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Perfect and Perfective Aspect in African-American English¹

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African American English simple *V-ed* sentences such as *John ate the rutabagas* are ambiguous; they have both simple past (past perfective) and present perfect readings. This paper focuses on the role verb morphology plays in this ambiguity. It is argued that the ambiguity can be traced to the presence of a covert present tense operator found in the present perfect (but not past perfective) versions of such sentences, and the interaction of this operator with *-ed*, the morphology that turns the verb *eat* into *ate*. When it interacts with a covert present tense operator, *-ed* is interpreted as perfect aspect, but when it is the highest tense/aspect marker in the sentence, it is interpreted as past tense.

0 Introduction

As noted by Declaine (1993), unlike their Standard American English (SAE) counterparts, African American English (AAE) simple *V-ed* sentences such as that in (1) are ambiguous; they have both simple past (past perfective) and present perfect readings.

- (1) John ate the rutabagas. (AAE)
a. 'John ate the rutabagas' (SAB)
b. 'John has eaten the rutabagas' (SAB)

This paper focuses on the role of verb morphology in African-American English perfect and perfective constructions and the ambiguity of sentences like (1). I argue that the ambiguity of (1) can be traced to the presence of a covert present tense operator found in its present perfect version and the interaction of this operator with what I will call *-ed*, the morphology that turns the verb *eat* into *ate*. When it interacts with the present tense operator, *-ed* is interpreted as perfect aspect, but when it is the highest tense/aspect marker in the sentence, it is interpreted as past tense.

1. The Basic Temporal Framework

Critical to the current discussion are the notions of tense and aspect. In his seminal work on tense, Reichenbach (1947) argues that explaining what he calls "the perfect tenses" (past, present and future perfect) requires reference to three distinct times. To explain the sentence "John had walked home" for instance, we need to refer not only to the time when John was walking home, and the time when the sentence is spoken, but also a time that comes *after* John's walking home

and *before* the time the sentence is spoken. Instead of "John had walked home", we might have considered the sentence "John had walked home when Mary called to offer him a ride." In this case, the third time is more easily identified; it is the time during which Mary called to offer John a ride. Reichenbach calls this time the sentence's *reference time*. Klein (1992, 1994) argues that such reference times are present in all sentences. He takes them to be the times about which sentences make assertions. They are, in this sense, the topics of sentences, and Klein therefore refers to them as *topic times*.

In defining tense and aspect, I follow Klein, who building on Reichenbach argues that these categories are relations between intervals of time. Tense, according to Klein, is a relation between the topic time and the time the sentence is uttered or *utterance time*. Aspect, on the other hand, is a relation between the interval during which an eventuality takes place or *situation time*, and the topic time.

As the example of John's walking home shows, a topic time can be linguistically expressed or it can be left implied. Barbara Partee (1973, 1984) makes essentially this same point, that a salient time may be left implied, in her discussion of nominal and temporal anaphora. She notes the following parallel between the two sentences in (3).

- (3) a. I didn't turn off the stove.
b. She left me. (Partee 1973)

Pronouns such as *she* in (3b) can be used without linguistic antecedents when their referent is understood to be salient to the hearer; and though there is no analogue to a salient *physical* presence, a particular past time can be presently salient. The sentence in (3a) to use Partee's example, when said traveling by car, halfway down the turnpike, clearly refers to a *particular* interval of time made clear by the context — the time just before leaving the house, not, say, at some time last week. A 'topicalized time' may well be the most likely referent for a temporal anaphor.

It must be stressed that such a topic time is not the same as the situation time of an event. Consider the following scenario: I know that Mary hates turnips, and that she refuses to eat them whenever they are offered to her. I see her on Friday evening, and contrary to her usual practice, she is eating a large plate of rutabagas. This surprises me because rutabagas are a kind of turnip. The next Tuesday, I tell a friend that Friday was a strange night. In answer to his question "What was strange about Friday night?", I might answer as in (4).

- (4) Mary ate a plate of rutabagas.

The question establishes a topic time: last Friday night. My answer asserts something about that same topic time: last Friday night. Both the topic time and the situation time precede the utterance time, but they can be shown to be distinct. When I answer "Mary ate a plate of rutabagas", I am not claiming that Mary was eating rutabagas the entire evening; I am saying only that the situation time, the time during which Mary ate a plate of rutabagas, falls within last Friday evening, the topic time. The tense relation here is *utterance time after topic time* and the aspect relation is *situation time included in topic time*. Similarly, when I say "I spoke to Richard last week", I am not claiming that we had a week-long conversation. My only claim is that my

¹ I would like to thank Ana Arregui, Masako Hiroi, Angelika Kratzer, Paula Menéndez-Benito and Barbara Partee for their invaluable comments on the previous drafts of this paper.

conversation with Richard fits (temporally) somewhere within last week, which is, of course, before my utterance of the sentence.

2 The Basic Tenses and Aspects

2.1 The Tenses: Past and Present

I take Present Tense to be the relation *utterance time includes topic time* and Past Tense to be the relation *utterance time after topic time*. I assume that this is true for both African-American and Standard American English. The utterance time/topic time relations for sample present and past tense Standard American English sentences are given in (5).

(5)

Basic Inventory of Tenses:			
Tense	Aspect	SAE Example	Tense Relation
Present	Progressive	Mary is eating	TU includes TT
Past	Perfective	Mary ate	TU after TT

where, TU = utterance time; and TT = topic time

2.2 The Aspects: Progressive, Perfective, and Perfect

As with the tenses, I assume that the basic inventory of aspects in both Standard and African-American English is the same. This inventory comprises progressive², perfective, and perfect aspect. The situation time/topic time relations for these aspects are given in (6).

(6)

Basic Inventory of Aspects:			
Aspect	Tense	SAE Example	Aspect Relation
Progressive	Present	Mary is eating	TT included in TSit
Perfective	Past	Mary ate	TT includes TSit
Perfect	Present	Mary has eaten	TT after TSit

where TT = topic time; and TSit = situation time

² I list progressive aspect here for the sake of completeness. This paper, however, focuses on perfect and perfective aspect, and I will leave all discussion of the progressive in AAE for future work.

While my views on aspect are greatly influenced by Klein, and I have followed him in my definitions of progressive (his imperfective) and perfect aspect, our characterizations of perfective aspect are quite different. In this I am guided by the work of Angelika Kratzer (1998), and my inventory of the basic aspects mirrors hers, though there are important differences in their eventual implementation.

2.2.1 Perfective Aspect

Perfective aspect is the relation *situation time is properly contained within topic time*. In both the Standard and African-American English what are commonly called simple past tense sentences are likely past perfectives. Consider the sentences in (10) as answers to the question in (9), "What happened while Esther was entering the room?"

- (9) What happened while Esther was entering the room?
- (10)
- Eugene dropped the plate of rutabagas
 - Eugene started eating the plate of rutabagas
 - Eugene finished eating the plate of rutabagas
 - Eugene ate the plate of rutabagas
 - Eugene wrote his dissertation

As before, the question determines the topic time, in this case, the short period of time during which Esther was entering the room. Among the possible answers to this question are: "Eugene dropped the plate of rutabagas" (10a), "Eugene started eating the plate of rutabagas" (10b), and "Eugene finished eating the plate of rutabagas" (10c), all of which describe events that could reasonably occur during a very short period of time. In answer to the same question, (10d), "Eugene ate the plate of rutabagas", is distinctly odd, forcing an interpretation under which Eugene ate an entire plate of rutabagas while Esther was opening the door and walking into the room — surely an exaggeration. This sentence, (10d), cannot mean that Eugene started eating, finished eating, or continued eating the plate of rutabagas. The entire rutabaga-eating event must be contained within the topic time. More dramatically, (10e), "Eugene wrote his dissertation", forces the pragmatically odd reading under which Eugene writes an entire dissertation during what any graduate student knows to be an unreasonably short period of time. The sentence cannot mean that Eugene was simply working on his dissertation, writing, for instance, the very first sentence.

2.2.3 Perfect Aspect

In line with Klein (1992, 1994), I assume a minimal definition of perfect aspect which states that eventive verbs (verbs like *eat*, *work*, and *run* as opposed to stative verbs like *have*), when marked for perfect aspect, describe events which are "over" or "complete" before the topic time: *situation time precedes (and does not overlap with) topic time*. Thus, the core meaning of the present perfect sentence in (11), "John has eaten", is that there was an eating event (of which

John was the agent); this eating event took place before the topic time; and the topic time is included in the utterance time, the time the sentence is spoken.

(11) John has eaten.

(12) Mary has lived here.

With respect to state denoting verbs (such as *have*, *like*, and *want*), perfect aspect says that the state the verb denotes held at a time before the topic time. The situation here is the holding of a state, and again, *situation time precedes topic time* is the aspectual relationship. The core meaning of (12), then, is that there was a state held by Mary (the state of living here); Mary held this state at a time before the topic time; and the topic time is included in the utterance time.

3 Aspect: Definition and Use

In the previous section, I introduced an inventory of basic aspects. It comprises progressive, perfective, and perfect aspect as I have defined them. Whether or not this particular inventory and these particular definitions are correct, are open questions – questions that are in part answered by how useful the definitions are in explaining a broader range of sentences as they are used in normal speech. In this section, I focus on my definition of perfect aspect and how it can be used in explaining a wide variety of uses of perfect constructions.

As both past and present perfect constructions are used under a variety of circumstances, whether or not these distinct circumstances of use reflect different semantic interpretations is an important issue. The question is, in light of the various uses of perfect constructions discussed in the literature, can the notion of a single perfect aspect be maintained. Bernard Comrie (1976) distinguishes four types of 'perfects': *the perfect of recent past*, *the experiential perfect*, *the perfect of result*, and *the perfect of persistent situation*. The perfect of recent past is used to indicate that a past situation is very recent. For example, the present perfect sentence in (13a) carries with it a sense of recent completion not found in the past perfective sentence in (13b).

- (13) a. I have written a sentence about the perfect of recent past.
b. I wrote a sentence about the perfect of recent past.

Thus, (13a) is the better choice of sentences if one means to say *I have just written a sentence about the perfect of recent past*. This use of the present perfect is consistent with the use of perfect aspect as I have defined it: *situation time precedes topic time*. The topic time is the time I wrote sentence (13a), and the situation time is the time during which I wrote the sentence to which (13a) refers. The sense of recent completion may come from the fact that (13a) is a present tense sentence, and as such, makes an assertion about the present. It relates a past eventuality to the now, and invites the listener to determine that eventuality's relevance to the present. One very common way in which a past situation can be relevant to the present is to be temporally very close to it.

The experiential perfect, on the other hand, indicates that some situation has occurred at least once in the past regardless of its temporal proximity to the now. At least this is its purely

temporal contribution. In addition to this, the perfect often carries with it a sense of *personal experience* or responsibility that is missing in past perfective sentences. For example, the section of the US Declaration of Independence which lists the offences of the King of England, the reasons for separating from England, is essentially a long list of present perfect constructions, which includes such sentences as (14). The present perfect sentence in (14) and my somewhat shorter version of it in (15a) both convey a greater sense of personal experience and responsibility than does the past perfective sentence in (15b). This is no doubt one of the reasons the present perfect was used here, and is so often used in other accusatory and salutary contexts.

(14) He has obstructed the administration of justice, by refusing this assent to law for establishing judiciary powers.

- (15) a. He has obstructed the administration of justice.
b. He obstructed the administration of justice.

The proposed definition of perfect aspect is consistent with this experiential reading; it captures the construction's temporal contribution. The question, however, is can the contrast between (15a) and (15b) be captured; can the perfect's added sense of experience be explained?

Terence Parsons (1990) argues that to adequately represent the Standard American English present perfect requires the notion of a state. A Parsons-style representation of "The King has obstructed justice" is given in (16).

(16) $\exists e[\text{obstructing}(e) \ \& \ \text{Agent}(e, \text{The King}) \ \& \ \text{Theme}(e, \text{justice}) \ \& \ \text{Hold}(e, \text{e's R-state, Now})]$

The formula in (16) is read as follows: There exists some event, *e*. Event *e* is an obstructing event; the King is the agent of *e*; the theme of *e* is justice; and the resultant state of *e* holds now. The resultant state of any, *e*, is, according to Parsons, the state of having *e*-ed. In (16), the resultant state of the *e* is the state of the King having obstructed justice. This should not be confused with the result or target state of *e*, the state of justice *being* obstructed. The formula in (16) says nothing about the current state of justice in the US or anywhere else for that matter. We could be living in a perfectly just world and Parsons resultant state, the state of the King having (once) obstructed justice would still hold. For Parsons this state simply holds (perhaps of the Universe). If, however, we construe (and I believe we should) Parson's resultant state as a state held by the subject of the sentence, then we can explain the experiential perfect. The added sense of experience in (15a) is due to the sentence's assertion that the King is in a state of having obstructed justice.

Though successful in its explanation of the experiential qualities of the perfect, Parson's analysis is not compositional. It gives us denotations of complete sentences rather than denotations of the bits and pieces of morphology which make up those sentences. The data to be presented argue that in a fully compositional analysis of African-American English present perfect constructions, the resultant state introduced and the aspectual relation *topic time after situation time* (the relation from which I believe the resultant state is derived) should be separated. Thus, cross dialectal data suggest that the added sense of experience in the experiential perfect is a result of a combination of perfect aspect and an additional factor (a resultant state) — the possibility of a single perfect aspect remains.

Closely related to the experiential perfect is the perfect of persistent situation. The perfect of persistent situation is used when the situation time seems to extend to the now — as for example, in the sentence “We’ve lived here for ten years” (Comrie 1976) spoken when the speech time is a part of the ten year period the sentence describes. While the aspect *situation time precedes topic time* might not seem consistent with this type of sentence, perfect of persistent situation readings rely crucially on the presence of adverbials such as *for ten years*, the semantics of which are notoriously complicated and may themselves be overriding factors in producing the persistent situation readings. Further, in discussing these adverbials, Hans Kamp and Uwe Reyle (1993) have suggested that perfect of persistent situation readings might arise due to interaction between *for*-adverbials and resultant states, which as I have noted, the African-American English data will suggest should be distinguished from perfect aspect.

In Comrie’s fourth and final perfect, *the perfect of result*, some present state is referred to as being the result of a past situation. It is odd, as Comrie reports, to say “John has taken a bath” if at the moment the sentence is spoken, John is dirty. The question is, is this oddness due to the meaning of the sentence — its semantics — or something more pragmatic — the rules of conversation. In most cases, it is not particularly informative to state that John has taken a bath at a time when he is dirty. This, however, is not *always* the case. If I contend that John has never in his life taken a bath, it is informative to state that “John has taken a bath” in response, even if at the time he is dirty. The sentence in this context looses its odd feel. The acceptability of the sentence, then, appears to be determined by something like philosopher H.P. Grice’s (1975) maxim of quantity, which states as a pragmatic principle that any contribution to a discourse should be (A) as informative as is required, and (B) no more informative than required. The perfect of result, in English at least, is in all likelihood not a semantic effect. Again, the possibility of a single perfect aspect remains.

Based on the arguments presented in this section and those to come, I remain optimistic that the various uses of perfect constructions can be accounted for using a single definition of perfect aspect: *situation time precedes topic time*.

3 The Core Data

Returning to (and extending) the core set of data, what at first glance look like simple past (past perfective) sentences in African-American English (AAE) are, in fact, ambiguous. They have both simple past (past perfective) and present perfect readings. Depending on the context in which it is spoken, the African-American English sentence in (17), for example, translates into Standard American English (SAE) as either “John ate rutabagas”, (17a), or something closer but not identical to “John has eaten rutabagas”, (17b). (Among other possible differences, I believe the Standard American English “John has eaten rutabagas” introduces a resultant state not present in (17)).

- (17) John ate rutabagas (AAE)
 a. ‘John ate rutabagas’ (SAE)
 b. ‘John has eaten rutabagas’ (SAE)
- (18) John done ate rutabagas (AAE)
 ‘John has eaten rutabagas’ (SAE)

On the surface, sentence (18) only differs from (17) by the inclusion of a preverbal *done*. In contrast to the ambiguity of (17), sentence (18), like all African-American English preverbal *done* sentences, is unambiguously present perfect. In sections 3.1 and 3.2 to follow, I defend the claims that African-American English *done* sentences are present perfects, and that African-American English simple *V-ed* sentences are ambiguous between present perfect and past perfective. I take up the question of how perfect and perfective aspect are introduced into these sentences in section 4.

3.1 Preverbal *done* Sentences as Present Perfects

There is ample evidence that the African-American English preverbal *done* sentences (e.g. the sentence in 18) are present perfects.

First, preverbal *done* sentences are used in all of Comrie’s perfect environments. The sentence in (18) might be spoken, quite naturally, in any of the following scenarios: A man in a restaurant, who having eaten what he thought to be eggplant, discovers that in fact he had eaten rutabagas, might exclaim “I done ate rutabagas!” Though producing exact Standard American English translations for *done* sentences is difficult (if not impossible), here, the most appropriate Standard American English translation would be *I have just eaten rutabagas*, and *done* seems responsible for a perfect of recent past reading not necessarily given to the sentence “I ate rutabagas”, though it too is a possible response. That same man, some hours (or days) later, discussing a return trip to the restaurant with a friend might say “I done ate rutabagas. They’ll have to surprise me with something else this time.” In this case, the meaning of “I done ate rutabagas” is more like the Standard American English “I have eaten rutabagas already” or “I have eaten rutabagas before” — it is an experiential perfect. Here, the sentence with *done* is preferred over the sentence without *done* although, as in the previous example, it is also possible. Further, should the man develop a fondness for rutabagas and enter a rutabaga eating contest, ten minutes into the contest he might, with his mouth full, say “I done ate rutabagas for ten minutes. If I can keep this pace for twenty more minutes, I can win.” In this case, the *done* sentence has a perfect of persistent situation reading. The sentence “I ate rutabagas for ten minutes” cannot be used in this situation. It has only an experiential reading. It can only mean *I have at sometime in the past eaten rutabagas for a period of ten minutes*.

Not only do *done* sentences such as that in (19) occur where we expect present tense sentences marked with perfect aspect, but they are disallowed in environments where we expect such sentences to be ungrammatical. Green (1993) notes that like the Standard American English present perfect, *done* sentences are incompatible with past time denoting adverbials such as *two months ago*, *last weekend*, *yesterday*:

- (19) I done went back to visit *two months ago /*last weekend/* yesterday (AAE)
 (Green 1993)

The ungrammaticality of these of sentences can be explained using the temporal framework and system of aspects developed in sections 1 and 2: present perfect sentences make assertions about the present; their topic time intervals are in the now. As a result, they are incompatible with past time denoting adverbials.

There is additional evidence that simple *done* sentences are indeed present tense sentences. Tag questions such as *didn't he?* and *ain't he?* in (20) and (21) are reflexes of tense of the sentences they are tags to.

- (20) a. You done heard Mary sing, ain't you? (AAE)
 'You have heard Mary sing, haven't you? (SAE)
- b. You done heard Mary sing, *didn't you/ *don't you? (AAE)
- (21) a. You heard Mary sing, didn't he? (AAB)
 'You heard Mary sing, didn't you? (SAE)
- b. You heard Mary sing, ain't you? (AAE)
 'You have heard Mary sing, haven't you? (SAE)

Simple *done* sentences such as that in (20a) take *ain't* tags; they are ungrammatical when followed by *didn't* or *don't* tags as is shown in (20b). African-American English simple *V-ed* sentences, on the other hand, appear to take both *didn't* and *ain't* tags depending on whether they are interpreted as present perfects or past perfectives. Interpreted as present perfects, these sentences take *ain't* tags; interpreted as past perfectives, *didn't* tags. This contrast is shown in (21).

The *ain't he?* tags in (21a) and (21b) are reflexes of present tense. Sentences (22a) and (22b) show that *ain't he?* is a possible tag for a progressive sentence, but only a present progressive. Similarly, (22c) and (22d) show that while *ain't he?* is the tag for present tense *done* sentences, *ain't he?* or *hadn't he?* is the tag for past tense *done* sentences (past perfects).

³ Some AAE speakers will not accept sentences like (21b) out of the blue. There are at least two reasons, however, to expect these sentences (simple *V-ed* sentences with *ain't* tags) to require contextual support not required by their *done V-ed* counterparts. First in SAE, simple *V-ed* sentences are exclusively past perfective. The standard dialect may influence AAE speakers' first impressions of simple *V-ed* sentences, and without context they might, due to this influence, interpret these sentences first as past perfectives. Second, the meaning difference between a simple *V-ed* sentence on its present perfect reading and a *done V-ed* sentence is so slight that except for when the difference is crucial (e.g. perfect of persistent situation readings), if the context is unclear, speakers are likely to assume that if present perfect meaning was intended, the unambiguously present perfect *done* construction would have been used rather than an ambiguous simple *V-ed* construction. When given proper contextual support, however, the vast majority of AAE speakers I've interviewed will accept sentences like (21b) without comment. The following is a sample context: Speaker A: "Only people who done heard Mary sing before can go to the special concert tonight. I don't think I can go." Speaker B: "You heard Mary sing (before), ain't you? Why can't you go?"

- (22) a. John (is) eating, isn't/ain't he? (AAE)
 'John is eating isn't he? (SAE)
- b. John was eating, wasn't/*ain't he? (AAE)
 'John was eating, wasn't he? (SAE)
- c. John done ate, ain't he? (AAE)
 'John has eaten, hasn't he? (SAE)
- d. John'd done ate, hadn't he/*ain't he?⁵ (AAE)

Further evidence that simple *done* constructions are not only present tensed, but present perfects comes from Osten Dahl's (1985) survey of tense, mood and aspect. Having considered over 60 languages from a variety of language families, Dahl provides lists of prototypical occurrences (verbs and contexts) of both perfect and perfective constructions. For example, according to Dahl's survey, a prototypical occurrence of the perfect construction would be as a substitute for BRUSH in (23).

- (23) Child: Can I go now? Mother: You BRUSH your teeth? (Dahl 1985)

A *done* construction can quite naturally be used here, as shown in (24).

- (24) Child: Can I go now? Mother: You done brushed your teeth? (Dahl 1985)

In fact, a simple *done V-ed* construction can be used in all of Dahl's prototypical occurrences of the perfect, and in none of his prototypical occurrences of the perfective. The evidence suggests that simple *done* constructions are indeed present perfects.

3.2 The Ambiguity of African-American English Simple *V-ed* Sentences

I now offer support for the idea that African-American English simple *V-ed* sentences are ambiguous between present perfect and past perfective.

In stark contrast to *done* sentences, African-American English simple *V-ed* sentences appear in both past perfective and present perfect environments. They contrast not only with African-American English *done* sentences, but with Standard American English simple past constructions as well. Kraizer (1998) has argued that the Standard American English simple past may be ambiguous between an anaphoric past and a perfect aspect. The African-American English construction, however, appears in a wide range of perfect environments where the Standard

⁴ There is a great deal of variation (most likely regional) when it comes to the phonological realization of this tag. For some the tag is *wasn't*, for others *wazn't*, and still others, *won't*. The crucial point is that some form of *was* surfaces; *ain't* is disallowed.
⁵ It is not at all clear how *ain't* should be translated into SAE. The ungrammaticality of the *ain't* version of (22d) seems, however, to be on par with the ungrammaticality of the SAE sentence *John had eaten, didn't he?*

American English simple past cannot. As discussed in the previous section, African-American English simple *V-ed* constructions can occur in all of Comrie's perfect environments except for the perfect of persistent situation. Still, they occur freely with past denoting adverbials such as *yesterday*:

(25) I went back to visit two months ago /last weekend/ yesterday

They also occur with adverbials that require perfect aspect. For example, in Standard American English, (26a) and (26b) contrast in that only (26a) is grammatical under the reading in which *since* he was a child means *since the time he was a child*. The *since*-adverbial (with this meaning) appears to require perfect morphology and meaning. It is not licensed by the Standard American English simple *V-ed* morphology.

- (26) a. John has eaten steak since he was a child (AAE)
'John has eaten steak since the time he was a child' (SAE)
- b. *John ate steak since he was a child. (AAE)
'John has eaten steak since the time he was a child' (SAE)
- (27) John ate steak since he was a child (AAE)
'John has eaten steak since the time he was a child' (SAE)

In the African-American English Simple *V-ed* sentence in (27), on the other hand, the *since*-adverbial (with this meaning) is licensed. Turning again to Dahl's survey, unlike *done* constructions, African-American English simple *V-ed* constructions can be used in all of Dahl's prototypical occurrences of the perfect, and in all of his prototypical occurrences of the perfective. The utility of Dahl's cross-linguistic approach is clear. In contrast to Comrie's uses of the English perfect, which considers only one dialect of a single language, Dahl's survey is based on over 60 languages from a variety of language families all of which distinguish between present perfect and past perfective. The survey is based on what these constructions have in common. None of Dahl's prototypical occurrences of the perfect require reference to a state as does Comrie's perfect of persistent situation. I take the results of Dahl's survey as support for the notion that stativity and perfect aspect are distinct entities, and that a single definition of perfect aspect can be maintained. Further, I believe that Dahl's survey, the tag question and adverbial data all show that African-American English simple *V-ed* sentences are ambiguous between simple past and present perfect.

4 -ed as an Ingredient of Perfect Aspect and Past Tense

I now turn to the question of how perfect aspect is introduced into African-American English sentences. Like Green (1993), upon whose work she partly builds, Dechaine (1993) argues that *done* is a perfect ("completive" in Green's terminology) aspect marker. Dechaine's explanation for the ambiguity of sentences such as (17), *John ate the rutabagas*, is that on their present perfect readings, these sentences employ a covert *done*. Comrie's classification, however, reveals that the present-perfect version of (17) and (18), *John done ate the rutabagas*, are not

semantically equivalent. Preverbal *done* sentences have perfect of persistent situation readings while simple *V-ed* sentences do not. Thus, the ambiguity of sentence (17) cannot be explained by saying it is simply sentence (18) with a covert *done*⁴. Instead, I claim the source of perfect (or completive aspect) in both simple *V-ed* and preverbal *done* sentences is *-ed*, and that the role of *done* is to introduce stativity, which allows for perfect of persistent situation readings, and makes preverbal *done* sentences more like Standard American English *have* constructions than their simple *V-ed* counterparts.

Consider an analogy to Standard American English analyses: early approaches to Standard American English tense and aspect treated *have* + *-en* (often spelled out as *have* + *ed*) as a unit. More recent analyses tend to base generate participial forms having *have* select for a perfect-participial verb phrase instead of being generated along with the participle-forming morpheme. Once *have* and *-en* are split into two standardly co-occurring yet separate morphemes, the issue arises as to where to put the semantics of perfect aspect within the *have* + *-en* complex, in *have* or in *-en*. Nearly the same problem arises with *done* and *-ed*. The evidence suggests that it is *-ed* rather than *done* that is responsible for introducing the principal ingredients of perfect aspect into the *done* + *V-ed* complex. That is, the core of the relation *situation time precedes topic time* is carried by the *-ed* morpheme.

It is clear that the character of the situation time in perfect constructions, as in all other constructions, is fixed by the verb itself and not by its tense or aspectual morphology. We know for instance that the situation time in the sentence *John done worked* is a time during which John worked because of the verb *work*. The verb ending alone could not give us this information. The *-ed* morphology we find affixed to the verb must relate an arbitrary time (fixed only by the verb) to a topic time. Likewise, the topic time itself is fixed by either the context or by adverbial modifiers, both of which are distinct from the verb ending. Thus, *-ed* morphology in African-American English perfect constructions, and perhaps Standard American English perfect constructions as well, relates two arbitrary times via the precedence operator. It tells us one arbitrary time precedes another.

Adopting this view sheds light on the ambiguity of African-American English simple *V-ed* sentences. Presumably, there is a principled explanation for why African-American English simple *V-ed* sentences are ambiguous between simple past and present perfect, and not, say, present perfect and present progressive or some other two sentence types. The view that *-ed* acts as the precedence operator on times helps provide such an explanation. The notion of precedence is important to both past tense and perfect aspect. Past tense tells us that a topic time precedes the utterance time, and perfect aspect tells us that the situation time precedes the topic time. If the *-ed* morphology we find common to both simple past and present perfect constructions simply introduces the notion of precedence, then the appearance of *-ed* in both constructions and the

⁴ Even if this meaning difference could be overcome, an analysis which claims that a covert *done* supplies simple *V-ed* sentences with perfect aspect would still face other challenges, among them specifying a series of licensing conditions for null *done*. It would have to explain, for example, why despite the grammaticality of (1a), a covert *done* cannot make (1b) grammatical.

- (1) a. *You'll be done ate the whole thing before the movie starts. (AAE)
'You will have eaten the whole thing before the movie starts' (SAE)
- b. *You'll be ate the whole thing before the movie starts (AAE)

ambiguity can be explained. In the section to follow, I show how positioned under a null present tense operator, *-ed* relates a situation time to a topic time, and thus is interpreted as aspect, and how when *-ed* is the highest tense/aspect marker in the sentence syntax, it introduces a topic time, relates it to the utterance time, and thus, it is interpreted as tense.

For such a system to work, we must, syntactically speaking, separate the utterance time from tense. I posit an operator distinct from tense that introduces the utterance time introduced by the verb. The idea is this: whenever a simple declarative sentence (be it past or present tense) is spoken, a topic time is somehow related to the utterance time. In the case of past tense sentences, the topic time precedes the utterance time. In the case of present tense sentences, the topic time is included in the utterance time. I believe a sentence level operator is responsible for introducing the utterance time and asserting the existence of the eventualities introduced by the verb in simple declarative sentences. In addition to separating the utterance time from tense/aspect morphology, the system must explain how perfective aspect, *topic time includes situation time*, is introduced into simple past construction. I propose that the African-American English verb phrase is inherently perfective. I elaborate on this proposal in the following section.

5 Steps Toward Formalization

I proceed assuming that African-American English *-ed* acts as the precedence operator on times. This along with the assumption that verb phrases denote relations between eventualities, times which include those eventualities, and worlds which includes those times, gives us what we need to begin building the mechanisms of the formal system.

The system makes use of the variables and types given in (33).

(33)

Types	Variables	Constants
i: (time) intervals	t: times	j: John
t: truth values	t ₀ : Now	r: rutabagas
e: eventualities	s: states	
w: worlds	w, w': worlds	

I assume that the role of *-ed* is to introduce the precedence relation into the semantic computation; it is therefore neither past tense nor perfect aspect, but an important ingredient of both. In these and all following formulae, relations of the form $t < t'$ are relations of temporal precedence: all times within the interval t precede all times within the interval t' ; and relations of the form $t \subseteq t'$ are relations of temporal inclusion: all times within the interval t are within the interval t' .

It is common within event semantics to think of verb phrases as denoting properties of eventualities. As pointed out in Partee (2000), this view goes back at least as far as Parsons

(1980), and such a view is clearly articulated, for instance, in the work of Kratzer (1996, 1998). The denotation for *John eat the rutabagas*, conceived of in this way, is given in (34).

$$(34) \llbracket \text{John eat the rutabagas} \rrbracket = \lambda e \lambda w_w [\text{eat}(\bar{t})(r)(e)(w)]$$

Building on this tradition, I assume that verbs have an event argument and a world argument. I go further, however, by including a time argument as well. I take verb phrases to denote relations between eventualities, times which include those eventualities⁷, and worlds which include those times. By including a time argument in the verb phrase, I am to a degree following Partee (1973), who, based primarily on analogies between tenses and pronouns, suggested a number of reasons for treating times as arguments of verbs rather than as operators. I treat the verb phrase *John eat the rutabagas* as having the denotation given in (35).

$$(35) \llbracket \text{John eat the rutabagas} \rrbracket = \lambda e \lambda t \lambda i \lambda w_w [\text{eat}(\bar{t})(r)(e)(t)(w)]$$

The time argument in (35) and its interpretation have serious consequences for the way in which eventualities are related to times. Kratzer (1998) mediates between eventualities and times by putting a running time function in her aspectual operators. This function takes an eventuality and returns its running time. Perfective aspect in Kratzer's system is an operator that takes the running time of an event and places it within a topic time. In the system I am proposing, this inclusion relation is introduced by the denotation of the verb. The verb phrase denotes a relation between eventualities, times and worlds such that eventualities (their running times) are contained within times and those times are in turn contained within worlds. On this view, the topic time in past perfectives is an argument of the verb phrase. This amounts to the verb phrase having inherent perfective aspect. In present perfect constructions this means that the perfect aspect relation (*situation time precedes topic time*) is arrived at through the following means: a time which includes the situation time precedes the topic time; thus, the situation time precedes the topic time.

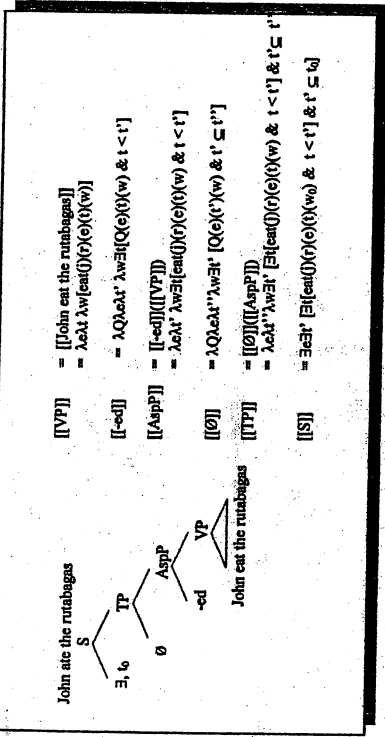
5.2 A Sample Computations

5.2.1 The African-American English Simple Present Perfect

The computation for "John ate the rutabagas" on its present perfect reading is given in (36). Once the actual world, w_0 , is contextually supplied, the resulting formula, $\exists e \exists t' [\exists i [\text{eat}(\bar{t})(r)(e)(w_0) \ \& \ t < t']] \ \& \ t < t_0$, says that there is a time which includes an event of John's rutabaga eating; this time precedes the topic time; and the topic time is included within the utterance time.

⁷ By the inclusion of an eventuality e in a time t , I mean the inclusion of the running time of e in t .

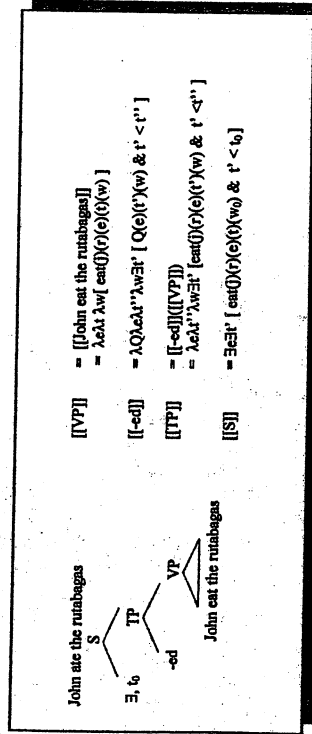
(36)



5.2.2 The African-American English Simple Past

The computation for "John ate the rutabagas" on its simple past (past perfective) reading is given in (37). Once the actual world, w_0 is contextually supplied, the resulting formula, $\exists e \lambda t' [eat(t)(e)(t')(w_0) \& t' < w_0]$, says that there is a time which includes and event of John's rutabaga eating and the this time precedes the utterance time. In this formula, there is no distinct reference time. The time about which the sentence makes an assertion is supplied by the verb phrase.

(37)



6 Possible Roots of Dialectal Difference

Before concluding, I would like to engage in some speculation as to why African-American English and Standard American English simple *V-ed* sentences behave so differently. As has been discussed, African-American English simple *V-ed* sentences are ambiguous. They have present perfect and past perfective readings. In contrast, Standard American English simple *V-ed* sentences are exclusively past perfective. The computations in the previous section suggest that in more formal terms this difference between the two dialects is that African-American English allows a null (phonologically unexpressed) present tense operator to turn past perfective sentences into present perfects; Standard American English does not. It is not unlikely, however, that in some circumstances Standard American English also makes use of a null present tense operator. Standard American English sentences such as "We live here" show no overt marking of tense, yet they appear to be present tense sentences. The difference between the two dialects, then, might be better expressed as a difference in the requirements of null present tense: African-American English null present can appear above verbs marked with *-ed*, while Standard American English null present cannot. One possible explanation for this is that Standard American English null present is treated as verbal morphology and not simply a null operator. But why should African-American English and Standard American English differ in just this way? Why should Standard American English treat null present tense as verbal morphology, and African-American English treat it as a less restricted operator? Can these differences be traced to more visible differences - differences that can be learned by native speakers of the dialects in question? I believe the tense/agreement paradigms in (38) suggest why this difference exists.

(38)

	SAE	AAE
I	eat	eat
You	eat	eat
He,She,It	eats	eat
We	eat	eat
They	eat	eat

If the *s* in the Standard American English "he eats" carries present tense (inclusion) as well as third person agreement, it makes sense that the null present in the Standard American English "we eat" is treated as verbal morphology too. On the other hand, there is no compelling reason

⁸ My claim that AAE makes use of a covert present tense operator is in some ways similar to Dechaine's (1993) claim that AAE, Russian, and Modern Hebrew, make use of a null tense.

⁹ AAE null present may also appear above progressive *-ing*. AAE allows sentences such as *He running* which receive present progressive interpretations.

why present tense in the African-American English sentence "he eat" should be treated as verbal morphology. This would explain why null present is treated so differently in the two dialects.

The question remains, however, are sentences such as "John eats" in Standard American English and "John eat" in African-American English really present tense? These sentences seem to have only a generic reading, which seems inconsistent with my definition of present tense as inclusion. Consider the Standard American English sentences in (39).

- (39) a. John likes rutabagas (SAE)
 b. John eats rutabagas (SAE)

The sentence in (39a) is arguably present tense; there is some state or piece of a state of John's liking rutabagas that is included in the utterance time. The sentence in (39b), on the other hand, has only a generic reading. This may be because, as Bennett and Partee (1978) suggest, though a piece of a state is small enough to fit inside the utterance time, the typical event such as for example, a rutabaga-eating event cannot. Carlson (1977) suggests that for this reason, sentences such as (39b) would be given a generic reading. This reading may even be the result of turning the event in question into a kind of state.

7 Conclusion

In this paper I put forward a compositional account of the past perfective/present perfect ambiguity of African-American English simple *V-ed* sentences such as *John ate the rutabagas*. I argued that this ambiguity can be traced to the presence of a covert present tense operator found in the present perfect (but not past perfective) versions of such sentences, and the interaction of this operator with *-ed*, the morphology that turns the verb *eat* into *ate*. My proposed denotation for *-ed* is given in (40), where the following semantic types are used: *i* = (time) intervals, *t* = truth values, *e* = eventualities, *w* = worlds.

$$(40) [[-ed]] = \lambda Q_{\langle e, \langle w, t \rangle \rangle} \lambda e \lambda t [Q(e)(t)(w) \ \& \ t' < t']$$

This denotation allows *-ed* to interact with present tense and a sentence assertion operator in the following way. When it combines with null present tense, which in turn combines with the assertion operator, *-ed* indirectly relates a situation time to a topic time, and thus is interpreted as aspect. When *-ed* is the highest tense/aspect marker in the sentence, combines directly with the assertion operator and is interpreted as past tense. Because it relates to arbitrary times *-ed* is neither a tense nor an aspect marker. Rather, it is an important ingredient of both past tense and perfect aspect.

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