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The Acquisition Path for Tense-Aspect: Remote Past and Habitual in Child African American English

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The Acquisition Path for Tense-Aspect: Remote Past and Habitual

in Child African American English[1]

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1. INTRODUCTION

After years of focus on tense-aspect marking in adult and adolescent African American English (AAE), researchers have begun to raise questions about the acquisition path for tense-aspect marking in child AAE (e.g., Jackson 1998, Jackson and Green 2005, Green, Quigley, and Seifert 2005). Research on tense and aspect properties in child AAE is important for a number of obvious reasons. One is that there has been limited focus on developmental patterns, so there are very sketchy pictures of the stages of acquisition of adult AAE. A second is that the tense-aspect system of AAE has been argued to differ from that of other varieties of English. As such, research on patterns of tense-aspect marking would be useful in comparing developmental patterns in the tense-aspect system of AAE to developmental patterns of similar systems in other varieties of English and in other languages.

This paper considers the comprehension of tense-aspect markers remote past *BIN* and habitual *be* by three- to five-year-old developing AAE-speaking children and their non-AAE-speaking (Southwest Louisiana Vernacular English, SwLVE) peers in a community in southwest Louisiana. The data presented in this paper are discussed in relation to three different issues: 1) knowledge that AAE-speaking children have about the meaning of markers *BIN* and *be* and the acquisition patterns in developing tense-aspect properties of AAE, 2) ways the similarities and differences between varieties of

English may be reflected in the grammars of developing AAE- and SwLVE-speaking children, and 3) the way the developmental patterns of remote past *BIN* and aspectual *be* relate to general research on tense and aspect in the acquisition literature.

Remote past *BIN* indicates that an eventuality or some part of it is in the distant past:[2]

1.   a) Bruce BIN fixing Thunderbirds.

'Bruce has been fixing Thunderbirds for a long time'

b) Bruce BIN worked on that Thunderbird.

'Bruce worked on that Thunderbird a long time ago'

In (1a) the fixing Thunderbirds eventuality started in the distant past and continues to the moment of utterance (and is expected to occur after that); however, in (1b) the worked on that Thunderbird eventuality is in the distant past. The marker habitual *be* indicates the recurrence of some eventuality, or it picks out instantiations of general properties, as illustrated in the following sentences:

2.   a) Haley be hiding behind the sofa.

'Haley hides behind the sofa on different occasions'

b) The toy box be in the garage.

'The toy box is generally in the garage'

In (2a) the hiding behind the sofa eventuality occurs on different occasions, and in (2b) the state of being in the garage generally holds.

This paper investigates the extent to which developing AAE-speaking children associate *BIN* with eventualities in the distant past, and thus distinguish the more recent past and distant past, and it also investigates the extent to which they link aspectual *be* that occurs with different predicate types to recurrence of eventualities or instantiations of general properties. Remote past *BIN* and aspectual *be* share some syntactic properties, and *BIN* V-*ing* constructions can also have the habitual reading of aspectual *be* V-*ing*

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[2]The term 'eventuality' is from Bach (1986).

constructions; however, they differ in that *BIN* has the deictic property of tense of being "oriented to Speech Time" (Smith 1997, p. 98). Aspectual *be* does not have this property. Given the properties of these markers, it is worthwhile to investigate not just whether developing AAE-speaking children comprehend these markers but also whether the data show patterns about varying degrees of proficiency on *BIN/be* + predicate constructions.

By including data from non-AAE-speaking peers from the same regional area, we are able to address further the question about similarities and subtle differences between non-standard varieties of English and the extent to which they are manifested in developmental stages. As will be shown, properties of *BIN* and *been*, which occurs in all varieties of American English, overlap in a number of ways, so it might be predicted that non-AAE-speaking children in parts of the southern region of the United States show proficiency in *BIN* constructions, especially if they are similar to *been* constructions. However, as aspectual *be* is considered to be a salient marker in AAE and has not been associated with SwLVE, children who are developing that variety may not fare as well with aspectual *be* as they do with *BIN*. In effect, this study has implications for research on similarities and differences in tense-aspect systems within English grammars.

The research on tense and aspect in child language acquisition is extensive, but because work on child AAE in areas of linguistics is in the early stages, it is not clear where and how developmental AAE overlaps with the patterns that have been reported for acquisition of general English and other languages.[3] A number of studies in child language acquisition have reported patterns of development in the use of tense-aspect morphology (Bronckart and Sinclair 1973, Antinucci and Miller 1976, Olsen and Weinberger 1999, Wagner 2000, Behrens 2001, among others). Shirai and Andersen (1995, p. 745) summarize those patterns under what they refer to as the Aspect Hypothesis: 1) past (or perfective) is used predominantly with achievement and accomplishment verbs first and then extended to activity and stative verbs, 2) progressive marking is used first predominantly with activity verbs and then extended to accomplishment verbs and achievement verbs, and 3) progressive marking is not

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[3]There is a history of child AAE research in the field of communication sciences and disorders dating back to the 1970s. These studies have been mainly concerned with identifying adult AAE features in child AAE and with distinguishing typical developmental AAE patterns from language disorders.

overextended to stative verbs. More recently, Ogiela, Casby, and Schmitt (2005) have considered this relation between lexical aspect and tense-aspect morphology in terms of event realization, as in Bohnemeyer and Swift (2004), which explains conditions under which telic and atelic predicates count as being realized or as having occurred. Ogiela et al.'s claim is that event realization accounts for the types of patterns summarized in Shirai and Andersen, and they further show that these same patterns of lexical aspect and tense-aspect morphology are found in children with specific language impairment. The type of research on AAE necessary to investigate fully the relationship between lexical aspect and tense-aspect morphology has not been completed; however, it will be possible to make some observations and raise questions about the Aspect Hypothesis and event realization in accounting for data in AAE in considering the tense-aspect markers remote past *BIN* and aspectual *be*. For instance, we raise questions about the extent to which event realization can be argued to account for the interpretation of the *BIN* + V-*ed* constructions in the data that will be presented in this paper, and we also raise questions about different verb types that are allowed in aspectual *be* + V-*ing* sequences.

In Sections 2 and 3, we present general overviews of remote past *BIN* and aspectual *be*, respectively, which outline the syntactic and semantic properties of the markers. These markers are generated in the same ASP(ECT) projection, so they can take a range of predicates, but they cannot co-occur. Section 4 reviews previous research on the comprehension of *BIN* and *be* in child AAE. Section 5 focuses on data from comprehension tasks in relation to the remote past marker, and Section 6 presents data from an experiment that was designed to determine the extent to which child AAE speakers associate aspectual *be* with recurring eventualities and states of affairs. The results from the developing AAE-speaking children are compared to those of the developing SwLVE-speaking children, and the data and results are discussed in light of current research on lexical aspect and morphological marking. In Section 7, we conclude the paper and address directions for further research on tense-aspect in child AAE in which results from this study are considered from the perspective of feature agreement.

2. REMOTE PAST

The remote past marker *BIN*, which occurs in AAE, is stressed and situates an eventuality or some part of it in the far or remote past. We follow Labov (1972) and Rickford (1973, 1975) in using the term 'remote' in the description of the marker. Labov (1972) refers to *BIN* as the remote perfect that means "for a long time and so now" (p. 53), and Rickford (1975) notes that the marker "places the action in the distant past (relative to the present axis) and/or that it expresses 'total completion of the event'" (p. 106). The far, distant, or remote past is relative, so *BIN* can refer to a period of fifteen minutes or fifteen years (ago). *BIN* combines with different predicate types to give three readings of eventualities in the remote past. There is only one *BIN*, but three labels will be used to correspond to each reading: BIN_{STAT}, BIN_{HAB}, and BIN_{RSTAT}.[4] When *BIN* combines with V-*ing*, prepositions, nouns, adjectives, and adverbs, the resulting reading is one in which the state indicated by the predicate started to hold in the distant past and continues to the moment of utterance, the BIN_{STAT} reading. In each case, *BIN* is glossed as 'for a long time':

3.   a) Dee BIN running.

          'Dee has been running for a long time'

      b) Dee BIN knowing my name.

          'Dee has known my name for a long time'

      c) Dee BIN in the house.

          'Dee has been in the house for a long time'

      d) Dee BIN a doctor.

          'Dee has been a doctor for a long time'

      e) That house BIN blue.

          'That house has been blue for a long time'

      f) That car BIN there.

          'That car has been there for a long time'

---

[4]The description of the three *BIN* readings is based on Green (1998).

For instance, in (3a), repeated as (4), the running eventuality started in the distant past and holds from that point to the moment of utterance. We use a Parsons's (1990) type representation and his notion of *in-progress state* to note that the running event is in progress throughout the long interval, from the far past to the moment of utterance:

4.   a) Dee BIN running.

  b) $(\exists I)$ [long(I) & Beg(I) < now & End(I) = now & $(\exists e)$ $(\exists s)$ [running(e) & Theme(e,Dee) & IP state(e,s) & Hold(s,I)]]

The representation in (4b) says that there is a long interval that begins before now and ends now, and there is an event and a state. The theme of the running event is Dee, and the event is in the in-progress state, which holds throughout the long interval. This reading is referred to as the BIN_{STAT} reading, in which the running state started to hold in the far past and continues to the moment of utterance (and probably beyond). This sentence is ambiguous; the other reading is habitual, and it will be discussed shortly. As indicated in (3b), stative verbs can also occur with *BIN*, so the knowing state has held for a long time. Along these same lines, the eventualities named by the predicates in (3c-f) started to hold in the remote past and continue to the moment of utterance.

The second *BIN* reading is a habitual reading, BIN_{HAB}, which results when *BIN* occurs with events and activity verbs such as *running*. The *BIN running* sequence (3a) can also have a habit reading, in which the habit of running has held for a long time. In the BIN_{HAB} reading, the activity (e.g., running) is not necessarily in progress at speech time. The temporal adverbial is included to make explicit the occasions on which the running occurs:

5.   a) Dee BIN running at 10 PM.

  'For a long time, Dee has had the habit of running at 10 PM'

  b) $(\exists I)$ [long(I) & Beg(I) < now & End(I) = now & (i) [i$\in$I & HAB$_i$ [at 10 PM, i] $(\exists e)$ $(\exists s)$ [running(e) & Theme(e, Dee) & IP state(e,s) & Hold(s,i)]]]

In the representation in (5b), the long interval refers to a time period in the distant past until now. HAB is an operator that links the in-progress state of the running event to the times (10 PM) during which it occurs. Dee is theme of the running event, which is in the in-progress state, and this state holds during subintervals. The BIN_{STAT} and BIN_{HAB} readings are similar in that they both indicate that an eventuality started in the far past and holds throughout the interval from the far past to the moment of utterance. Also, verbs in these *BIN* constructions occur in the *–ing* form. They differ minimally in that the eventuality in the BIN_{STAT} construction holds literally from its inception to the speech time, and the eventuality in BIN_{HAB} constructions holds on and off from its inception in the far past to the speech time.

The final type of *BIN* reading is one in which the eventuality ended or was completed in the remote past. We use Parsons's (1990) notion of *resultant state* to characterize this reading. This resultant state reading of *BIN* (BIN_{RSTAT}) constructions is given in (6) and glossed as 'a long time ago':

6. a) Dee BIN fixed the bike.

    'Dee fixed the bike a long time ago'

   b) ($\exists$I) [long(I) & Beg(I) < now & End(I) < now & (i) [i$\in$I & ($\exists$e) ($\exists$s) [fixing(e)

    & Agent(e, Dee) & Theme(e, the bike) & R-state(e,s) & Hold(s,i)]]]

As indicated by the representation in (6b), Dee is the agent of the fixing event, and the bike is the theme of the event. The fixing the bike event culminated in the far past, so it is in its resultant state of having been fixed. Unlike the verbs in the BIN_{STAT} and BIN_{HAB} constructions, the verbs in the BIN_{RSTAT} construction occur with *–ed* morphology. The exception is that stative verbs such as *have* and *know* can either occur with *–ing* or *–ed* morphology, *BIN having/had* and *BIN knowing/knew*. In both cases, the *BIN* construction has the BIN_{STAT} reading, and *BIN had*, in the sense of 'got or acquired a long time ago,' can also have the BIN_{RSTAT} reading. *BIN had* will be discussed in Section 5. All of the *BIN* readings involve states; the eventuality expressed by the predicate in BIN_{STAT} and BIN_{HAB} constructions is in the in-progress state, and the eventuality expressed by the predicate in BIN_{RSTAT} constructions is in the resultant state.
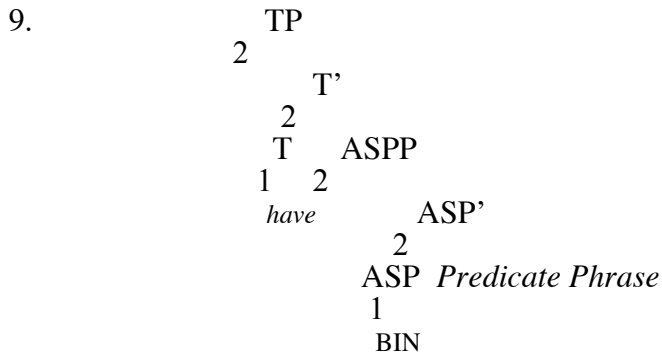
The BIN_{RSTAT} reading raises the question about whether the verb that occurs with *BIN* in this construction is in the simple past or past participle form. The first point to note is that in some environments in AAE, due to phonological and other variables, the *-ed* on verbs may not be pronounced, which could result in sentences such as the following: *She kick the ball in the ditch.* ('She kicked the ball in the ditch'). Also, the distinction between the simple past and past participle forms is neutralized in the direction of either form, so one form or the other, depending on the verb, is used in both contexts (e.g., *He ran/He had ran* or *He sung/He had sung*). In some cases, both the simple past and past participle forms may be used, as in *He saw/seen the book.* or *He had saw/had seen the book.* Note, also, that both past and past participle forms of *go* (*went* and *gone*) are used. *BIN gone* may be preferred in the perfect of result contexts in the sense of Comrie (1976), so *She BIN gone to the store* indicates that she's been in the state of having been gone to the store for a long time, and she's still at the store. On the other hand, *She BIN went to the store.* indicates that she went to the store a long time ago, but she may or may not still be there. *BIN went* will be discussed in Section 5.

BIN sequences are similar to *been* perfect constructions, which occur in general American English (and other varieties of English), in a number of ways. For instance, *have* (and *ain't*) supports *BIN* in negative (7) and ellipsis (8) contexts:

7.   a) They haven't/ain't BIN running.
             'They haven't been running for a long time'
        b) They haven't/ain't BIN left.
             'They didn't leave a long time ago'

8.   a) Those basketball players BIN running, and the football players have, too.
             'Those basketball players have been running for a long time, and the football
             players have been running for a long time, too'
        b) Those basketball players BIN left, and the football players have, too.
             'Those basketball players left a long time ago, and the football players left a
             long time ago, too'

To account for the auxiliary (*have*) + *BIN* + predicate sequence in negative and ellipsis contexts, for example, *BIN* is generated in the following structure:

9.
```
                        TP
                    2
                        T'
                     2
                     T    ASPP
                    1    2
                    have        ASP'
                              2
                          ASP  Predicate Phrase
                          1
                          BIN
```

In this representation, the auxiliary *have* is generated as the head of T(ENSE) P(HRASE), and *BIN* is in the head of ASPP. In this way, *have*, and not some other auxiliary such as *do*, will support *BIN*. Here 'Predicate Phrase' is used as a cover term for the range of predicates that can occur in construction with *BIN*.

   BIN differs from *been* markedly in its occurrence in BIN_{RSTAT} constructions. *BIN* occurs with verbs in the *–ed* form, but *been* does not unless the verb is passive (as in *That cake has been eaten*.). Also, the modification by temporal adverbs and adverbial phrases in *BIN* constructions is restricted such that they do not generally modify the length of the long period indicated by *BIN*. The marker already indicates that an eventuality has held or has been in its resultant state for a long time, so information about exactly how long an eventuality has held is not specified in *BIN* constructions. In general, temporal adverbials that occur in *BIN* constructions modify the period of the shorter instantiations of eventualities that make up the habit, not the length of the long period indicated by *BIN*. As a result, they have a BIN_{HAB} reading.

10.   Dee BIN running for 30 minutes.
        a) ✓'For a long time, Dee has had the habit of running for 30-minute stretches'
        b) #'Dee started running 30 minutes ago and she's still running' (as in 'Dee has been running for 30 minutes.')

The licit reading (10a) is one in which *for 30 minutes* modifies the length of individual segments of running that make up the habit. In this way, the temporal adverbial forces a BIN_{HAB} reading. The reading in (10b) is downgraded because *for 30 minutes* does not naturally modify *BIN* or specify the length of the long period during which Dee has been running. It is possible for the sentence in (10) to have the reading in (10b) if a pause occurs before the adverbial: *Dee BIN running* <PAUSE> *for 30 minutes*. There is no comparable habitual reading for BIN_{RSTAT} constructions, so if temporal adverbials occur in these constructions, they will modify the length of the long period indicated by *BIN*. This means that they will only have acceptable or natural readings if a pause (or some suprasegmental feature) separates the adverbial from the rest of the sentence, as in *She BIN left* <PAUSE> *15 years ago* ('She left 15 years ago').

In his description of *BIN*, Rickford (1975) also comments on the pragmatic contexts in which the marker occurs: "One thing is certain—no absolute distance in objective time from the point of orientation can be set. What BIN expresses is the speaker's subjective feelings about the event and the 'time' involved…There are, however, 'consensus definitions' of how 'remote' the initiation of a process must be, relative to certain cases. And there is a rich arena for research in the use of *BIN* contrary to such 'consensus' definition for dramatization and self-aggrandizement, or 'styling'" (p. 117). In referring to 'dramatization,' 'self-aggrandizement,' and 'styling,' Rickford points to the speaker's use of *BIN* to emphasize the claim that a situation is not new to her. That is, she has participated in an activity/event for a long time/a long time ago or has been in a state for a long time.

BIN has the property of indicating that some part of the eventuality occurred in the distant past, and for this reason, it makes sense to call it a remote or distant past marker. The difference is in the way *BIN* interacts with different predicates to indicate that the eventuality named by the predicate started and ended in the far past or continues to the speech time, and this interaction leads to three different readings descriptively labeled as BIN_{STAT}, BIN_{HAB}, and BIN_{RSTAT}. These different *BIN* readings will be presented to three- to five-year-olds in a community in southwest Louisiana with two goals in mind: to determine 1) whether they associate *BIN* with the 'far' past, thus distinguishing between the more recent and distant past, and 2) whether they are more or less likely to

associate a particular *BIN* reading with the distant past. Also, in considering children's production data, evidence will be shown that they associate *BIN* with the self-aggrandizement function noted in Rickford (1975).

Before moving to the *BIN* comprehension tasks, we present an overview of the habitual marker aspectual *be* in AAE.

3. HABITUAL MARKING

In AAE uninflected *be* in specific contexts indicates that an eventuality recurs.[5] Like *BIN*, the habitual marker (or aspectual) *be* can precede all predicate types, as shown below:

11. a) Dee be reading. (V-*ing*)

    'Dee is usually reading' or 'Dee usually reads'

    b) Dee be in her office. (Prep)

     'Dee is usually in her office'

    c) Dee be the first one in line. (Adj)

     'Dee is usually the first one in line'

    d) She be the substitute teacher. (N)

     'She is usually the substitute teacher'

    e) That car be here. (Adv)

     'That car is usually here'

Aspectual *be* occurs with verbs in the V-*ing* (11a) as well as the V-*ed* form. When it precedes V–*ed*, the verb has a verbal or adjectival passive reading:

12.   Breakfast be cooked at 7 AM.

    Reading 1: Breakfast is usually cooked by someone at 7 AM.

    Reading 2: Breakfast is usually in a cooked state at 7 AM.

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[5]Not all uninflected *be*'s in AAE are habitual *be*.

Aspectual *be* is similar to auxiliary *be* in that it precedes verbs ending in *–ing*, as in (11a), and it is similar to the copula in that it precedes all other predicates (as in 11b-e). However, aspectual *be* differs from auxiliary *be* and the copula in that it occurs overtly in all contexts, but auxiliary *be* and the copula are not required to be overt in all contexts, as shown in (13):[6]

13.   a) Dee Ø reading.

            'Dee is reading'

        b) Dee Ø in her office.

            'Dee is in her office'

The copula and auxiliary *be*, especially their zero (Ø) forms, have been commonly studied in the sociolinguistics literature on AAE since Labov (1969) by researchers such as Wolfram (1969), Baugh (1980), Rickford, Ball, Blake, Jackson, and Martin (1991), and Walker (2000). Most of these sociolinguistic variation studies give a phonological account of the deletion of the *be* forms, following Labov (1969). We do not adopt the phonological account of the occurrence of the copula and auxiliary *be*, but we do acknowledge the pioneering work of Labov (1969) in noting the optional and variable occurrence of auxiliary *be* and the copula.

        The auxiliary *be* and the copula do occur overtly in some contexts, for example, if they are stressed (14a) or are in the C(omplementizer) position in questions (14b):

14.   a) Dee IS reading.

        b) Is Dee reading?

Aspectual *be* also differs from auxiliary *be* and the copula in that it cannot substitute for elided material in V'-ellipsis and in V'-fronting constructions:
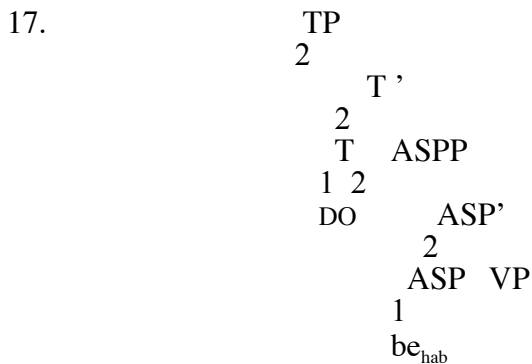
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[6]It should be noted that auxiliary *be* and the copula are overt in 1st person singular as well as in 3rd person neuter singular contexts: *I'm reading/*I reading*; *It's eating/*It eating*.

15. a) Netta be fishing, and Dee do, too. (cf. *Netta be fishing, and Dee be, too.)

'Netta usually fishes, and Dee does, too'

b) Netta IS fishing, and Dee IS, too. (cf. Netta Ø fishing, and Dee Ø, too.)

As shown in (15a), *do* is required to substitute for elided material; aspectual *be* cannot occur in that context. On the other hand, auxiliary *be* (15b) can substitute for the elided material, so there is no need for *do* support. Also, aspectual *be* cannot host negation, so it requires *do* support in negative environments, as in (16):

16. Netta don't be reading.[7] (cf. *Netta ben't reading.)

'Netta doesn't usually read/isn't usually reading'

These syntactic characteristics of aspectual *be* are compatible with an analysis in which the marker is generated in a separate category, ASPP, between TP and VP (or another Predicate Phrase).

17.
```
                    TP
                  2
                      T '
                   2
                   T   ASPP
                  1 2
                  DO      ASP'
                        2
                      ASP  VP
                    1
                   be_hab
```

In (17) habitual *be* is generated below T, and *do*, which supports it, is in T. *Do* is always [-past]; one way to capture this restriction is to suggest that *do* shares [habitual, -past] features with habitual *be*. A possible analysis is that aspectual *be* is confined to its base position and does not raise to T to host inflectional material or to C in questions. Evidence that aspectual *be* does not host inflectional material comes from the fact that the

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[7]Morphological agreement in AAE is often neutralized in the direction of the plural verb form, which happens to be the morphologically unmarked form, so plural verb forms (e.g., *don't*) occur with plural and singular subjects.

marker occurs in its non-conjugated form with all person paradigms (e.g., *she be*, *they be*, *you be*, *y'all be*, *I be*, *we be*).

Aspectual *be* V-*ing* sequences differ from auxiliary *be* V-*ing* (progressive) sequences in two ways. First, they differ from auxiliary *be* V-*ing* sequences in meaning. For instance, auxiliary *be* V-*ing* sequences indicate that an eventuality is already in progress; however, the eventuality in aspectual *be* V-*ing* sequences does not necessarily have to be in progress with respect to another eventuality. Consider the following examples:

18.   Netta be listening to the radio when I leave.
        Reading 1: Netta is usually already listening to the radio when I leave.
        Reading 2: Netta usually begins to listen to the radio when I leave.

Reading 1 is the in-progress reading, in which the listening eventuality is already in progress when the leaving occurs. In Reading 2, the listening eventuality begins after the leaving has taken place. Secondly, stative verbs can occur in aspectual *be* V-*ing* sequences (19a), but they generally do not occur in the progressive, that is, in auxiliary *be* V-*ing* sequences (19b, c).[8]

19.   a) Netta be knowing how to work hard problems.
            Literally: Netta usually shows that she can work hard problems when presented
            with them.
        b) *Netta Ø knowing how to work hard problems.
        c) *Netta IS knowing how to work hard problems.

The sentence with the aspectual *be* stative verb sequence (*be knowing*) is grammatical (19a). In fact, the observation is that aspectual *be* coerces stative verbs into having activity readings. As shown in (19b, c), the auxiliary *be* + stative V-*ing* sequence is ruled out regardless of whether the auxiliary is covert (*Ø knowing*) or overt (*IS knowing*).

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[8]Stative verbs do occur in the progressive in certain contexts (e.g., *She's looking more and more like her sister these days.*)

Aspectual *be* constructions can be taken to be a type of generic in AAE. They differ from simple tense generics in that aspectual *be* constructions must refer to eventualities that occur on occasions.

20.   a) Bruce work on old Thunderbirds.

        b) Bruce be working on old Thunderbirds.

The simple tense generic in (20a) is ambiguous in that it can mean that Bruce works on old Thunderbirds from time to time or that Bruce has the expertise to work on old Thunderbirds but has not had the opportunity to do so because customers have only been requesting that he work on other old cars such as Comets and Belairs. On the other hand, (20b) is unambiguous in that it can only mean that Bruce actually works on old Thunderbirds from time to time. The sentence cannot be used in a context in which Bruce has the expertise to work on old Thunderbirds but actually never does so. Also, in sequences of aspectual *be* + preposition, the reading is a type of (habitual) generic:

21.   The train set be on the porch.

        'The train set is generally on the porch'

The sentence in (21) can refer to situations in which the train set is generally on the porch, that is stays there. It does not have to have the literal meaning of appearing on the porch from time to time.[9] Aspectual *be* constructions can be represented formally as constructions in which a habitual operator (HAB) binds variables over eventualities.[10]

In comparing *BIN* and aspectual *be,* we find that the two markers share at least two characteristics. 1) They can both occur with a wide range of predicates, including stative V-*ing*, and 2) they have a habitual reading (BIN_{HAB} reading in the case of *BIN*). While the markers *BIN* and *be* do not co-occur, they both occur with the marker *d'n*,
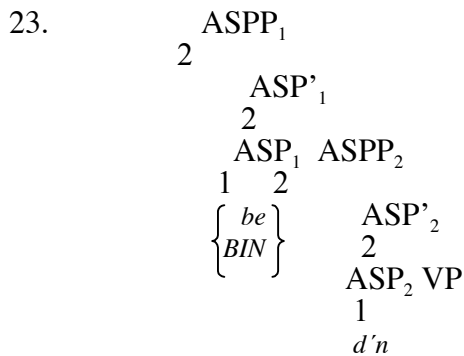
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[9]The description is somewhat more complicated than indicated here, especially when stage- and individual-level predicates are considered.
[10]See Green (2000) for a discussion of aspectual *be* and habitual operator *HAB*.

which indicates that an eventuality is in its resultant state.[11] (See Terry (2005) for a discussion of *d´n*.)

22.   a) Bruce be d´n left.[12]

   'Bruce has usually already left'

   b) Bruce BIN d´n left.[13]

   'Bruce left a long time ago'

The co-occurrence facts lead to a structural analysis of *be* and *BIN* in which the markers can both occur with *d´n*, but in which they cannot co-occur. Also, the markers can occur with a range of predicates. One way to account for the distribution of these markers is to generate them in the same position and *d´n* in a lower position, as shown below:

23.

$$
\begin{array}{l}
\text{ASPP}_1 \\
\quad \text{ASP'}_1 \\
\qquad \text{ASP}_1 \quad \text{ASPP}_2 \\
\qquad \left\{ \begin{array}{l} be \\ BIN \end{array} \right\} \quad \text{ASP'}_2 \\
\qquad\qquad\qquad \text{ASP}_2 \quad \text{VP} \\
\qquad\qquad\qquad\quad d´n
\end{array}
$$

Be and *BIN* are generated in a higher Aspect (ASP$_1$) head, and *d´n* (when it is present) in the lower Aspect (ASP$_2$) head. Both *be d´n* and *BIN d´n* sequences can be generated, but **be BIN* and **BIN be* sequences cannot. Furthermore **d´n be* and **d´n BIN* sequences

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[11]A schwa (´) is used in the representation of the marker *d´n* to show that it is unstressed and to distinguish it from the past participle *done*.
[12]The *be d´n* sequence also has a number of non-habitual readings in addition to the habitual resultant state reading (which is given in (22a)), but they will not be considered here.
[13]It is interesting to note that the difference in meaning between *Bruce BIN left* and *Bruce BIN d´n left* is not apparent. In fact, these sentences are almost identical in meaning. Unfortunately, given the limited research on *BIN* and *d´n* in AAE, we know of no references that address this issue other than Green (2002). Native speakers confirm the intuition that *BIN* and *BIN d´n* sequences are quite similar in meaning.

will not be generated either.[14] When *be* and *BIN* occur with *d´n*, that marker selects a verb in its –*ed* form (*be/BIN d´n left* vs. **be/BIN d´n leave*). When *d´n* is not present, *be* and *BIN* can select a range of predicates, where PREDP is used as a cover term for predicate phrases such as NP, ADJP, PP, and VP.

24. $[_{ASPP}[_{ASP'} \textit{be/BIN}]][_{PREDP}[_{PRED'} \text{NP/ADJP/PP/VP}]$

This analysis also provides a way to account for the BIN_{HAB} reading. As discussed in Green (1998), in cases in which *be* and *BIN* compete for the same position (ASP_1), *BIN* surfaces with habitual features, the BIN_{HAB} reading. They cannot both occur at the same time, so the resolution is that *BIN* carries a habitual feature or remnant of *be*.

In Section 6, the general property of aspectual *be* of indicating that an eventuality recurs will be considered in relation to child AAE speakers' development of the tense-aspect markers.

4. PREVIOUS RESEARCH ON THE DEVELOPMENT OF TENSE-ASPECT MARKING IN CHILD AAE

In providing general descriptions of patterns in AAE, many early studies of the variety focused on the way AAE differs from mainstream English, and, to some extent, the way it differs from other varieties of non-standard English (e.g., Labov 1969, Wolfram 1969, Fasold 1972, Rickford 1975). In his study of *BIN*, which is based on data from participant observation and questionnaires, Rickford (1975) concludes that "both data sources suggest that Black and White speakers are sharply divided in their abilities to interpret the form" (p. 109). Rickford's goal was not to work out the AAE tense-aspect system; however, his research on *BIN* raised interesting questions about some tense/aspect-related differences between varieties of English. The question about the extent to which child

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[14]The structure (23) may be slightly too restrictive in ruling out the sequence *d´n BIN*. As noted in Green (1993), some speakers allow *d´n BIN* in certain environments. One question that was raised in that study was whether *BIN* has begun to take on adverbial properties, with a less restricted distribution.

speakers in a community in southwest Louisiana associate *BIN* with the distant past is pursued in this study.

While it has been argued that the tense-aspect system of AAE differs significantly in several ways from that of other varieties of English, there has been limited research on its development in child speakers. Two studies on the development of tense-aspect marking in child AAE have concentrated on the comprehension of aspectual *be*. Jackson (1998) tested five- to six-year-old AAE- and mainstream English-speaking children to determine whether they distinguished aspectual *be* and auxiliary *be*. In that experiment, Sesame Street story pictures and structured dialogue were presented to the children. For instance, in one picture, Cookie Monster, who generally eats cookies, was portrayed as being sick and not eating cookies at that time. However, Elmo was portrayed as eating cookies at the moment, while Ernie was portrayed as only eating cookies on his birthday. Cat, who never eats cookies, was also in the story. The children were asked a series of six questions, including "Who be eating cookies?" and "Who is eating cookies?" The targeted responses were "Cookie Monster" and "Elmo," respectively. Jackson found that although the AAE-speaking children associated the habitual reading with aspectual *be* constructions (e.g., *be eating*) more often than did the mainstream English-speaking children, auxiliary *be* (e.g., *is eating*) comprehension was significantly higher than aspectual *be* comprehension for both groups of children. Jackson found that there was an effect for certain predicates in the aspectual *be* foils. Children seemed to perform better on "Cookie Monster be eating cookies" and "Elmo be laughing" than on "The Count be counting" and "Oscar be fussing," which may have been related to children's familiarity with certain *Sesame Street* characters. Jackson and Green (2005) extended the Jackson (1998) study to determine whether three- to ten-year-old AAE-speaking children also distinguished habitual *be* and auxiliary *be* when the latter did not occur on the surface, as in "Who Ø eating cookies?" In this study, novel characters were used instead of *Sesame Street* characters to limit the amount of previous knowledge children used in answering questions. The findings were that participants scored higher on Ø auxiliary *be* questions than on habitual *be* questions. Also, there was an individual age effect for Ø auxiliary *be* but not for habitual *be*; older children performed better on Ø auxiliary *be* constructions than younger children.

Green, Quigley, and Seifert (2005) tested the comprehension of remote past *BIN* by twenty three- to five-year-old developing AAE- and eighteen age and socioeconomically matched SwLVE-speaking children in a community in southwest Louisiana. Here we use SwLVE to refer to the variety of English used by non-AAE speakers (both white and African American) in a community in southwest Louisiana. Referring to the variety as such may be too general given that speakers may be at different points on a continuum, such that some may use more or fewer phonological and syntactic features associated with that region. One of the goals in using this label is to capture the fact that these speakers use the local variety, which is the norm for that area, although it may differ from the ideal mainstream English that is reported in research. The major difference between some of the SwLVE and general English speakers may be in phonological patterns relating to accent and the use of certain lexical items, and for all intents and purposes, some SwLVE speakers could be referred to as mainstream/general American English speakers. Oetting, Cantrelle, and Horohov (1999); Oetting and McDonald (2001); Ross, Oetting, and Stapleton (2004); and Oetting and Garrity (2006) have conducted research on varieties of English used by children in southeastern Louisiana, but we know of no other studies on child English in southwestern Louisiana (other than Green et al. 2005). Oetting and Garrity (2006) report that the variety of English spoken by African Americans and the variety used by whites in that area of southeastern Louisiana were perceived to overlap in vernacular.

Due to the contact and linguistic history in the southern United States, white speakers in the area also have knowledge of features associated with AAE, and they may also use some of the features themselves. Of course, African Americans also use patterns that may be identified as features of SwLVE. This raises questions about the use of shared patterns in the speech of AAE- and SwLVE-speaking children.

In the Green, Seifert, and Quigley (2005) study, children were given ten scenarios, which consisted of a short description and corresponding pictures. The scenarios depicted objects/characters as having been in a state or engaged in an activity for a long time as compared to objects/characters that had been in a state or engaged in an activity for a shorter time. The children were asked questions about the scenarios. One of the questions contained *BIN*, as in "Who BIN working at the kitchen sink?". The children

were asked to identify the picture corresponding to the question by naming the character/object or simply by pointing to the appropriate character/object. The findings were that the AAE-speaking children slightly outperformed the SwLVE-speaking children on the *BIN* scenarios by correctly identifying the character/object that had been in the state/engaged in the activity for a long time. This difference in performance between the groups of children was found on particular *BIN* + V-*ed* constructions but not on others. The findings were interpreted as evidence that developing AAE speakers distinguish simple past and remote past and are thus acquiring the AAE tense-aspect system. The experiments and data discussed in this paper build on Green et al. (2005), so more detail will be given in the following section.

5. EXPERIMENT 1: INTRODUCTION TO THE *BIN* STUDY

This experiment tested children's comprehension of remote past *BIN*. Some developing AAE speakers produce *BIN* constructions in spontaneous speech, as shown in the example below, but the extent to which they have knowledge about the meaning and use of *BIN* is not clear:

25.　　Int:　　Ooh, I like that jogging suit. Is that a new jogging suit? Hmm, or an old one?

　　　　J015:　A new jacket.

　　　　Int:　　A new jacket? You just got it? You just got it? Hmm?

　　　　J015:　I BIN having it.

　　　　(Green 2004, p. 65)

In the exchange, J015 (4 years, male) responds to the interviewer's (Int) question about whether the jacket is a recent acquisition by using *BIN* to convey the message that he did not just get the jacket but that he has had it for an extended period. Given that the time period *BIN* refers to is relative, there is no way of determining from J015's response whether he has had the jacket for a week, month, or six months (although given that he is

four years old, we can rule out many possibilities). Two characteristics of this *BIN* construction serve as evidence that J015 is using the marker in an appropriate context. The first piece of evidence is that he stresses *BIN* relative to other words in the sentence, and the second is that he uses *BIN* in contrast to the interviewer's statement suggesting that he might have recently acquired the jacket. While J015's use of 'BIN having' and 'new' may seem to be inconsistent at first glance, it is certainly possible to view the two as being consistent, especially if the child acquired the jacket after he acquired the pants and has not worn it as much as he has worn the pants. The examples in (25) and (26) show that four-year-old developing AAE speakers also use *BIN* constructions in a pragmatic context found in adult AAE.

26.　　Int:　　You said that was the wrong way. How did you know that was the wrong
　　　　　　　way?
　　　　J040:　I BIN knowing.

J040 (4;9 years, male) chooses to answer the interviewer's question with a "how long" response as opposed to with a "how" response. J040's response is clearly in line with adult responses to similar questions. It can be interpreted to mean that he has known for so long that that was the wrong way. It seems natural to him; he just knows that was the wrong way. Both his and J015's responses express aggrandizement, a property of *BIN* constructions in adult AAE (Rickford 1975). In effect, the child speakers used *BIN* to flag the point that they have been in a state of having had the jacket (J015) and having known that was the wrong way (J040) for a long period; being in these states is nothing new for them, although they are only four years old. Of course, we cannot be certain about whether J015's and J040's responses are adult-like or whether they represent developmental uses of *BIN* and we are just reading too much into them. The experimental data will contribute to our understanding of children's interpretation of *BIN*.

It is also interesting to note that both children use *BIN* in the environment preceding a stative verb (V-*ing*). As is the case in other varieties of English, stative verbs do not generally occur in the progressive in AAE; however, *BIN* and habitual *be* both occur with stative V-*ing*. This use of stative V-*ing* could stem from two sources. One is

that in the early use of these verbs, the children apply –*ing* suffixes to them as they do to activity verbs, and the other is that the children are using these verbs with *BIN* (and aspectual *be*) as they occur with these markers in adult AAE. The first hypothesis is interesting in light of earlier observations in child tense-aspect literature that children do not overextend the progressive. More research is needed to address these issues adequately.

5.1 Subjects and Stimuli

The task tests verbal and non-verbal predicates in construction with *BIN*, so the *BIN* + predicate sequences refer to eventualities with an in-progress state reading and a resultant state reading. That is, it tests predicates that indicate that the eventuality started in the distant past and continues to the moment of utterance as well as those that started and ended in the remote past. Verbal predicates in the *BIN* constructions take –*ing* and –*ed* morphology, so the results from these *BIN* tasks will make it possible to raise questions about the extent to which children's interpretation of *BIN* constructions as being past is influenced by verbal morphology and more generally whether verb type influences children's interpretation of *BIN* sequences.

Subjects

The subjects in this study were 68 three-, four-, and five-year-olds from a low socioeconomic class background in an early child development program in a community in southwest Louisiana, in which approximately 150 children enroll each year. Only children whose parents identified them as "black" or "white" are included in this study; however, children who are identified as "Other" were also tested. The African American and Anglo American participants are from three neighboring towns in a parish in southwest Louisiana, and attend the child development program in that parish. These towns have been historically segregated, with African Americans living in one area and Anglo Americans in another. The areas are divided by physical boundaries such as railroad tracks or streets. Although segregation patterns have changed over the years,

such that there is more opportunity for integration of the two races, segregated living is still the norm in these small towns.

Forty-two subjects were determined to be developing AAE speakers based on community and spontaneous speech samples. Twenty-four were females and eighteen were males. Twenty-six subjects were developing SwLVE speakers.[15] Twelve were females and fourteen were males. All AAE-speaking children were African American, and all SwLVE-speaking children were Anglo-American. In both groups, the subjects were divided into a younger group and an older group. The younger children were from 3;6-4;7, and the older children were from 4;8-5;7. The younger/older age split was based, in part, on the equal distribution of participants into two groups. An inventory of the subjects' age and sex is given in Table 1.

Table 1 here

Because these African American children are still acquiring AAE, and because there is no research that tells us what developing AAE looks like, it is not clear what AAE patterns the children should have already acquired by three-, four-, and five years. To that end, children who are members of the AAE-speaking community were automatically assumed to be members of the AAE-speaking group, and those who are members of the SwLVE-speaking community were assigned to the SwLVE-speaking group. Data from children who were identified as having one parent from the African American community and the other from the SwLVE community were not included in the study. Although we were considering markers *be* and *BIN*, we automatically assumed that the child was a developing AAE speaker if she used one of them in spontaneous speech in line with the use by adults. Three additional patterns that were considered were Ø copula and auxiliary *be*, Ø auxiliary questions, uninverted questions, and preterite *had*.[16] In general, some

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[15]A complete analysis of the SwLVE-speaking children's data will not be presented here, but throughout the discussion, comparisons will be made between the two groups of speakers.
[16]Preterite *had* is a type of past often used in narrative contexts. The preterite *had* construction, which is formed with *had* + V-*ed*/-*en*, is identical in shape to the pluperfect

SwLVE participants displayed Ø auxiliary and copula *be* at a lower percentage than the AAE-speaking children, but they did not produce preterite *had*, for example. The SwLVE children were classified based on their community and the absence (or low percentage) of features more closely associated with AAE.

Stimuli and procedures

Ten scenarios consisting of a short description, pictures, distracter questions, and prompts were used to test children's comprehension of *BIN*. A list of the ten *BIN* scenarios including the question prompts is given in Table 2.[17]

Table 2 here

The interviewer read the scenario to the child while pointing to corresponding pictures and then asked questions related to the scenario and pictures. The child was allowed to ask questions and make comments before, during, and after the presentation of the scenario. Some of the *BIN* scenarios portrayed characters/objects as having been in a state for a long time as compared to other characters/objects that had been in the state for a shorter time. Other *BIN* scenarios portrayed characters as having been engaged in an activity longer than other characters. Each group of picture foils depicted a different eventuality. An example of a *BIN* scenario and target question is given in Figure 1. For instance the pictures in the scenario in Figure 1 correspond to the activity leading to the

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in AAE, but it is used in different contexts. See Rickford and Rafal (1997) and Ross, Oetting, and Stapleton (2004) for a discussion of preterite *had* in AAE.

[17]As Table 2 shows, the stories are written in mainstream English, and the prompts include a *BIN* phrase, a non-mainstream English form. The first point is that given that there is no standard written AAE, there was no consideration of attempting to write the scenarios in AAE. Furthermore, all children, including those who are developing AAE, must understand mainstream English, which is used in schools in that area. However, it is obvious that the use of mainstream English in schools by teachers and other children does not automatically effect a change in children's use of AAE patterns. If it did, there would be less use of AAE by school age children. The scenarios were always presented by Green, who is a native speaker of AAE and a native of the southwest Louisiana community. Green's goal was to present the scenarios in a natural, story-like manner that would hold the participants' attentions. Green used AAE phonology, including prosody, which was natural. There was no attempt to exaggerate AAE patterns.

two characters' (Bruce and Mother) going to the store. The male character (Bruce) is portrayed as leaving first, and the mother is portrayed as leaving after Bruce. The predicate in the prompt is *went* (*Who BIN went to the store?*), a verb marked for past, so the eventuality ended in the far past, and is in its resultant state.

Figure 1 here

In the sample scenario in Figure 2, the pictures portray two characters climbing trees. The female character (Jenny) climbs the tree in the first picture, and the male character (John) climbs the tree along with Jenny later, in a subsequent picture.

Figure 2 here

The predicate in the prompt is *knowing*, a stative verb in the *–ing* form, so the knowing eventuality started in the distant past, and it continues up to the moment of utterance. In both scenarios, one character is contrasted with another as having begun or ended an eventuality farther in the past. Children's correct responses are interpreted as an indication of their being able to make a distinction between the distant and more recent past—in effect associating *BIN* with the distant past.

In addition to administering the ten *BIN* scenarios to the target experiment subjects, we also administered them to nine AAE-speaking school age children and adults (ages 8 years to 45 years) who are natives of the southwest Louisiana African American community in which the child study was conducted to determine whether older speakers would give the targeted responses. The nine participants answered all questions in the scenarios correctly, as predicted.

5.2 Results and Discussion: The *BIN* Study

As a group, the AAE-speaking children scored .52 or better on each *BIN* scenario. The mean proportion correct for each individual *BIN* construction is given in Table 3.

Table 3 here

The AAE-speaking participants scored highest on *BIN in* and lowest on *BIN went*. The individual *BIN* predicates were also analyzed according to type: *BIN* PP, *BIN* V-*ing*, *BIN* NP, and *BIN* V-*ed*. These values are reported in Table 4.

Table 4 here

The children scored above chance on all predicate types. Chance was set at .33 because there were three possible responses for each scenario: 1) character/object 1, 2) character/object 2, and 3) character/object 1 and character/object 2.[18] (One sample t-tests, were significant for all predicate types: t (df 41) = 18.65, 8.4, 7.03, and 5.7; p < .0001). A repeated measures of analysis of variance showed that the predicate types are significantly different from each other (F (3, 38) = 8.84, p < .0001). Pairwise comparisons showed that *BIN* PP is different from all other *BIN* predicate types, but the other predicate types are not significantly different from each other. When age is entered into the analysis, the pairwise comparisons are adjusted slightly, such that *BIN* V-*ed* is now different from *BIN* V-*ing*, as well as *BIN* PP, but not *BIN* NP. The repeated measures ANOVA with Age category as a between-subjects factor showed that age was significant overall (F (1,40) = 19.655, p < .0001). There was not a significant interaction of age with predicate type, that is, the older children scored higher than the younger participants on all predicate types, although the pairwise comparisons of the means show that the pattern was least pronounced with the *BIN* V-*ing* type. The older AAE-speaking children gave correct responses .83 of the time (range .50 to 1.00), while the younger children from that population scored .57 correct (range .20 to 1.00). Note that the one speaker in the younger group who scored 1.00 was the oldest speaker (4;7 years) in that group.

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[18] However, in three cases children gave responses that were not directly relevant to the scenario.

The SwLVE-speaking children also scored above chance on all *BIN* predicate types except on *BIN* V-*ed* (one-sample t (df 25) = 16.341, 3.34, 5.12, p < .001 for *BIN* PP, *BIN* NP, and *BIN* V-*ing*, respectively; t (df 25) = 1.99, p = .06 for *BIN* V-*ed*). The SwLVE-speaking children's predicate type ranking is identical to that of the AAE-speaking children's, and their values are quite similar. The results for the individual *BIN* predicate constructions are given in Table 5, and the results for the predicate types are given in Table 6.

Table 5 here

Table 6 here

One difference between the AAE-speaking children and the SwLVE-speaking children is the performance on the *BIN went* scenario. A chi-square test for that item showed significance at the .04 level (chi-square = 4.255, df = 1), although scores were the lowest for that individual predicate and the *BIN* V-*ed* predicate type in both groups. The data show that race/ethnicity was not a significant factor for predicate type (*BIN* PP, *BIN* V-*ing*, *BIN* NP, and *BIN* V-*ed*) rankings; however, it was significant for the *BIN went* scenario, on which the developing AAE-speaking children were twice as likely as the SwLVE-speaking children to answer correctly. Also, in the SwLVE-speaking group, *BIN working*, *BIN knowing*, and *BIN fixing* are not significantly different; however, *BIN fixing* is significantly different from *BIN working* and *BIN knowing* in the AAE-speaking group (p = .007 for *knowing-fixing*; p = .002 for *working-fixing*).

The other difference noted between the dialect groups was that the age effect was not significant for the SwLVE group (F (1,24) = 3.43, p = .076). The younger children of both dialect groups performed at almost exactly the same level overall: .573 versus .575 (F (1, 19) = .001, p = .98). The older children in both dialect groups performed better than the younger children, but the difference was not as great in the SwLVE group as in the AAE-speaking group: .73 for the older SwLVE speaking children and .83 for the older AAE-speaking children.

Overall both groups of children fared well on most *BIN* scenarios. They seem to associate the marker with the distant past. At least for the AAE-speaking children, this finding is further supported by their spontaneous responses to the *BIN* scenarios and their production of *BIN*. For instance, J040 (4;9 years, male) clearly indicates that he understands *BIN* as a distant past marker when he responds to the prompt *Bruce BIN had which shoes?* (Scenario 4, Table 2):

27.   Int: Bruce BIN had which shoes?

       J040:   All day long?

       Int: All day long. Bruce BIN had which shoes?

       J040:   For a long time?

       Int: Yeah. For a long time.

       J040:   Since I got here?

       Int: Umhmmm! Which ones?

       J040:   Them, them.

       Int: Them?

       J040:   Them old ones.

In clarifying the question for himself, J040 rephrases *BIN* in a number of ways: "all day long?" "for a long time?" and "since I got here?". Each paraphrase captures the meaning of an extended period, which in turn signals that the state of having or owning the shoes started in the distant past. Another strong suggestion that developing AAE-speaking children do indeed associate *BIN* with the far past is that in another scenario, one of the participants who answered other *BIN* prompts correctly explained why she chose the non-targeted response. In the *BIN knowing* scenario (Figure 2), the girl has known how to climb trees longer than the boy. But when asked "Who BIN knowing how to climb trees," a 4;5-year-old African American female chose the male character, John. The exchange between her (J011) and the interviewer is given below:

28.   Int: Who BIN knowing how to climb trees?

       J011:   I think he KNEW how to climb trees.

Int: Who BIN, which one BIN knowing how to climb trees?

J011:   I know who.

Int: Which one? Tell me, come on. Tell me which one BIN knowing how to climb trees.

J011:   I'ma pick one.

Int: Well pick one. Who BIN knowing how to climb trees?

J011:   (points to John)

Int: You picking John?

J011:   Yeah.

Int: Why you think John BIN knowing how to climb trees?

J011:   Cause. I think he is a boy.

J011's comments suggest that she associates tree climbing with boys, and that her view of John having known how to climb trees is in line with her view about who climbs trees although it is not the way the information is presented in the scenario. Responses such as the one given in (28) suggest that children's incorrect responses may not always indicate that they do not comprehend *BIN*.

In the description of *BIN* in Section 2, the meanings of the marker were categorized into three readings: BIN_{STAT}, BIN_{HAB}, and BIN_{RSTAT}. The *BIN* PP (*in*, *under*) constructions have the BIN_{STAT} reading. The *BIN* V-*ing* constructions were grouped together according to predicate type; however, given the readings in the scenarios, *BIN working* and *BIN knowing* have the BIN_{STAT} reading, and *BIN fixing* has the BIN_{HAB} reading. That is, the old man has fixed bikes on and off for a long time. The AAE-speaking children's values for *BIN working* and *BIN knowing* are quite similar, and the value for *BIN fixing* is significantly lower. Of the V-*ing* scenarios, *BIN fixing* is the only one with the habitual reading. If the children are distinguishing between state and habitual readings, then we would expect there to be a distinction among the different *BIN* V-*ing* predicates although they are grouped together. It is necessary to develop further scenarios to determine whether children actually make a distinction between BIN_{STAT} V-*ing* readings and BIN_{HAB} V-*ing* readings. On the other hand, there is no such difference among the *BIN* V-*ing* predicates in the SwLVE group, so it is not clear whether these

speakers have knowledge of the state and habitual readings and are able to do equally well on them, or whether they simply treat all *BIN* V-*ing* predicates the same. This information from the scenarios raises questions about possible differences in the distinctions AAE and SwLVE speakers make in *BIN* readings. Further research would be useful in contributing to discussions about differences between children who speak these varieties along the lines of the questions Rickford (1975) raises about the difference between adult African American and non-African American interpretations of some *BIN* constructions.

The *BIN* V-*ed* predicates have the BIN_{RSTAT} reading. *BIN broke* could be interpreted to mean that the comb's breaking event occurred a long time ago (BIN_{RSTAT}) or that the comb has been in the broken state for a long time (BIN_{STAT}). In either case, the comb is still broken at the moment of utterance. Along these same lines, *BIN had* could be interpreted to mean acquired a long time ago or the state of having held for a long time. In both cases, the state of having had the shoes has held for each moment from the time the shoes were acquired. On the other hand, *BIN went* is unambiguous. The entire having left for the store event is already completed at the moment of utterance; the resultant state holds at the moment of utterance. For the AAE-speaking group, 22 children answered the *BIN went* prompt correctly ("Bruce"), 16 answered incorrectly ("Mom"), and the remaining 4 answered either "the boy and mom," "my mom," or some unrelated response. One interpretation of the *BIN went* results is that the children did not distinguish between the recent past and the distant past, so they allowed a reading of either "Bruce" or "mom." In this way, they allowed both answers simply because they understood *BIN* as a past marker, and both Bruce and Mom went to the store in the past. This does not seem to be the most plausible explanation because these children have shown in other scenarios that they do link *BIN* to the distant past. Another explanation is that some children strongly associated going to the store with moms, and that interpretation outweighed the targeted response ("Bruce") in much the same way boys may be associated with tree climbing.

It is interesting to consider BIN_{RSTAT} (in particular, *BIN went*) in relation to the notion of event realization in Bohnemeyer and Swift (2004) and Ogiela, Casby, and Schmitt (2005). According to Bohnemeyer and Swift, event realization refers to an

event's occurring or happening, and realization depends on the telicity of the predicate. Telic predicates are taken to have realization in the perfective aspect, a situation in which the topic time includes all parts of the event, and atelic predicates are understood as being realized under imperfective and perfective aspect because any subevent of an atelic predicate counts as an instantiation of the event. They suggest that event realization is one explanation for children's early use of perfective with telic verbs and imperfective with atelic verbs. If it is the case that children are paying attention to the telicity of the predicate, then we might be able to explain why they give "Bruce" and/or "Mom" as responses to the *BIN went* scenario. Note that in the pictures corresponding to the story, both Mom and Bruce are shown at the store together, which counts as event realization for *BIN went*. The topic time, time during which the eventuality is evaluated (in terms of Klein 1994) includes the event time, run time of the eventuality. In the other two picture frames, Bruce and Mom are pictured at home and on the way to the store, which do not count as event realization for *BIN went*. But this issue does not arise for the *BIN broke* (BIN_{RSTAT} type) scenario. For instance, in that scenario, both objects (Faye's comb, Mom's comb) reach realization at separate times, which is reflected in the pictures. In this way, the children get to see event realization for the combs at different times and can make a choice about which one is farther in the past.

BIN_{RSTAT} predicate types should be considered further. They might help to determine whether it is the case that there are subtle differences between interpretation of *BIN* constructions for AAE-speaking and SwLVE-speaking children. Given the historical situation with respect to black and white relations in the southern United States and the similarity between *BIN* and *been*, we expect SwLVE-speaking children to be familiar with some patterns associated with AAE, but we do not know the extent of that familiarity. Rickford (1975) found that African Americans gave 'remote phase' interpretations to *BIN* constructions, and only one white participant in his study gave that interpretation. Rickford noted that that participant reported that he was from Greensboro, NC, and had had extensive contact with African Americans in that area.

The following discussion focuses on the comprehension of aspectual *be* by child AAE-speaking children.

6. EXPERIMENT 2: INTRODUCTION TO THE ASPECTUAL *BE* STUDY

Some developing AAE speakers produce constructions that meet the syntactic and semantic characteristics of aspectual *be* sequences in spontaneous speech samples, without being prompted by the use of the marker by other participants in the conversation:

29.　　Int:　　Ooh. What color is that bike?

　　　　D007: Uh. Like orange like this picture.

　　　　Int:　　Ooh beautiful. That's a lovely bike. You have training wheels on it?

　　　　D007: (*nods yes*) I can't, um, ride my bike without no training wheels.

　　　　Int:　　Well that's ok. That's fine. You can ride with the training wheels. That's

　　　　　　　　good. That's a fun ride, isn't it?

　　　　D007: I be going fast.

　　　　Int:　　Do you?

In confirming that he rides his bike with training wheels, D007 (5 years, male) uses an aspectual *be* construction that is interpreted to mean that on his occasions of bike riding, he goes fast. If D007 is using the marker as it occurs in developed AAE, then *be* makes explicit the point that fast riding occurs from time to time, but the regularity of this fast riding is left unspecified. Given the context and what is happening at the speech time, "I be going fast" cannot mean "I am going fast." The occurrence of this marker in examples such as (29) confirms that some five-year-olds use it to refer to non-deictic contexts and perhaps to indicate that some eventuality occurs from time to time; however, more data are needed to determine the extent to which developing AAE-speaking children comprehend and use the marker and to determine whether they use it to mark recurring eventualities or as a simple generic marker.

　　　　Two aspectual *be* experiments reported in this section were designed to address that issue. The scenarios in the aspectual *be* experiments included both verbal and non-verbal predicates that referred to eventualities that recur or to some general property that is associated with a character/object. This is one way in which the experiments in this study differ from those reported in Jackson (1998) and Jackson and Green (2005), both of

which only focus on verbal predicates that occur with aspectual *be*. Like the experiment in Jackson's (1998) study, the first experiment in this study was based on cartoon characters. Eight scenarios consisting of a short description, pictures, distracter questions, and prompts based on the *Sponge Bob Square Pants* cartoon were used. The Sponge Bob scenarios were useful in providing some information about children's knowledge of aspectual *be*; however, they raised important questions that could not be answered conclusively, so it was difficult to interpret the children's responses. The major confounding issue was the ambiguity in some of the stories and the prior knowledge about the Sponge Bob cartoon that children might have used in choosing a response. The problem was that it was not always clear how much the children relied on the stories and scenarios because they knew so much about the Sponge Bob episodes. Some of their responses may have been due to their knowledge about the cartoon from watching many episodes. For instance in a single scenario, a character may have been presented as engaging in habitual activity (the targeted character), but in the actual episodes, an additional character may have also engaged in that activity from time to time. We had no way of determining definitively whether the child chose both characters because he had extensive background information about the episodes and was extending it to the scenarios, or because he did not understand aspectual *be*. Jackson (1998) also had a similar question about the extent to which children relied on background knowledge in responding to aspectual *be* sequences in her *Sesame Street* scenarios. The *Sponge Bob Square Pants* aspectual *be* results will not be reported here.

6.1 Subjects and Stimuli

A follow up experiment using non-cartoon characters was conducted to control for the type of ambiguity/prior knowledge influence in the Sponge Bob scenarios. This experiment featured novel characters (as in Jackson and Green 2005) that the subjects had never encountered, so the background knowledge that they could draw on was limited. In this way, it was less likely that the responses would be based on some prior information about cartoon characters and activities that children are familiar with from television shows, so they would have to rely more on their knowledge of tense-aspect

marking. Of course, as was demonstrated with the *BIN* experiment, children will certainly bring their views about the world into the tasks. In using novel characters, the goal was to limit the amount of extraneous information that could influence participants' responses.

Subjects

The subjects in this experiment were 38 four- and five-year-olds from the same child development program as the subjects in the *BIN* experiment. Some of the children who participated in the *BIN* experiment also participated in this experiment.[19] Twenty-five participants were developing AAE-speaking children, and twelve in that group were males and thirteen were females. The remaining thirteen subjects were developing SwLVE-speaking children; six in that group were males and seven were females. In both groups, subjects were divided into a younger group and an older group. The younger children were from 4;3-4;8, and the older children were from 4;11-5;7. The younger/older split was based, in part, on the equal distribution of participants into two groups. An inventory of the subjects' information is given in Table 7.

Table 7 here

Stimuli and procedures

The stimuli consisted of six scenarios including a short description and corresponding pictures about objects and novel characters. Each scenario featured a target question (prompt) about the main character/object in the scenario. The question prompt included aspectual *be* followed by a verbal or non-verbal predicate. A list of the six scenarios and corresponding prompts is in Table 8.[20]

Table 8 here

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[19]The aspectual *be* experiment was developed subsequent to the *BIN* experiment, after some of the *BIN* participants had left the program.
[20]Note here again that the stories are written in mainstream English, and the prompts include an aspectual *be* phrase, a non-mainstream English form.

The participants were allowed to ask questions and make comments during the presentation of the scenarios. They could respond to the prompt by pointing to or stating their answers. The novel characters/objects were portrayed as engaging in some activity/being in a state regularly, having participated in the activity/been in the state once or so, never having participated in the activity/been in the state, or presently engaging in the activity/existing in the state. The character that engaged in an activity regularly was not featured as engaging in the activity at speech time. An example scenario is given in Figure 3.

Figure 3 here

The pictures in Figure 3 portray the novel character (Faye) going to school by three different modes of transportation. In the first three pictures, she is riding her bike to school, which she does regularly, but in the fourth and fifth pictures, she is walking and riding to school in the car with her aunt, respectively, due to one time special circumstances. The targeted response for this scenario is "bike/riding her bike."

There was some variation in the presentation of the characters in each scenario, so the subjects could not anticipate which character would be associated with habitual activity. In one scenario, the novel character associated with the habitual behavior was presented second and not first (Scenario #6 in Table 8). Also, in one of the scenarios, the non-targeted object was presented last (Figure 4, Scenario #5 in Table 8).

Figure 4 here

In the scenario in Figure 4, two boxes are featured. One box of toys is usually kept in the garage (first three pictures), and the other box of baseball paraphernalia is in the garage just this once due to special circumstances (last picture). To make room for the baseball box, the two boys are moving the toys box to the porch, where it will be kept for the day. The target response for this scenario is "toys/toys box."

In addition to administering the aspectual *be* scenarios to the target experiment subjects, we also administered them to the nine AAE-speaking children and adults (ages

10 years to 74 years) who are natives of the southwest Louisiana community in which the child study was conducted or who have close ties to that community to determine whether older speakers could easily understand the scenarios and give the targeted responses. Eight of the participants answered all questions in the scenario correctly without asking any questions about them. One adult participant changed her first two responses to the correct responses after asking whether the prompts were actually intended to ask who IS swimming now and IS having turkey now.[21]

6.2. Results and Discussion: The Aspectual *be* Study

As a group, the AAE-speaking children scored .48 or better on each aspectual *be* scenario. The mean proportion correct for each *be* construction is given in Table 9.

Table 9 here

The AAE-speaking children scored highest on *be in the garage* and lowest on *be swimming* and *where train set be*. The values were significantly different from chance for each *be* + predicate construction (one sample t-test (df 24) = 3.939, p = .001). Chance for scenarios 1, 2, 3, and 5 was .33, and chance for scenarios 4 and 6 was .25. The predicates were also analyzed according to type: *be* V-*ing* (*be swimming in the neighborhood pool*, *be having turkey for lunch*, *be getting to school*, and *be hiding*) and *be* Prep/Adv (*where train set be*, *be in the garage*). These values are reported in Table 10.

Table 10 here

There was not a significant age difference; however, in the older group, the *be* predicates *in the garage* (chi-square 4.16, p = .04) and *be having* (chi-square, 3.7, p = .053) were significantly different.

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[21]This adult (who graduated from college) and another adult (who attended college for two years) asked whether the use of *be* was really intended. The other adults and children in the study did not raise any questions about *be*.

The SwLVE-speaking children scored highest on *be getting* and lowest on *where train set be*, but none of their scores were significantly different from chance. There was no age effect in the SwLVE group (one sample t-test (df 12) = -.667, p = .52).

Overall, we found that for all the *be* predicates, race/ethnicity is significant but age is not: race (F (1,34) = 7.151, p = .011*) versus age (F (1,34 = .085, p = .77). When each predicate is considered individually in the AAE- and SwLVE-speaking groups, two are significant: *where train set be* (.48 v. .15, p = .048) and *be in the garage* (.72 v. .308, p = .015). Two predicates are close to significant: *be having* (.56 v. .23, p = .053) and *be hiding* (.6 v. .308, p = .087). The difference between *be* constructions *be swimming* and *be getting* was not significant. However, there may have been too few SwLVE-speaking children to conduct an accurate statistical analysis.

Given the data, the developing AAE-speaking children have knowledge of aspectual *be*, so overall they associate it with eventualities that recur and with general states of affairs. The participants scored above chance on the *be* + V-*ing* constructions as well as on the *be* + non-V-*ing* (*be* + Prep/Adv) constructions. As developing speakers of AAE, the children are beginning to understand aspectual *be* and associate it with appropriate situations. This is especially evident in that they performed significantly differently than the SwLVE-speaking children on two *be* predicates, and the other predicates reflected a trend in associating *be* with eventualities that recur. If the SwLVE-speaking children are not acquiring AAE, and if aspectual *be* is different from the use and function of *be*'s in their grammars, then they are not expected to have the developing native knowledge of aspectual *be* that the AAE-speaking children do. Indeed they do not appear to have this knowledge. Given that the SwLVE-speaking children's scores are not significantly different from chance, the extent that they just gave random answers is not clear. The finding is in line with Jackson (1998), in which it is reported that AAE-speaking children associated habitual readings with aspectual *be* more often than mainstream English-speaking children.

That children associate aspectual *be* with eventualities that recur is also evident in production data in a developing AAE-speaking child's (Z091, male, 4;5 years) response to one of the scenarios. His response is included in his exchange (30) with the interviewer in relation to the scenario represented in Figure 3:

30.   Int: How does Faye be getting to school?

        Z091:   Riding her bike.

        Int: Good.

        Z091:   Everyday she ride her bike to school.

        Int: Everyday she rides her bike to school.

        Z091:   Yep. But right now, she right there walking to school.

        Int: Okay.

        Z091:   Sometimes I be walking to school, too.

Z091 answered the prompt correctly ("riding her bike"), some evidence that he really did understand the question as asking how Faye generally gets to school. Additional evidence is his use of the quantifier *everyday* in his response, which signals that he understands that Faye generally gets to school by bike, that is, "be getting to school" by bike. He also uses another quantifier *sometimes* with aspectual *be* in the last line to specify further on what occasions he walks to school. Aspectual *be* constructions are a type of generic so to speak, and as with generics, there can be exceptions: Faye generally rides her bike to school if some extenuating circumstance does not prevent her from doing so. Z091 understands that it is possible that Faye "be" riding her bike to school although she is not represented as being in the process of riding her bike to school at the speech time and although she may have had to walk to school before. Z091's response suggests that he understands that there may be exceptions to general states of affairs expressed in constructions with aspectual *be*. In short, together the production data and experimental results support the claim that AAE-speaking children have some knowledge about aspectual *be*.

Another major finding in this study is that there was no age effect. That is, the older and younger groups performed similarly; however, this may be due to the fact that there was less than a year's difference between the median age for the younger (4;5) and older (5;2) groups. This finding is similar to that reported in Jackson and Green (2005), in which findings revealed that there was not a significant individual age effect for aspectual *be* questions. Given that in the test sample with the older children and adult controls, the

participants in the African American community in southwest Louisiana answered the aspectual *be* prompts correctly, it is predicted that once we look at a broader spread of ages, age will be a significant factor, such that proportion correct will improve with age and more claims can be made about children's developing knowledge about meaning and use of aspectual *be*.

The data show that the AAE-speaking children interpret V-*ing* as well as non-verbal predicates that occur with aspectual *be* as having habitual readings or as referring to general states of affairs, which suggests that the children are not just paying attention to –*ing*. Furthermore, the results for the V-*ing* predicates are not significantly different from each other. Ogiela et al. (2005, p. 430) used the entailment test question to classify VPs as activities or events: *If x was verbing, did x verb*? If the answer is "yes," the VP is classified as an activity, and as an event if the answer is "no." They give the following examples:

31.   a.   Utterance: John walked his dog.

           Test Question: If John was walking his dog and he suddenly

                               stopped walking his dog, did he walk his dog?

           Answer: Yes. VP classification: Activity

      b.   Utterance: John walked to school.

           Test Question: If John was walking to school and he suddenly

                               stopped walking to school, did he walk to school?

           Answer: No. VP classification: Event

Given this test, the construction *getting to school* would be classified as an event, and the other V-*ing* constructions (*swimming in the neighborhood pool*, *having turkey sandwiches for lunch*, *hiding*) would be classified as activities. Given the property of aspectual *be* of occurring with all predicate types, it is no surprise that there is no difference between event and activity/state verbs. One claim about aspectual *be* is that it coerces states into having an activity reading (Green 2000). The patterns demonstrated by the AAE-speaking children suggest that they have a developing understanding of this property of *be*. So far, there is no evidence that telic and atelic predicates are treated

differently. Testing more event verbs may yield different results and more data that could be compared to acquisition research on the relation between lexical aspect and morphology.

More research on V-*ing* would be useful in determining whether the claim that progressive *–ing* occurs first with activity verbs also holds for child AAE. Aspectual *be* occurs with V-*ing*; however, as summarized in Section 3, aspectual *be* + V-*ing* differs from canonical progressive constructions in at least two ways. In considering child AAE and claims about progressive marking with particular verb types, research should be conducted to test whether developing AAE speakers make distinctions in the verb types that occur in progressive and those that occur as the verb in aspectual *be* + V-*ing* sequences.

7. CONCLUSION AND FURTHER DIRECTIONS

We have presented data to show that developing AAE-speaking children have knowledge of the function, meaning, and use of tense-aspect markers remote past *BIN* and aspectual *be*. We have also shown that there is variation in children's performance on sequences of *BIN*/*be* and following predicate types, so they appear to be more proficient on some *BIN*/*be* + predicate type sequences than on others. One question that was raised in the study is about the extent to which an event realization analysis can be extended to account for some of the interactions between aspectual markers and predicate types. Appealing to an event realization analysis provides one way to account for the results with *BIN* V-*ed* sequences. Research on tense-aspect in AAE is in its early stages, so many of the very basic and important questions remain unanswered, especially questions about the way patterns of tense-aspect marking are linked to findings that have been reported in previous research on child language acquisition. We cannot explain all of the subtle statistical variations that arise in the choice of different predicates, but this research on *BIN* and *be* makes progress toward an explanation of the interaction among aspectual markers, lexical aspect, and morphology in AAE.

Given that the children in the *BIN* study associated a range of verbs with the past, including those with *–ing* morphology, there was a question about the extent to which the

Aspect Hypothesis generalizations about past marking and lexical aspect hold for AAE tense-aspect markers. By considering the Aspect Hypothesis from the perspective of event realization, we were able to show that the question about the extent to which the generalization about past marking holds for AAE should be researched further. As we have noted, the difference in *BIN* V-*ed* results may be explained by what it means for predicates indicating events to be realized. Thus the Aspect Hypothesis may indeed be relevant for AAE tense-aspect markers, especially in terms of events, which is in line with the Parsons-type event representations of *BIN* constructions that were presented in Section 2 of the paper.

Explanations in acquisition have proceeded from the assumption that children make all predictions within UG, but not necessarily within the target grammar (Roeper 1981 and many others). The choice of an alternative grammar represents either the initial state, a default grammar, or one that is more economical. The application of economy to the children's grammars has led to many proposals arguing that they lack a part of a tree, as in the case of root infinitives. The notion that children work with an incomplete tree has been implicit since the earliest work in acquisition. It became a sharp hypothesis when functional and lexical categories were differentiated, when Lebeaux (1988) and Radford (1990) made the strong and, therefore, useful hypothesis that functional categories are missing. Since that time, a variety of proposals, among them the Truncation Hypothesis (Rizzi 1993), and various other related research (e.g., Hyams 1996 and Hoekstra and Hyams 1998) have been put forward. Under the current assumption that nodes vary across languages, it is natural to assume that children do not posit enriched language particular information on nodes until they have evidence for them. Another such proposal is that they lack certain features associated with particular nodes or particular words. In a minimalist grammar without strict categories, the child must decide upon the feature content of nodes, the features which serve as attractors for raising, or as properties of certain words. The set of possible features are, by hypothesis, provided by UG, but they are only invoked if the child has an experience that leads to an unambiguous postulation of features.

How does the acquisition path go from an initial state, where all grammars are possible extensions, to the subtle semantic representations illustrated at the outset of this

article? We argue that some of the semantic properties must be translated into syntactic features to capture the acquisition path. In particular, the semantic meaning is translated into features on the Aspectual node and the Tense node with subtle differences between groups of children in our study. Our account therefore seeks to build an interface whose virtue is that it captures the acquisition path.

A number of refined differences in response patterns in our experiment deserve an explanation—though further research is necessary to capture some of them. We offer here an explanation of the most interesting and perhaps sharpest case that indicates both how SwLVE (and possibly MAE) and AAE dialects interact and how they still remain definably distinct. SwLVE speakers are also sensitive to the [+remote] aspectual feature of AAE. Why then does this property not emerge as easily in the case of *BIN went*, and why do we see a sharp difference between AAE and SwLVE children? Here we find that both groups show a sharp drop in the capacity to discern the distinction between past and remote past, but with AAE speakers (.52) doing almost twice as well as the SwLVE speakers (.27). Differences like these suggest that something in the mechanics of grammar is at work. The experimental contexts are very clear.

One of the most famous forms of "overgeneralization" in acquisition and in second language acquisition is double-tense marking, as in *did left* and *did broke*. These examples show that children and adults seek agreement relations in grammar. This result is notable in consideration of the *BIN* data precisely because children must reject agreement between two possible past markers and choose an aspectual interpretation of *BIN* linking it to remote past in order to interpret this construction correctly in AAE.

We approach this question through an idea that is part of the Aspect Hypothesis: It has been observed that children recognize aspectual properties as lexical items first, and then the aspectual interpretation of affixes agrees with the lexical one (e.g. *–ed* as telic occurs on inherently telic verbs). The acquisition path is marked by the hypothesis that semantic features are potential syntactic features. A mark of syntactic features is that they engage syntactic operations: either attract movement or show agreement. One natural possibility is that the agreement option is dropped precisely when children adopt a movement analysis for verbal elements, but this idea requires a scope much larger than this paper.

Our account depends upon a second hypothesis: that the past property of remote past is not a syntactic Tense feature but an entailment of the [+remote] aspectual property. It therefore reflects an interface with semantics, and crucially, it is not open to the syntactic operation of agreement. Now let us examine the lexical item *BIN* from both dialects. Children in the study interpret *BIN* as either a [+past] marker or a [+remote past] marker. Both AAE and SwLVE children in our study both have *been* and *BIN*. These are needed for (*have*) *been sick* and *BIN happy* [+remote], which is part of AAE but at least passively understood by SwLVE-speaking children. There are three options given the features of *BIN* and the following predicate:

1) where there is conflict, the result is ungrammaticality

2) where there is no conflict, compositional readings are available

3) where there is possible agreement, the speaker chooses between dialects, either [+past] or [+remote].

Consider the illustration with *BIN working* and *BIN went*:

BIN working

[+remote] [+stative] $\Rightarrow$ compositional reading

BIN went

[+past] [+past] $\Rightarrow$

or

[+remote] [+past]

If we assume that acquisition systems seek agreement, then in a context where both are possible (e.g., *BIN went*), a child will choose agreement. Where AAE children have fixed lexical properties, a well-defined further option, they will choose [+remote], or treat them on a par as options. Thus the SwLVE children do not have a secure definition of *BIN*, as do some AAE children, while others have fully acquired *BIN* and, therefore, reject the agreement option.

In sum we are able to delineate a path which utilizes the lexical part of the Aspect Hypothesis, the role of semantics in defining the end state of a refined aspectual system, and an interface between syntax and semantics to explain subtle steps, involving

agreement, in the acquisition process. By using the features [+habitual] [+stative], it is also possible to extend this system to account for some of the properties observed with aspectual *be*.

In this manner the feature system can explain some of the AAE data. It appears that the task of the child is to determine the feature composition or to build feature bundles for every node. Their derivation from semantics and participation in agreement indicate how the interface between semantics and syntax projects an acquisition path.

Semantic formulations of *BIN* and *be* might provide the technical descriptive means to explain why certain concepts are available more readily than others. This availability would allow apparently more complex forms, combining Aspect and Tense, as a single feature bundle. Future research may consider the results reported in this paper from a theory of feature bundles and their agreement on nodes. The theory would have the potential to create an adequate interface with the semantic discussion of eventualities and telicity. We know that remote past *BIN* and aspectual *be* can both carry habituality and interact with different predicate types. One question is whether we can capture some of the subtle differences such as the treatment of *BIN went* by the AAE- and SwLVE-speaking children within a feature bundles approach. We need more experimental results on such contrasts to determine whether a featural analysis can be extended to account for the emerging contrasts and variation in the AAE data.

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Table 1 Inventory of Participants by Age and Sex (*BIN* Experiment)

| Dialect	Younger Participants 3;6-4;7	Older Participants 4;8-5;7
AAE	N=15 median age 4;4 6 males, 9 female	N=27 median age 5;1 12 males, 15females
SwLVE	N=16 median age 4;3 8 males, 8 females	N=10 median age 5;2 6 males, 4 females

Figure 1 *BIN* Scenario: *Who BIN went to the store?*
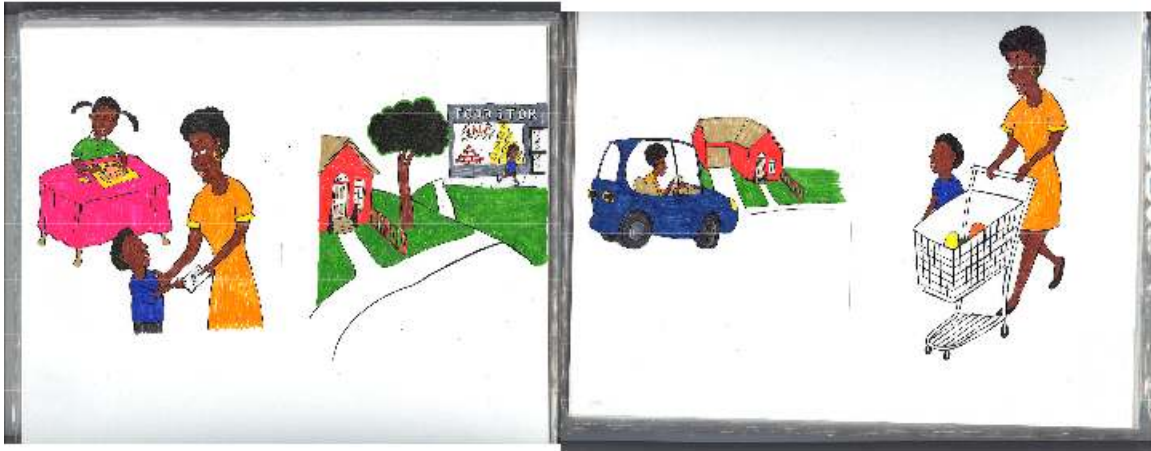
Bruce's mom asked him to go to the store because she needed some flour and chicken and vegetables to make a pie for dinner. So, Bruce left the house and went to the store for his mom. It was a nice day so he walked slowly through the park on the way to the store. Then Jenny went over to the neighbor's house. After both kids left, Mom realized that she also needed eggs. So, she told Dad that she will quickly go to the store, get the eggs and bring Bruce home with her. She picked up her purse and went out the door to go to the store.

Who BIN went to the store?

Figure 2 *BIN* Scenario: *Who BIN knowing how to climb trees?*
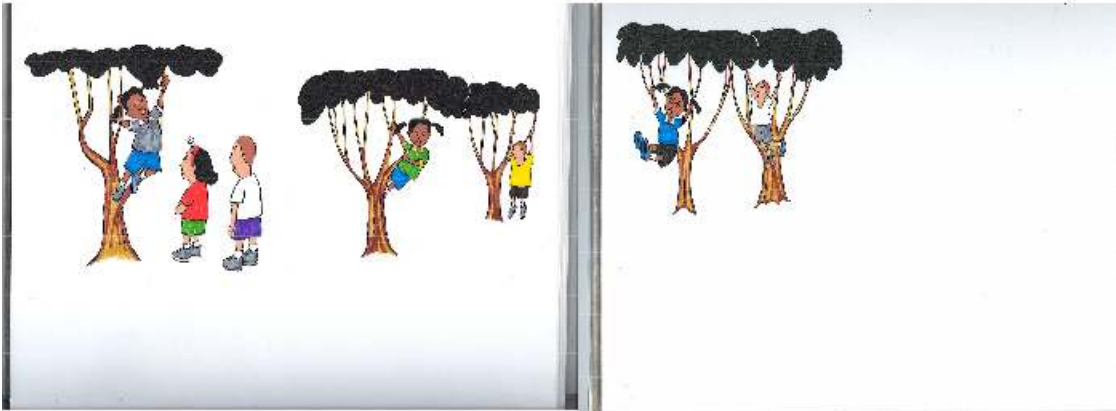
Jenny loves to climb trees. She has a favorite tree to climb at the park. Whenever she plays in the park with Faye and John, they always watch Jenny climbing the trees because they don't know how. But John really wants to be able to climb trees, so he tries and tries until he finally learns how. Now he and Jenny can climb trees together.

Who BIN knowing how to climb trees?

Table 2 *BIN* Scenarios

Scenario and Prompt	Gloss for Prompt
1. Bruce and Jenny's mom told them they could watch TV if they wash and dry the dishes after dinner. Jenny started washing dishes while Bruce went to put on his pajamas and brush his teeth. Then he came back to help Jenny dry the dishes. *Who BIN working at the kitchen sink?*	'Who has been working at the kitchen sink for a long time?'
2. Jenny just got a new box of colors and paper for Christmas because she loves to draw. Now she has two boxes. She has this new box—the box of colors and papers that she got for Christmas—and this old fish box that she always kept under her bed. She likes it so much. She likes it because she likes fish and it fits under her bed, so she keeps it there. But now, she needs to find a place for her new box of colors and paper. She decided to keep the new box under her bed, too, next to the fish box. *Which box BIN under the bed?*	'Which box has been under the bed for a long time?'
3. Bruce's mom asked him to go to the store because she needed some flour and chicken and vegetable to make dinner. So, Bruce left the house and went to the store for his mom. It was a nice day so he waked slowly through the park on the way to the store. Then Jenny went over to the neighbor's house. After both kids left, Mom realized that she also needed eggs. So, she told Dad that she will quickly go to the store, get the eggs and bring Bruce home with her. She picked up her purse and went out the door to go to the store. *Who BIN went to the store?*	'Who went to the store a long time ago?' (Story pictures are illustrated in Figure 1.)
5. Saturday is the day when Faye's mom works in the garden in the backyard. While Faye is still eating her breakfast, her mom is planting lettuce and tomatoes. After breakfast, Bruce comes over and they play on the back porch. In the afternoon, Bruce leaves and Faye goes to help her mother in the garden. *Who BIN in the garden?*	'Who has been in the garden for a long time?'

6. This story is about Faye and her mother. See Faye wearing shorts and tennis shoes and her mother wearing a dress and high heel shoes. Faye has a favorite comb that she uses for her hair in the mornings. She used it so much that one morning it broke. But she still used it even after it broke because it was her favorite. A couple of weeks later, her mom's comb broke. Now they each have a broken comb. *Who(se) comb BIN broke?*	'Whose comb has been broken for a long time?' or 'Whose comb broke a long time ago?'
7. Jenny loves to climb trees. She has favorite tree to climb at the park. Whenever she plays in the park with Faye and John, they always watch Jenny climbing trees because they don't know how. But John really wants to be able to climb trees, so he tries and tries until he finally learns how. Now he and Jenny can climb trees together. *Who BIN knowing how to climb trees?*	'Who has known how to climb trees for a long time?' (Story pictures are illustrated in Figure 2.)
8. See—here's John and his dad. John's dad is a policeman. He teaches new policemen like these what to do. Sometimes he tells John and Faye stories about being a policeman. Faye's big brother just finished police school so he is a new policeman. He rides around in the police car with John's dad. *Who BIN a policeman?*	'Who has been a policeman for a long time?

9. Faye and Jenny have a secret place they go to every week. It's up in a small tree in Faye's back yard. They go there to talk about secret things that adults won't know. Yesterday, they found a tree in the park with droopy branches that is a perfect place to hide and watch other kids in the park. Now they have two secret places, the tree in the backyard and the tree in the park. *Which tree BIN their secret place?*	'Which tree has been their secret place for a long time?'
10. There is an old man in town who fixes bikes. Many kids take their bikes to the old man to get them fixed. John broke his bike before and took it to the old man to fix. Then, John broke his bike again and told his older cousin Jeremy. His older cousin, Jeremy, learned how to fix bikes in school this week, so he said, "I can fix your bike for you, John." So John is letting Jeremy fix his bike this time. *Who BIN fixing bikes?*	'Who has been fixing bikes for a long time?'

Table 3 AAE-speaking Children's Proportion Correct by Following Predicate

BIN $_P$in	.94
BIN $_P$under	.86
BIN $_{V\text{-}ing}$working	.83
BIN $_{V\text{-}ing}$knowing	.81
BIN $_N$a policeman	.76
BIN $_{V\text{-}ed}$had	.71
BIN $_{V\text{-}ed}$broke	.69
BIN $_N$their secret place	.67
BIN $_{V\text{-}ing}$fixing	.55
BIN $_{V\text{-}ed}$went	.52

Table 4 AAE-Speaking Children's Proportion Correct by Predicate Type

BIN PP	.90
BIN V-*ing*	.73
BIN NP	.71
BIN V-*ed*	.64
Overall	**.74**

Table 5 SwLVE-speaking Children's Proportion Correct by Following Predicate

BIN $_p$under	.96
BIN $_p$in	.88
BIN $_{V\text{-}ing}$fixing	.65
BIN $_{V\text{-}ing}$working	.65
BIN $_{V\text{-}ing}$knowing	.65
BIN $_N$a policeman	.62
BIN $_N$their secret place	.58
BIN $_{V\text{-}ed}$broke	.54
BIN $_{V\text{-}ed}$had	.54
BIN $_{V\text{-}ed}$went	.27

Table 6 SwLVE-Speaking Children's Proportion Correct by Predicate Type

BIN PP	.92
BIN V-*ing*	.65
BIN NP	.60
BIN V-*ed*	.45
Overall	**.66**

Table 7 Inventory of Participants by Age and Sex (Novel Characters Experiment)

Dialect	Younger Participants (4;3-4;8)	Older Participants (4;11-5;7)
AAE	N=9 median age 4;5 6 males, 3 females	N=16 median age 5;2 6 male, 10 females
SwLVE	N=4 median age 4;7 2 males, 2 females	N=9 median age 5;0 4 males, 5 females

Table 8 Aspectual *Be* Novel Characters Scenarios

Scenario and Prompt	Gloss for Prompt
1. Jenny, Bruce, and Faye know how to swim. Jenny loves to swim. She goes to the neighborhood pool three times a week. She'll be on the swim team one day. Bruce swims but only on 4th of July when his family takes him to the beach. Bruce doesn't swim at the neighborhood pool. Faye can swim but she doesn't like to. But today she is at the neighborhood pool because her cousin is in town and wants to be there. Jenny doesn't swim with Faye and her cousin because Jenny's ankle is broken. *Who be swimming in the neighborhood pool?*	'Who generally swims in the neighborhood pool?'
2. At lunchtime, all the kids eat together. Bruce always has turkey sandwiches because he loves turkey. He had turkey sandwiches last week and this week. Jenny likes peanut butter and jelly or ham and cheese. She doesn't eat turkey for lunch. Faye likes everything. She sometimes has a cheese sandwich. Today, Faye has a turkey sandwich but Bruce doesn't. He has soup. *Who be having turkey sandwiches for lunch?*	'Who generally eats turkey sandwiches for lunch?'
3. Bruce keeps a train set next to his bed so he can play with it whenever he wants. It's the only place in his bedroom that the train set fits. Sometimes Faye plays with him. Sometimes all the kids play with him and the train set next to the bed. But, today, Bruce had to clean his room, so the train set is on the back porch. *Where does the train set be?*	'Usually, where is the train set?'
4. Faye likes to ride her bike to school. She rides her bike to school almost everyday. Yesterday, she had to walk to school because her bike was broken. Faye gets to ride to school because her aunt Peggy wants to show Faye her new car. *How does Faye be getting to school?*	'How does Faye normally get to school?' (Story pictures are illustrated in Figure 3.)

5. Bruce has a box of toys he keeps in the garage. If there is no car in the garage, he plays with the box of toys there. Sometimes John comes over and he and Bruce play with the toys from the box in the garage. But, today, Bruce has to move his box of toys to the porch because he is keeping a box of John's baseball stuff in the garage. *What box be in the garage*?	'Which box is usually in the garage? (Story pictures are illustrated in Figure 4).
6. Jenny and her sister Haley like to play hide and seek. The first time Haley played, she hid on the back porch, but it was too easy for Jenny to find her so she doesn't hide there anymore. Now, most of the time Haley hides behind the couch. All last week Haley hid behind the couch. Today, she is hiding in the bathroom closet. *Where does Jenny's sister Haley be hiding*?	'Where does Jenny's sister Haley generally hide?'

Figure 3 Novel Characters Scenario: *How does Faye be getting to school?*

Faye likes to ride her bike to school. She rides her bike to school almost everyday. Yesterday, she had to walk to school because her bike was broken. Today, Faye gets a ride to school because her Aunt Peggy wants to show Faye her new car.

How does Faye be getting to school?

Figure 4 Novel Characters Scenario: *What box be in the garage?*

Bruce has box of toys he keeps in the garage. If there is no car in the garage, he plays with the box of toys there. Sometimes, John comes over and he and John play with the toys from the box in the garage. But, today, Bruce has to move his box of toys to the porch because he is keeping a box of John's baseball stuff in the garage.

What box be in the garage?

Table 9 AAE-speaking Children's Proportion Correct by Following Predicate

1. be in the garage	.72
2. be hiding	.60
3. be having turkey sandwiches for lunch	.56
4. be getting to school	.56
5. be swimming in the neighborhood pool	.48
6. where train set be	.48

Table 10 AAE-speaking Children's Proportion Correct by Predicate Type

| be V-*ing* | .55 |
| be Prep/Adv | .60 |

Table 11 SwLVE-speaking Children's Proportion Correct by Following Predicate

1. be getting to school	.39
2. be swimming in the neighborhood pool	.31
3. be hiding	.31
4. be in the garage	.31
5. be having turkey sandwiches for lunch	.23
6. where train set be	.15

Table 12 SwLVE-speaking Children's Proportion Correct by Predicate Type

be V-*ing*	.31
be Prep/Adv	.23