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## Zero tense in Standard and in African American English\*

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### 1. Tense-marking in African American and Standard American

African American doesn't mark 'present' overtly, but Standard American does:

- |     | <i>African American</i> |     | <i>Standard American</i> |
|-----|-------------------------|-----|--------------------------|
| (1) | a. Lisa [TØ] like cake. | (2) | a. Sue likes carrots.    |
|     | b. Lisa [TØ] tall.      |     | b. Sue is tall.          |
|     | c. Lisa [TØ] eating.    |     | c. Sue is eating.        |
|     | d. Lisa [TØ] done ate.  |     | d. Sue has eaten.        |

This paper shows that the most satisfactory account of the difference between (1) and (2) is a morphological one (§2). If morphological tense-marking (present, past, future) is distinguished from semantic Tense operators (NOW, PRIOR, FUTURE), then both African American (AAE) and Standard American (SAE) can be shown to lack NOW as a semantic Tense operator (§3). In both varieties the 'present' tense is a null syntactic position, labelled [TØ], and the presence of [TØ] in turn correlates with the possibility of Sequence-of-Tense. §4 examines the two factors that determine how sentences with [TØ] are interpreted: Discourse-linking, and the ontology of states and events. §5 looks at the cross-linguistic generalizations that this approach permits concerning temporal effects, especially

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as it relates to (non)-uniformity of interpretation, genericity and Sequence-of-Tense. Finally, §6 assesses the implications of the proposed analysis.

## 2. Identifying the source of the difference

Accounts of the difference between (1) and (2) can be characterized in terms of the domain they identify as the locus of variation: phonological, morphological, syntactic, or semantic. If the difference were rooted in phonology, we expect a difference in the inventory of P-rules. If the difference were morphologically rooted, we expect different morpheme inventories. If the difference were syntactically rooted, we expect a difference in the inventory of syntactic configurations. (The syntactic account can be ruled out in principle, if one accepts that phrase structure (i.e. X-bar theory) is invariant.) And if the difference were semantic, we expect a difference in the inventory of semantic operators.

Accepting that a structurally based account is not tenable on theoretical grounds, this leaves three ways of accounting for the difference between (1) and (2). I consider each in turn, showing that both phonological and semantic accounts are unsatisfactory, and that a morphological account is the most satisfactory.

### 2.1 The difference is rooted in phonology: Labov 1969

The difference between AAE and SAE could be phonologically rooted, deriving from the application of stylistic deletion rules at Phonetic Form. This is essentially the position of Labov 1969, who is concerned with accounting for the absence of copular forms in certain contexts, and derives an AAE bare matrix predicate like (3a) by deleting the reduced (desyllabified) copula from the corresponding sentence of SAE (4a). He notes parallel contexts where ‘deletion’ and ‘reduction’ both result in ungrammaticality, (3b) – (4b). In such contexts, AAE uses invariant *is* (3c), while SAE uses *are* (4c).

- |     | <i>African American</i>            |     | <i>Standard American</i> |
|-----|------------------------------------|-----|--------------------------|
| (3) | a. They $\emptyset$ mine.          | (4) | a. They’re mine.         |
|     | b. *That’s what they $\emptyset$ . |     | b. *That’s what they’re. |
|     | c. That’s what they is.            |     | c. That’s what they are. |

Labov (1969: 722) proposes a one-to-one correspondence between contraction/deletion and between non-contraction/non-deletion:

- (5) *Labov’s generalization:* (cf. Labov 1969: 722)
- i) Wherever SAE contracts, AAE deletes *is* and *are*.
  - ii) Wherever AAE deletes, SAE contracts *is* and *are*.
  - iii) Wherever SAE doesn’t contract, AAE doesn’t delete *is* and *are*.
  - iv) Wherever AAE doesn’t delete, SAE doesn’t contract *is* and *are*.

Labov’s basic claim, that prosodic factors must be taken into account in coming to an understanding of the distribution of the copula in AAE, is undoubtedly true. However, “Labov’s generalization” itself fails to capture a number of generalizations, including the retention of the ‘reduced copula’ in certain environments, and the sensitivity of ‘copula deletion’ to syntactic environment. Consider each in turn.

#### 2.1.1 *I-m, it-s, that-s, and what-s*

If the relevant generalization is that what contracts (in SAE) also deletes (in AAE), then one expects all forms of the reduced copula to “delete”. Looking across the full paradigm, observe that AAE seems to retain the reduced copula in two contexts: with the

1st person, and with the 3rd person inanimate pronominal subjects *it*, *that* and *what* (DeBose & Faraclas 1993: 372):

(6) PRESENT TENSE PARADIGM OF NON-V PREDICATES

<i>African American</i>			<i>Standard American</i>		
I- <u>m</u>	tall.	(cf. *I tall.)	I'm	tall.	1s
You	tall.		You're	tall.	2s
He	tall.		He's	tall.	3s Animate
She	tall.		She's	tall.	3s Animate
Who	tall?		Who's	tall?	3s Animate
It- <u>s</u>	tall.	(cf. *It tall.)	It's	tall.	3s Inanimate
That- <u>s</u>	tall.	(cf. *That tall.)	That's	tall.	3s Inanimate
What- <u>s</u>	tall?	(cf. *What tall?)	What's	tall?	3s Inanimate
We	tall.		We're	tall.	1p
Y'all	tall.		You're	tall.	2p
They	tall.		They're	tall.	3p

The distribution of *I-m* and the inanimate forms (*it-s*, *that-s*, *what-s*) differs. *I-m* is arguably a pronominal variant of *I*, consistent with the fact that *I-m* appears in contexts where a full copula would be impossible, in particular before the modal auxiliary 'e 'will':

	<i>non-V predicate</i>			<i>V predicate</i>		
(7) a. non-past	I-m	[T∅]	[AP proud]	I	[T∅]	[VP fall]
b. progressive	I-m	[T∅]	[AspP being proud]	I-m	[T∅]	[AspP falling]
c. future	I-m	[T 'e]	[VP be [AP proud]]	I-m	[T 'e]	[VP fall]
d. past	I	[T was <sub>i</sub> ]	[VP t <sub>i</sub> [AP proud]]	I	[+PAST]	[VP fell]

Labov (1969: 721), remarking that *-m* is kept with the 1st person, assumes it is a reduced copula, and attributes its presence to the fact that word-final *-m* never deletes in AAE. But this could be true, without it implying that *-m* is a reduced copula. The fact that *I-m* occurs in environments where a reduced copula is impossible, as shown by the contrast of (8) vs (9), establishes that AAE *-m* and SAE 'm don't have the same distribution.

	<i>African American</i>	<i>Standard American</i>
(8)	I-m 'e be proud.	(9) *I'm will be proud.

These observations are consistent with the following characterization of *I-m*: *I-m* is a special form of the 1st person pronoun which precedes a non-verbal projection.

Turning to the *-s* of *it-s*, *that-s* and *what-s*, it is a form of inanimate agreement (Déchaine 1993).<sup>1</sup> The *-s* forms differ from *I-m* in one crucial respect: whereas *I-m* is retained before a modal auxiliary, the *-s* forms are not:

<sup>1</sup>This departs from DeBose & Faraclas (1993: 372), who treat both the 1st person form (*I-m*) and the 3rd person forms (*it-s*, *that-s* and *what-s*) as pronominal variants of the simple forms *I*, *it*, *that* and *what*.

	<i>non-V predicate</i>		<i>V predicate</i>	
(10) non-past	It-s	[T $\emptyset$ ] [AP tall]	It	[T $\emptyset$ ] [VP fall]
progressive	It-s	[T $\emptyset$ ] [A <sub>sp</sub> P being tall]	It-s	[T $\emptyset$ ] [A <sub>sp</sub> P falling]
cont. prog.	It	[T $\emptyset$ ] [VP be being tall]	It	[T $\emptyset$ ] [VP be falling]
future	It	[T 'e ] be tall.	It	[T 'e ] fall.
past	It	[T was ] tall.	It	[+PAST] [VP fell]
past progressive	It	[T was] being tall.	It	[T was] falling.
future progressive	It	[T 'e ] be being tall.	It	[T 'e ] be falling.

For the *-s* forms, the descriptive generalization is:

- (11) *-s* is a form of agreement which occurs with non-V predicates, absent material in T.

Crosslinguistically, 3rd person pronominals often have the status of default agreement, lacking inherent person, number and gender specification (Déchaine 1993). If *-s* in AAE is default agreement, this accounts for its occurrence with non-V predicates, and its restriction to third person inanimates.<sup>2</sup>

### 2.1.2 Syntactic environment

Another failing of the deletion account is that does not link the absence of tense-marking on V predicates with the absence of tense-marking on non-V predicates. The missing generalization is that tense-marking is absent with both V and non-V predicates. Related to this is another missing generalization: AAE tense-marking displays the same three-way split with V and non-V predicates, as summarized in (12). First, there are constructions which are never overtly tense-marked: the declaratives. Second, there are constructions that are optionally tense-marked: yes/no questions (Green 1993). Third, there are constructions which must be tense-marked: emphatic exclamatives (Dillard 1972: 44).

- (12) *African American*

	<i>be</i> WITH NON-V PREDICATES	<i>do</i> WITH V PREDICATES	
a.	You sick.	She walk.	declarative
b.	( <u>Is</u> ) you sick?	( <u>Do</u> ) she walk?	yes/no question
c.	You <u>IS</u> sick!	She <u>DO</u> walk!	emphatic

The absence of inflection with declaratives is consistent with Labov's analysis, but the optionality of sentence-initial auxiliary in yes/no questions poses a problem, since Labov claims that the AAE copula deletes in contexts where SAE permits a reduced form. (13) gives corresponding SAE examples. Of particular relevance is (13b), which shows that the copula has full form in sentence-initial position, thus *Are you sick?*, but not *\*'re sick*.

- (13) *Standard American*

	<i>be</i> WITH NON-V PREDICATES	<i>do</i> WITH V PREDICATES	
a.	You're sick.	She walk-s.	declarative
b.	<u>Are</u> you sick?	<u>Does</u> she walk?	yes/no question
c.	You <u>are</u> <u>SO</u> sick!	She <u>does</u> <u>SO</u> walk!	emphatic

<sup>2</sup>In discussion, it was pointed out that the distribution of the *-s* forms may be attributable to restrictions on the occurrence of voiceless segments, rather than being syntactically governed. The implications of this remain to be investigated.

What emerges from this comparison is that there is a context where the full copula is obligatory in AAE, but optional in SAE, constituting a counterexample to Labov's generalization. As for the obligatoriness of emphatic *is* in AAE, it neither confirms nor disconfirms the deletion analysis. However, the fact that this form is invariant means that an analysis which appeals to phonological reduction in order to account for the absence of the copula in certain environments, must in any case be supplemented by additional statements on the morphological shape of the emphatic marker. Finally, a deletion analysis fails to capture the fact that the distribution of *be* with non-V predicates is constrained in exactly the same way as the distribution of *do* with V predicates: no tense-marking in the present tense, optional occurrence of *do* in yes/no questions, and obligatory occurrence of *do* in the emphatic construction.

To summarize. A deletion analysis fails to unify the contexts in which the copula does not occur: declaratives ('obligatory deletion') and interrogatives ('optional deletion'). Second, it has nothing to say about contexts in which the copula must occur in AAE, and is invariant, e.g. emphatic *IS*, Habitual *be*. And it fails to capture the fact that the distribution of *be* and *do* are subject to the same syntactic restrictions.

## 2.2 The difference is rooted in semantics: DeBose & Faraclas 1993

Another way to understand the difference between AAE and SAE is as a semantic one. Under this view, the contrast between (1) and (2) might reflect a difference in the organization of certain semantic operators, specifically Tense and Aspect. Following Dillard (1972: 44), DeBose & Faraclas (1993: 378ff.) propose that in SAE tense is primary and aspect secondary, but that in AAE tense values are derivative of aspectual values. With "unmarked predicate constructions", i.e. constructions with no overt tense-marking, the aspectual value is determined by a Lexical Stativity Parameter (LSP)<sup>3</sup>:

- (14) *Lexical Stativity Parameter (LSP)*: Absent overt tense/aspect, a stative predicate is normally interpreted as nonpast/noncompletive; a nonstative predicate is normally interpreted as past/completive. (cf. DeBose & Faraclas 1993: 371)

DeBose & Faraclas assume that tense is active in SAE, but inactive in AAE, so they predict that the interpretive effects of the LSP are manifest in AAE, but not in SAE. However, lexical stativity is also a factor in tense interpretation in SAE (Enç 1991, Stowell 1993), so a stativity parameter fails to distinguish the two varieties. To show this, it is necessary to introduce the notion of temporal reference, defined as follows:

- (15) *temporal reference of S<sub>AF</sub>*: (adapted from Dowty 1986: 45)  
the time the situation mentioned by the sentence occurred or obtains

In both AAE and SAE, temporal reference is sensitive to inherent lexical aspect, and specifically to the stative/eventive distinction. For eventive predicates, one must further distinguish atelic (non-delimited) events from telic (delimited) ones.

<sup>3</sup>As DeBose and Faraclas note, the LSP is equivalent to what is known in the Africanist literature as the 'factive' construction, a common feature of Kwa (Niger-Congo). In the factive, an eventive verb is interpreted as past, a stative verb as non-past, as the following example from the Òweré dialect of Ìgbo illustrates, from Éménanjò (1984: 121). See Welmers and Welmers 1968, Déchaine 1991, Déchaine 1993 for further discussion. There is confusion in the literature about the factive: contra Comrie 1976 (cited by Enç 1981: 103f.) the factive has unambiguous temporal reference.

- |     |   |      |  |
|-----|---|------|--|
| (i) | Íkhe rí-ri rin à.<br>eat-rV food this<br>'Íkhe ate this food' | (ii) | Àdḥá má-ra m-ma<br>be.beautiful-rV beauty<br>'Àdḥá is beautiful' |
|-----|---|------|--|

In the unmarked predicate construction of AAE there is a three-way interpretive split. A stative predicate describes a state which overlaps with the utterance situation, i.e. it is interpreted as non-past, (16a). In (16b), a bare NP object makes the VP generic. And in (16c), *go*, as an inherently telic unaccusative predicate (Levin & Rappaport 1989: 320), describes an event which precedes the utterance situation. Similar effects are seen in SAE: a stative predicate describes a state which overlaps with the utterance situation (17a); a bare plural object makes an eventive VP generic/atelic (17b); and a delimited VP describes an event which precedes the utterance situation, traditionally called the historic present.<sup>4</sup>

- |      |                           |      |                          |
|------|---------------------------|------|--------------------------|
|      | <i>African American</i>   |      | <i>Standard American</i> |
| (16) | a. Lisa [T Ø ] like cake. | (17) | a. Sue likes carrots.    |
|      | b. Lisa [T Ø ] eat cake.  |      | b. Sue eats carrots.     |
|      | c. Lisa [T Ø ] go home.   |      | c. Sue goes home.        |
|      |                           |      | Sue eats the carrots.    |

Given that the unmarked predicate constructions of AAE and the ‘present tense’ of SAE are associated with the same range of interpretations, this suggests that the difference between the two varieties is not semantically rooted.

### 2.3 The difference is rooted in morphology

If the difference between AAE and SAE with respect to tense marking is neither phonologically nor semantically based, this leaves only one other possibility. We can locate the difference between (1) and (2) in the morphology of tense. This is the null hypothesis, given the more general claim that all surface variation reduces to morphological differences (Borer 1983, Chomsky 1991, 1993). As illustrated in (18), both AAE and SAE lack NOW as a semantic Tense operator. ‘Zero tense’ ([TØ]) in AAE has no morphological content, and in SAE it correlates with subject agreement.

#### (18) DECLARATIVE PARADIGM OF V PREDICATES

<i>African American</i>		<i>Standard American</i>		
I	[T Ø ] like cake.	I	[T Ø ] like cake.	1s
You	[T Ø ] like cake.	You	[T Ø ] like cake.	2s
S/he	[T Ø ] like cake.	S/he	[T Ø ] like- <u>s</u> cake.	3s
We	[T Ø ] like cake.	We	[T Ø ] like cake.	1p
Y'all	[T Ø ] like cake.	You	[T Ø ] like cake.	2p
They	[T Ø ] like cake.	They	[T Ø ] like cake.	3p

### 3. A disjunction between morphology and semantics

Accepting that the tense-marking differences seen in the so-called ‘present tense’ is morphologically rooted, we must still account for the interpretive effects in (16) and (17): statives are non-past; eventives are generic or past. (In the remainder of the discussion, I will refer to SAE, with the understanding that what I say carries over to AAE.)

To appreciate the significance of how these examples are being interpreted, one must distinguish morphological marking from the semantic value associated with that

<sup>4</sup>In both varieties, there are complications with performative verbs. On this issue in AAE see DeBose & Faraclas 1993, and related discussion on Haitian by Spears 1991. On the temporal reference of performatives see Bach 1981 and Déchaine 1993.

marking. To avoid confusion, I use the term ‘present’ for morphological marking, and the term NOW to refer to the semantic tense operator. And I use the term ‘past’ for morphological marking, reserving PRIOR to refer to the semantic tense operator. The definitions of NOW, PRIOR, and FUTURE follow:

- (19) Given a sentence  $S_j$ , the temporal reference of  $S_j$  is interpreted to be a time consistent with the semantic Tense operator of  $S_j$ .  
Let the set of Tense operators be {NOW, PRIOR, FUTURE}.
- a NOW is consistent with the set of situations denoted by a sentence which overlap with the utterance situation.
  - b PRIOR is consistent with the set of situations denoted by a sentence which precede the utterance situation.
  - c FUTURE is consistent with the set of situations denoted by a sentence which follow the utterance situation.

### 3.1 ‘present tense’ morphology is not NOW

Ideally, one expects a one-to-one correspondence between morphology and semantics: if morphological ‘present’ implies the presence of semantic NOW, then predicate-heads inflected for ‘present tense’ should be interpreted as a describing an eventuality (a state or event) that overlaps with the utterance situation. Restricting attention to (17a) and (17b), we see that things are not what we expect. Stative predicates are interpreted in a way consistent with NOW: *Sue likes carrots* describes a state which overlaps with the utterance situation. However, eventive predicates are not interpreted in a way consistent with NOW; if they were, then *Sue eats carrots* would mean ‘Sue is eating carrots’, and it doesn’t.

From the interpretive contrast between (17a) and (17b), Enç 1991 argues that ‘present tense’ morphology does not entail semantic NOW. She concludes that SAE lacks semantic NOW, and that the affix usually analyzed as ‘present tense’ morphology is actually agreement. (On independent grounds, Kayne 1989 comes to a similar conclusion.) I further propose that although (16) and (17) lack a semantic Tense operator, there is nevertheless a syntactic tense position, labeled  $[T\emptyset]$ . This leaves the following question: if (16) and (17) don’t have a semantic Tense operator, what determines the interpretation of  $[T\emptyset]$ ?<sup>5</sup> Before addressing this, I consider another area where there is a non-correspondence between morphological tense-marking and semantic Tense.

### 3.2 ‘past tense’ morphology is not (always) PRIOR

Another disjunction between morphology and semantics occurs in contexts where both matrix and embedded predicates are inflected for ‘past’. Again, we see a stative/eventive split. An embedded ‘past tense’ eventive temporally precedes the matrix clause situation: in (20), Sue’s eating carrots precedes Lisa’s saying so, and both precede the utterance situation. This has been called “shifted tense construal” by Enç (1987).

- (20) Lisa said that Sue ate carrots.  
= ‘Sue’s eating carrots precedes Lisa’s saying so’ = SHIFTED TENSE

An embedded ‘past tense’ stative is temporally ambiguous: besides the shifted tense construal (21a), there is a “simultaneous” reading (21b). On the latter interpretation, (21b) is equivalent to (22).

<sup>5</sup>Enç 1991 posits a D(iscourse)-linking rule for the interpretation of statives, and a rule of default quantification for generic eventives, but doesn’t deal with the past interpretations.



- (21) &Lisa said that Sue liked carrots.  
 a. = 'Sue's liking carrots precedes Lisa's saying so' = SHIFTED TENSE  
 b. = 'Sue's liking carrots overlaps Lisa's saying so' = SIMULTANEOUS (SOT)
- (22) Lisa said that Sue likes carrots.  
 = 'Sue's liking carrots overlaps Lisa's saying so' = SIMULTANEOUS

The simultaneous construal in (21b) is a "sequence-of-tense (SOT) effect: an embedded 'past tense' stative is construed as 'present'. And if English lacks the semantic operator NOW, then the simultaneous reading is another instance of [TØ]. But then why can the embedded stative in (21b) bear 'past' inflection? On independent grounds, Stowell (1993) proposes that in English the correspondence between 'past' morphology (-ed) and the semantic PRIOR operator is not one-to-one: 'past' need only be c-commanded by PRIOR. Thus, a matrix 'past' must be locally c-commanded by PRIOR:

- (23) Sue [T PRIOR ] liked carrots.

For embedded 'past', there are two possibilities: it may be locally c-commanded by PRIOR, yielding the shifted tense construal, (21a); or it may be non-locally c-commanded by PRIOR, yielding the simultaneous reading, (21b').

- (21) a' Lisa [T PRIOR ] said that Sue [T PRIOR ] liked carrots. = SHIFTED  
 b' Lisa [T PRIOR ] said that Sue [TØ] liked carrots. = SIMULTANEOUS (SOT)

The embedded 'past' in (21b') is equivalent to the embedded 'present' of (22):

- (22)' [TP Lisa [T' PRIOR [VP said [CP that [TP Sue [T' [TØ] [VP likes carrots ]]]]]]]

This analysis also extends to embedded eventives. In the literature, it is often claimed that SOT only arises with embedded statives. This isn't quite true. In order to see this, one must control for the specificity of the object of the embedded eventive. (24) corresponds to the kinds of examples cited in the literature, and only has a shifted construal. This contrasts with (25), where the object is a bare plural, and the ambiguity between the shifted and the simultaneous (SOT) reading resurfaces.<sup>6</sup>

- (24) a. Lisa [T PRIOR ] said that Sue [PRIOR] ate the carrots. = SHIFTED  
 b. Lisa [T PRIOR ] said that Sue [TØ] ate the carrots. = SHIFTED
- (25) a. Lisa [T PRIOR ] said that Sue [PRIOR] ate carrots. = SHIFTED  
 b. Lisa [T PRIOR ] said that Sue [TØ] ate carrots. = SIMULTANEOUS (SOT)

#### 4. The roots of temporal reference

Although positing [TØ] provides insight into the Tense effects of English, we're still left with the question: what determines the temporal reference of [TØ]? Note that the interpretive algorithms of Enç and Stowell do not yield the contrast between (17b) and (17c). Both authors appeal to a Generic/Habitual operator in (17b), but fail to account for the possibility of the 'historic present' in (17c). Maintaining the idea that [TØ] is behind

<sup>6</sup>Embedded 'present' eventives also show a sensitivity to bare plurals, (i) vs. (ii).

(i) Lisa [T PRIOR ] said that Sue [TØ] eats the carrots.  
 (ii) Lisa [T PRIOR ] said that Sue [TØ] eats carrots.

these readings, a more modular view of temporal reference requires two independent factors: Discourse-linking (§4.1), and the ontology of states and events (§4.2).

#### 4.1 Discourse-linking

The temporal reference of sentences with  $[T\emptyset]$  is mediated by discourse principles. First, some background assumptions. The denotation of a sentence can be defined as a set of possible situations (Kratzer 1989). Situations are temporally ordered by precedence and overlap (Kamp 1981, Bach 1981: 69*f.*, Portner 1992: 37). Given two situations,  $s_a$  and  $s_b$ , either  $s_a$  precedes  $s_b$  ( $s_a < s_b$ ), or  $s_b$  precedes  $s_a$  ( $s_b < s_a$ ), or  $s_a$  and  $s_b$  overlap ( $s_a \theta s_b$ ).<sup>7</sup> In consequence, the set of possible situations denoted by a sentence is ordered relative to the utterance situation: it could precede the utterance situation, follow it, or overlap with it. This temporal ordering is a kind of Discourse-linking (D-linking). The particular case we're interested in is how the set of possible situations denoted by a sentence  $S_j$  is ordered relative to the utterance situation  $s_u$ : either  $S_j < s_u$ ,  $s_u < S_j$ , or  $S_j \theta s_u$ .

If a semantic Tense operator is present, D-linking is straightforward: the ordering relation is interpreted as consistent with the Tense operator. Simplifying, in a system with three Tense operators {PRIOR, NOW, FUTURE}, PRIOR is consistent with the set of situations denoted by a sentence which precedes the utterance situation ( $S_j < s_u$ ), NOW is consistent with the set which overlaps with the utterance situation ( $S_j \theta s_u$ ), and FUTURE with the set which follows the utterance situation ( $s_u < S_j$ ).

What happens if there is no semantic Tense operator? In other words, what are the anchoring conditions ((Enç 1987) for  $[T\emptyset]$ ? What remains constant is that the set of possible situations denoted by the sentence must be in some ordering relation with respect to the utterance situation. There are four possibilities:  $[T\emptyset]$  could be temporally vague,  $[T\emptyset]$  could be consistent with a situation which follows the utterance situation ( $s_u < [T\emptyset]$ ), precedes it ( $[T\emptyset] < s_u$ ), or overlaps with it ( $[T\emptyset] \theta s_u$ ). I consider these four possibilities, and conclude that only one is tenable:  $[T\emptyset]$  overlaps with the utterance situation.

It could be that the ordering relation is unconstrained, so that  $[T\emptyset]$  would be freely interpretable as preceding, following or overlapping with the utterance situation:

$$(26) \quad * [T\emptyset] < s_u \quad \cup \quad s_u < [T\emptyset] \quad \cup \quad [T\emptyset] \theta s_u \\ \equiv \text{PRIOR} \quad \quad \quad \equiv \text{FUTURE} \quad \quad \quad \equiv \text{NOW}$$

This is the position of, amongst others, Enç (1981: 103*f.*), Comrie (1985: 50-52), and Hornstein (1990: 216, *fn.* 25), who view bare sentences—sentences not marked for tense—as temporally vague. As I have discussed elsewhere (Déchaine 1991), bare sentences are not temporally vague. Instead, as we have seen, their temporal reference is sensitive to the inherent aspectual properties of the predicate, specifically to the eventive/stative distinction.

A second possibility: perhaps  $[T\emptyset]$  is consistent with the set of possible situations (denoted by a sentence) which follow the utterance situation, i.e. FUTURE. This can be immediately rejected on the grounds that sentences with  $[T\emptyset]$ —whether the predicate is eventive or stative—never get a FUTURE interpretation.<sup>8</sup>

<sup>7</sup>In situation semantics, temporal order is determined relative to utterance situation, rather than moment of utterance ( $t_0$ ) as assumed by Bach 1981, Dowty 1986, Enç 1991. Throughout,  $<$  = 'precedes',  $\theta$  = 'overlaps with'.

<sup>8</sup>See Dowty 1986 for an analysis of English narrative sequences as anchoring to a time following the moment of utterance.

- (27)  $*s_u < [T\emptyset]$   
 $\equiv$  FUTURE

A third possibility is that  $[T\emptyset]$  is consistent with the set of situations which precede the utterance situation, i.e. PRIOR:

- (28)  $*[T\emptyset] < s_u$   
 $\equiv$  PRIOR

On the face of it, this is only sometimes true of eventive predicates, which can be interpreted as PRIOR relative to the utterance situation. Even putting aside the fact that eventives can also receive a generic interpretation, identifying  $[T\emptyset]$  with the set of situations which precede the utterance situation leaves the temporal reference of statives unaccounted for: they are uniformly interpreted as non-past relative to the utterance situation.

One could combine the previous two possibilities ( $s_u < [T\emptyset]$ ,  $[T\emptyset] < s_u$ ), and capture the stative/eventive split by stipulating that, with  $[T\emptyset]$ , sentences with eventive predicates denote sets of situations that precede the utterance situation, while stative predicates denote sets of situations that overlap the utterance situation:

- (29)  $*\text{eventive} \rightarrow [T\emptyset] < s_u \quad \cap \quad \text{stative} \rightarrow [T\emptyset] \theta s_u$   
 $\equiv$  PRIOR  $\equiv$  NOW

Taking this step raises the question of why D-linking should work one way with eventives and another way with statives. It also fails to account for the temporal reference of non-telic eventives (generics), and violates the uniformity condition on D-linking (Dowty 1986:40).

This leaves a final possibility:  $[T\emptyset]$  is consistent with the set of possible situations denoted by a sentence which overlap with the utterance situation:

- (30)  $[T\emptyset] \theta s_u$

Under this hypothesis, which I adopt, Tense D-linking proceeds as follows:

- (31) *Tense Discourse-linking:*  
 Given a sentence  $S_j$ , the temporal reference of  $S_j$  is interpreted to be:  
 i. a time consistent with the semantic Tense operator of  $S_j$ , if there is one;  
 ii. otherwise  $[T\emptyset]$  overlaps with the utterance situation.

If  $[T\emptyset]$  is always read as overlapping with the utterance situation, then why don't stative and eventive predicates have the same temporal reference? The answer lies in aspectual properties (Bach 1986: 588): states *are*, events *happen*.

#### 4.2 The ontology of states and events

Bach (1986: 588) conjectures that only states can be properties of moments, whereas events have temporality in that they are possible histories.

States *are*. It follows that, with 'zero tense', stative predicates can be interpreted as holding at a time which overlaps with the utterance situation, giving rise to a non-past interpretation:

- (32) Sue likes carrots.





I tentatively conclude that whenever a generic interpretation arises there is N-incorporation.<sup>10</sup>

## 5.2 Sequence-of-Tense as a probe for [TØ]

It seems that Sequence-of-Tense is possible only if [TØ] is possible. On this last point, note that AAE also has Sequence-of-Tense across sentences (for some speakers):

- (40) a. He [TØ] thinkin'. (Dillard 1972: 42)  
       'He is thinking'  
       b. He [T PRIOR ] stood there and he [TØ] thinkin'.  
       'He stood there and he was thinking'

This is expected if [TØ] in (40b) overlaps the set of situations denoted by the preceding sentence, themselves prior to the utterance situation. This requires Tense D-linking to be supplemented by (31-iii):

- (31) iii or [TØ] is interpreted to overlap with the situation denoted by  $S_i$ ,  
 $S_i$  a sentence which precedes  $S_j$  in the narrative.

## 6. Implications of [TØ]: the morphology of Tense and Aspect

Coming full circle, I conclude that there is no formal difference in the Tense/Aspect system of AAE and SAE, but there are differences in morphological inventory. Concerning Tense: [TØ] is always null in AAE (41); in SAE, with V predicates there is 3rd person agreement (42a), and with non-V projections there is an auxiliary (*be* or *have*), (42b-f). Both varieties have Aspect, although the inventory of morphemes differs, consistent with a morphologically-rooted analysis: both have Progressive *-ing* (41c, 42c); AAE has Perfective *done*, SAE doesn't (41d, 42d); AAE has Habitual *be*, SAE doesn't (41e, 42e); AAE has adverbial stressed *BEEN*, SAE doesn't (41f, 42f).

- | <i>African American</i>      | <i>Standard American</i>                                 |
|------------------------------|--|
| (41) a. Bruce [TØ] eat cake. | (42) a. Bruce [TØ] eats cake.                            |
| b. Bruce [TØ] a fool.        | b. Bruce [T is] a fool.                                  |
| c. Bruce [TØ] eating.        | c. Bruce [T is] eating.                                  |
| d. Bruce [TØ] done ate.      | d. Bruce [T has] eaten.                                  |
| e. Bruce [TØ] be eating.     | e. Bruce [T is] usually eating.                          |
| f. Bruce [TØ] BEEN running.  | f. Bruce [T has] been running<br><u>for a long time.</u> |

<sup>10</sup>Do bare Ns necessarily incorporate? No. In Guadeloupéen/ Martiniquais, a bare N is interpreted existentially and the predicate is interpreted as past, (i). And in Fòñ-Gbè (Kwa, Niger-Congo), bare Ns with an eventive are interpreted either as D-linked or as existentially quantified, (ii).

- |  |  |
|--|--|
| (i) Pyè vann bef.<br>sell cattle<br>'Pyè sold some cattle' | <i>Guadeloupéen/ Martiniquais</i><br>(Bernabé 1987: 191) |
| (ii) Siká já làn.<br>cut meat<br>'Sika cut the meat'       | Siká dó àtín.<br>plant tree<br>'Sika planted a tree'     |
|  | <i>Fòñ-Gbè</i><br>(Avolonto 1991)                        |

A question that I have not directly addressed is what forces the presence of [<sub>T</sub>Ø] as a syntactic position? The necessity of a Tense position follows from the licensing conditions for predicates: to constitute a complete functional complex, a predicate must be in the scope of Tense. This Predicate Visibility Principle (Déchaine 1993) extends previous proposals (Fabb 1984; Guéron and Hoekstra 1987; Rapoport 1987; Lefebvre & Muysken 1988: 7) which variously state that a predicate-head is visible for semantic role assignment only if governed by Tense.<sup>11</sup>

- (43) *Predicate Visibility Principle*  
A predicate is visible only if it is c-commanded by Tense.

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<sup>11</sup>This contrasts with other analyses where the Functional projection associated with bare sentences is not to be identified with Tense, but rather with Aspect (Deprez & Vinet 1992) or with Agreement (Giorgi and Pianesi 1991). See Déchaine 1993.

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