly (Myhill 1991, Patrick 1991, Sankoff 1990, Winford 1991). Examination of their results reveals that the jury is still out. In an analysis of textual data on five creole languages, Myhill notes with regard to Mauritian and Louisiana Creoles and West African Pidgin, for example, that “‘anterior’ markers were used fairly often in [+anterior] environments but as often or more often in other environments which Bickerton does not mention” (p. 100). Sankoff also observes that the distribution of *bin* in Tok Pisin “bear[s] no relation to the predictions of the bio-program” (p. 302). On the other hand, although Myhill contests the claim that the [+punctual/–punctual] distinction applies to all nonstative verbs, he does concede that it is operative in “realis nonstative verbs which are neither sequenced nor anterior” (p. 105). And although Sankoff demonstrated convincingly that the relationship between zero-marking and the expression of [–anterior] temporal reference is not privative, if Bickerton’s claims are viewed as tendencies, her data do, in fact, support them (p. 302). Patrick’s (1991) study of morphological marking in mesolectal Jamaican Creole does not specifically address the expression of anteriority. He does, however, observe that “creole elements of the grammar are clearly visible in the nonmarking rates and in the factors that condition them” (p. 186). Schneider (1990:89) identifies preverbal aspect markers as “the structural phenomenon most closely associated with creoleness.”

Thus, while the advent of empirical examinations of creoles is still too recent to have provided the final word on these issues, there seems to be little dispute among scholars that creole grammars (both basilectal and mesolectal) feature a different tense/mood/aspect system from that of their lexifiers. No trace of that system, whatever its particulars, was evidenced in either of the data sets we have examined. When empirically supported consensus is reached on just how past temporal reference is marked in creoles, those facts may be incorporated into the test for putative creoles and decreolizing varieties we have illustrated here. In the interim we must rely on the research available to inform our analysis.

NOTES

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1) The codes in parentheses identify the corpus, speaker, and location of the token. SE designates Samaná English; ESR, the Ex-slave Recordings; and NSVE, Nova Scotian Vernacular English.

2) The fact that English also features tenses which function in a relative way (Comrie 1985) is often overlooked (but cf. section 3.3.).

3) The hypothesis of a prior creole origin for African American Vernacular English was first enunciated by Stewart (1966) and further promulgated by Dillard (1968, 1972, 1975). Here we test his hypothesis by evaluating specific proposals regarding the environmental conditioning of past temporal marking in creoles.

4) Even if there were consensus on the nature of such a pattern.

5) For detailed background and justification for this contention, see Poplack & Sankoff (1987), Poplack & Tagliamonte (1989), Tagliamonte (1991), and Tagliamonte & Poplack (1988).

6) These include all questions (*Did you go*), negatives (*You didn't go*) and modal constructions, in which the modal is an actual tense carrier (*You couldn't go*) — everything that makes reference to “real conditions,” e.g., Quirk & Greenbaum (1972:325).

7) Other creole-like and/or English-like features such as temporal distance, adverbial collocations and so on could not be examined in the binary division between marked and unmarked forms tested here, as they require consideration of multiple variants representing different individual morphological types. These were examined in Tagliamonte (1991).

8) Anterior temporal relationships represent only 6% and 3% of the total number of verbal relationships occurring in Samaná English and the Ex-slave Recordings, respectively. This rarity was also noted in other empirical studies of past temporal marking in creoles (Sankoff 1990 and Myhill 1991).

9) In these and subsequent examples related to temporal relationship, the token verb is represented in italics, and the preceding reference verb, in bold italics.

10) Repetition does not include contexts where the verb is repeated but the subject is different, for example *One was from Delaware and one was from Philadelphia* (SE/2/47).

11) The results for the combined factor group of stativity and anteriority in the ensuing variable rule analyses are based only on the distinction between punctuals and statives. This is to ensure that the data base is capable of reflecting the operation of creole categories, as indicated in the discussion in 2.1.1., undiluted by the inclusion of English categories for which marking predictions are coincidentally analogous: for example, English present and past perfects in anterior temporal relationships. The incorporation of tokens with habitual/iterative and continuous/progressive aspect into the analyses (not given) has no substantive effect on the results presented here.

Two temporal locations were distinguished for stative verbs contra Bickerton (1975:46), who does not differentiate between past and past-before-past for such verbs. Because English past temporal marking may (though need not) distinguish [+/- anterior] statives, we retain the distinction (cf. section 2.1.1.). As will be seen in Table 1, however, there is no difference between marking probabilities (or, as it turns out, rates) in these contexts, and when the data are rerun without this distinction, the results are identical.

12) In the case of plural marking, however, Poplack & Tagliamonte (1993) were able to distinguish between “local” and “functional” disambiguation effects.

13) A fourth class, consisting of verbs that have the same form throughout. (e.g., *put/put/put*), was excluded from these calculations because their surface form never permits characterization according to marking status.

14) Noncomplicating-action narrative clauses were combined with nonnarrative discourse more generally, as both feature identical frequencies and distribution in these same data (Tagliamonte 1991:327).

15) The aforementioned observations about the role of disambiguation in creoles are not of a nature to permit prediction of the magnitude of their effect. It seems reasonable to speculate that this should approach (if not outweigh) that of stativity/anteriority.

16) These verbs are predicted to follow the same patterning as absolutely unmarked verbs (Mufwene 1983:217), since although marked for aspect, they are not marked for tense.

17) Factors within a factor group are displayed in decreasing order of the magnitude of their contribution to the process under investigation.

18) Numbers in parentheses represent the total number of tokens coded for this factor. and therefore will not sum to “Total N.”

19) The unusual result that no factor groups are selected as significant in the Ex-slave Recordings is due to the reduced number of tokens in this data set, as well as to the fact that there are very few zero forms overall. The combination of insufficient data and the small differences in rates of zero-marking together conspire to render the factor effects nonsignificant. This illustrates the difficulty of performing quantitative analyses on small data sets like the Ex-slave Recordings (cf. also Tagliamonte & Poplack 1988).

20) The same is true of the divided data configuration in Table 2A. Table 2A₁ (see below, after note 24) distinguishes anteriority and stativity in the data set on which Table 2A is based, now excluding the lexically invariant verbs. Except for compression of the discourse context effect (caused by removal of marked *had* and *was* from the nonnarrative data), the results are basically the same as those in Table 2A; the factor of anteriority remains nonsignificant. The paucity of data in at least one factor per group in the Ex-slave Recordings, once *had* and *was* are removed, precludes multivariate analysis.

21) The apparent difference in marking between contexts with changed and unchanged temporal reference (.30 versus .49) in the Ex-slave Recordings is attributable to statistical fluctuation due to the paucity of zeros (N=10) in the second context.

22) In the Ex-slave Recordings, the temporal adverb factor group is both selected in the step-up and discarded in the step-down portions of the regression analysis, rendering its status unclear.

23) The fact that the latter were not selected in the Ex-slave Recordings is again due to the paucity of data in some cells in these factor groups.

24) Although early research appealing to narrative discourse (where temporal relationships tend to be easily deciphered and where the structure of the text is itself highly constrained (Rickford 1987, Tagliamonte & Poplack 1988) is revealing of the variation in tense/aspect manifestations in the verb phrase, it is limited by the fact that narrative texts, by their very nature, provide only partial evidence for the complete range of temporal relationships available (and widely used) in natural conversation.

Table 2A₁: Variable rule analysis of the contribution of factors selected as significant to the presence of zero-marking of *STATIVE* verbs in Samaná English and the Ex-slave Recordings (*had* and *was* excluded).

CORRECTED MEAN:	SE	ESR	
TOTAL N:	934	Probability	N
Discourse context			
Narrative complicating action	.67	(60)	—
Non-narrative	.49	(874)	(205)
Mark on preceding reference verb			
Unmarked	.59	(106)	(16)
Marked with change in temporal reference	.43	(573)	(160)
Marked with no change in temporal reference	.49	(60)	(3)
Presence of temporal adverb			
{+adverb}	.64	(105)	(9)
{-adverb}	.48	(829)	(196)
FACTORS NOT SELECTED:			
<i>ANTERIORITY</i>	X		
Presence of temporal conjunction	X		

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