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The Syntax of Questions and Variation in Adult and Child African American English

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The Syntax of Questions and Variation in Adult and Child African American English

by

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Dissertation

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

Doctor of Philosophy

The University of Texas at Austin

May 2012

Dedication

This dissertation is dedicated to the memory of the most formidable of prescriptivists, Dorothy Elliott Hopkins, whom I was lucky to have as a grandmother. I look forward to having a spirited argument over the legitimacy of ‘lay’ as an intransitive verb the next time we meet.

Acknowledgements

I am grateful to many who have helped me over the years. First and foremost, I owe great thanks to my co-chairs. I give endless gratitude to Richard Meier for ongoing encouragement, feedback, and support these last four years. You are a true mensch. I am indebted to Lisa Green for continued mentoring despite the obstacle of distance, and for gentle redirecting.

Much thanks to the other members of my committee, Colin Bannard, Mary Blockley, John Beavers, and Lars Hinrichs, for their time and feedback. Thanks to Colin Bannard for invaluable mentoring and patience, especially in all things statistical. Thanks to Mary Blockley for always inspiring me to keep my eyes on the larger picture of historical English morphology and syntax. Thanks to John for helping me tease out what is important and what is essential. Last, but not least, endless gratitude to Lars Hinrichs for endless discussions on the nature of language variation, and for having faith in me. I count myself lucky to count you as a mentor and a friend.

I was honored to have Carlota Smith as co-chair of my committee prior to her passing away in 2007. I continue to be inspired by her wit, wisdom, and inimitable panache.

I would never have finished the program with my sanity and sense of humor intact without the most excellent companionship of my comrades-in-arms: Douglas Bigham, Nicole Seifert, Cynthia Hansen, Lynda Boudreault, Aaron Shield, Kate Shaw Points

Sarah Wagner, Justin McIntosh, Heeyoung Lyu, and Gayatri Rao. Doug and Nikki, thanks for being the best friends a gal could have during those first two terrifying years. It was a riot. Cynthia, our friendship and collaboration brought me to a deeper understanding of the dialectic, whether we were talking word-order variation, oddball religious sects, or feminist revolutions. You truly are Cyntastic.

I am especially thankful to the teachers, administrators, and parents at the International School of Louisiana for allowing me to collect data from some of the brightest and most hilarious children I have ever met. If these children are the future of New Orleans, then the city is in good hands.

Leslie Crooks, Benjamin Rapstine, and Jessica Cochran—how many times did I come for help coordinating travel or funds only to get caught in an interesting conversation? I am so glad to have been at the mercy of people whom I could call friends.

Thanks to my parents—Lydia Hopkins, Patrick Rogan, and Roger White—for the encouragement and love through the years. Thank you to my family—Sims, Ama, Alcena, Davis, Tara, and Ben—for humoring me while I geeked out on language. Special thanks to my sister and best friend, Amanda, for feeding me soup, literally and figuratively.

Thank you to my daughters—Lucero, Rosalía, and Magdalena—for inspiring me to keep on keepin' on. You three are my greatest joy. Finally, thank you to my husband, Agapito, for all of it; but especially for reminding me that pea soup exists, and indeed--it's tasty.

This research was made possible by a National Science Foundation Dissertation Research Improvement Grant and a University of Texas at Austin Continuing Fellowship.

The Syntax of Questions and Variation in Adult and Child African American English

Publication No._____

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The University of Texas at Austin, 2012

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This dissertation is the first in-depth examination of the syntax of questions and question variation in African American English (AAE). Question syntax in AAE can vary among subject-auxiliary inversion (e.g., *What did you eat?*), non-inversion (e.g., *Why I can't play?*), and auxiliary-less questions (e.g., *What he said?*). Historically, AAE question syntax, when considered at all, has been dismissed as essentially identical to mainstream English. Thus, commentary on AAE question syntax is limited to observing that auxiliaries may "delete" in auxiliary-less questions, and that subject-auxiliary inversion may be "absent" in non-inverted questions. In other words, question syntax in AAE has generally been represented as a derivation or deviation from mainstream English.

In the first half of this thesis I provide a syntactic analysis of the three question types, and I argue that question variation in AAE—in contrast to question variation in MAE—is the product of true syntactic variation. I show that 1) auxiliary-less questions are not necessarily cases of deletion, but are rather generated by AAE-specific parametric settings that—due to a lack of covert movement— never call upon an auxiliary, and 2) variation among different question types is tightly constrained and predicted by grammatical factors, such as negation, auxiliary verb-type, and tense.

In the second half of this thesis, I examine question patterns among AAE-speaking children based on a corpus of over 50 hours of elicited and spontaneous speech data from more than 80 AAE- and mainstream English-speaking children (ages 5-7) in a New Orleans elementary school. My analysis of these data show the following: 1) by age 5, child speakers of AAE already follow the same grammatical patterns constraining question variation that are documented in adult AAE, 2) variation is inherent to the syntax of AAE questions, and not an artifact of dialect-switching or social variation, and 3) the patterns in the children's data support the analysis of AAE question syntax presented in the first half of this thesis.

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Chapter 1: Introduction

This dissertation examines the syntax of questions and question variation in African American English (AAE), a topic that has largely gone unexplored in either the literature on question syntax or the literature on AAE. Question variation in AAE offers an important opportunity to examine the nature of syntactic variation, the location of syntactic variation in an individual system, and the development of syntactic variation in child language. As Boersma and Hayes (2001) and Aissen (1999) point out, variation within an individual speaker's grammar (i.e., within-speaker variation) is subject to markedness constraints similar to those that have been documented cross-linguistically. Bresnan, Dingare, and Manning (2001) write that "soft constraints mirror hard constraints," by which the authors mean that linguistic choices in a language that exhibits within-speaker variation in a certain feature mirror categorical features in other languages. For example, some languages may vary between null pronominal subjects and overtly expressed pronominal subjects, while others use overtly expressed pronominal subjects (near-)categorically (see Givón 1979). Such constraints have also been found to obtain in acquisition (Lust 2006). Recent work in dialectology has noted that variation across dialects within a single language recapitulates typological variation (e.g., Kortmann 2004; Szmrecsanyi & Kortmann 2009). Roeper & Green (2007: 2) summarize this notion from a nativist perspective: "By hypothesis, all variation must occur within

the boundaries of UG [Universal Grammar]." These observations taken together are well summarized by the following:

> "[I]t is expected that variable outputs across dialects and within individual speakers should be constrained by the same kinds of typological generalizations that are found cross-linguistically.... Both dialectal variation and individual variation sample the typological space of possible grammars."
>
> (Bresnan, Deo, & Sharma 2007: 302)

This dissertation analyzes within-speaker question variation in AAE as an alternation between different settings within the grammar, and it demonstrates that differences and similarities between AAE question patterns and question patterns in other dialects of English result from overlapping and distinct settings within a universal and finite group of settings. By studying questions in AAE, this dissertation fills a major gap in AAE research and sheds light on the limits of language variation.

1.1 THE ISSUE

Questions in AAE are ideal for the study of morpho-syntactic variation, because AAE questions vary on two levels. AAE questions vary morphologically between an expressed and unexpressed auxiliary, and, when an auxiliary is expressed, they vary syntactically between subject auxiliary inversion and non-inversion. Henceforth, the two

expressed auxiliary forms and the unexpressed auxiliary form will be referred to as SAI (+auxiliary/+inversion), Non-Inv (+auxiliary/-inversion), and ØAux (-auxiliary).[1]

<u>*Yes/No* questions</u>

1. Do you want to read my book? *SAI*

   WHWORD.AUX.SUBJ

2. You saw my book? *ØAux*

   WHWORD. SUBJ

3. You can see my book? *Non-Inv*

   WHWORD.SUBJ .AUX

   (Green 2007)

<u>*Wh*-questions</u>

4. What did you say? *SAI*

   WHWORD.AUX.SUBJ

5. What he said? *ØAux*

   WHWORD. SUBJ

6. How she was doing when you saw her? *Non-Inv*

   WHWORD.SUBJ .AUX

   (Green 2007: 89)

[1] Question variation among these forms has existed in AAE since at least the 19th century, based on evidence from recordings of ex-slave narratives (Bailey, Maynor, & Cukor-Avila 1991). Thus, question variation is in some sense stable, even if eventually one form will become categorical, as often occurs in syntactic change (Henry 2002; Kroch 1994).

The following schema represents variation among the three forms.[2]

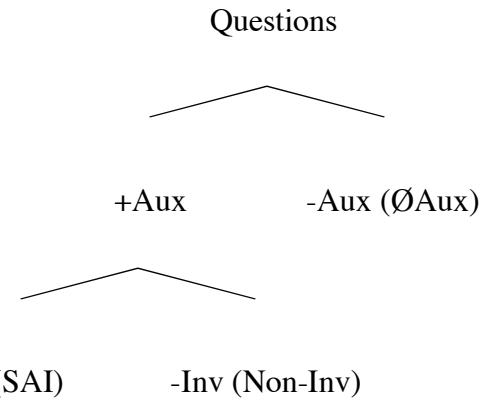

Figure 1. Question variation schema

Differences between the syntax of questions and question variation in AAE and mainstream American English (MAE) have been dismissed on the assumption that either AAE question syntax is essentially the same as MAE question syntax (Martin & Wolfram 2003; Holm 1991), or that AAE questions are syntactically derived from MAE questions (Labov et al. 1968; Van Herk 2000). However, clear qualitative differences such as Non-Inv in *wh*-questions (ex. 6) and ØAux *wh*-questions, in which tense is marked on the main verb (ex. 5), challenge the notion that traditional analyses of MAE questions syntax as they stand are adequate in accounting for all types of AAE questions.

[2] I will revise this schema in chapter 5 based on a deeper analysis, but this schema serves to help visualize the variation.

Furthermore, there are cases of Non-Inv in *yes/no* questions that are pragmatically different from Non-Inv in MAE *yes/no* questions. In MAE, the following example gives rise to an interpretation in which the speaker is requesting clarification or disbelief, whereas in AAE it can also be used as a non-biased request for information, given the right prosody.

7. You can see my book?

   'Can you see my book?' (Green 2007: 85)

Yes/no questions in AAE are also different from MAE questions prosodically. Whereas, MAE *yes/no* questions generally end with a rising intonation (Quirk 1985), AAE *yes/no* questions can end with a level or falling intonation (Foreman 1999; Foreman 2000; Green 1990; Green 2011).

These differences between questions in AAE and MAE are evident in the earliest language produced by children, both during early acquisition (i.e., 3-5) and in later childhood. For example, Green (2007: 96) reports finding the following question types among 3-5 year olds.

8. And who this is? (4;5) *Non-Inv*

   'And who is this?'

9. What they said on my phone? (4) *ØAux*

'What did they say on my phone?'

Washington and Craig (2002: 221) also report these question types in elementary AAE speakers.

10. Where the french fries are going? *Non-Inv*

'Where are the french fries going?'

As I report in this dissertation, comparisons of elicited questions in MAE and AAE underscore the differences between the two varieties.

To date, published work that has been devoted specifically to analyzing the syntax of questions in contemporary AAE has been virtually non-existent. Typically, discussions have been tangential to more general descriptions of AAE (Labov et al. 1968). The lack of research on the syntax of questions in adult AAE is mirrored by the scant research on question acquisition in AAE or question variation in elementary-aged speakers of AAE (cf. Craig & Washington 2006). There are three notable exceptions. As part of a larger discussion on incorporating syntactic variation into sociolinguistics, Green (2007) notes important differences between question syntax in AAE and question syntax in MAE, and she suggests that syntactic theory can account for these differences. Green (2011) also analyzes the acquisition of questions among AAE speakers, ages 3-5, in her study of the acquisition of AAE. Finally, Van Herk (2000) analyzes Non-Inv in questions produced

by speakers in the African American Diaspora and questions produced in ex-slave narrative recordings in an attempt to reconstruct patterns of Non-Inv in earlier AAE.

Not only is the dearth of research on AAE questions a detriment for understanding the nature of AAE, it is also notable because questions have been an important testing ground for issues in linguistic theory and studies in language acquisition, such as movement, constituency, cross-linguistic universals, and generative nativist vs. functionalist usage-based accounts of the nature of language.

Moreover, question variation is common across the world's languages, including in French, Norwegian, and Yoruba. A greater understanding of question variation will improve our understanding of the nature of language variation more generally.

1.2 DEFINING LANGUAGE VARIATION

The term "variation" means different things to different language researchers. Because this dissertation analyzes different types of variation, it is important to clearly define each type.

Historically, generative linguistics and functional typology have tended to focus on variation across languages—that is, **cross-linguistic variation** (Smolensky & Prince 1993; Comrie 1989), though the objectives of different frameworks have been at times orthogonal to each other. Generativists have strived to articulate a finite set of language-specific parameters that are universal and innate to all humans; these parameters constitute a Universal Grammar (UG). The view that UG is innate has been termed

"nativism." Typology, on the other hand, has focused on documenting the diversity of grammatical forms found across vastly different languages. Typology also endeavors to define certain universals across languages, but rather than ascribing those universals to an innate language capacity, typology more often ascribes universals to functional socio-cognitive mechanisms. This dissertation addresses question syntax in relation to cross-linguistic variation within a generative framework, though the generalizations can easily be adapted to functional models of variation.

Until recently, analysis of variation within a single language has been almost exclusively under the purview of sociolinguistics and dialectology. **Cross-dialectal variation**—that is, variation among mutually intelligible varieties of the same language—enjoyed a long tradition of study in dialectology dating back to the 19th century. Early dialectology dealt primarily with regional dialectal variation, though starting in the 1960s AAE became the first ethnically-defined dialect to be studied from the perspective of socially and ethnically defined cross-dialectal variation (Labov 1969a; Wolfram 1969; Stewart, Baratz-Snowden, & Shuy 1973; Dillard 1972). The same issues that arise for cross-linguistic variation arise for cross-dialectal variation, though the differences may be fewer among dialects.

Starting in the 1960s, and especially following Weinreich, Labov, and Herzog (1968), sociolinguists have also taken **within-speaker variation**—that is, variation within an individual's grammar—to be a fundamental aspect of language study. Within-speaker variation (often referred to as individual variation or intra-speaker variation) is woven throughout the discussions of question variation in AAE and can refer to phonetic,

morphological, or syntactic variation between semantically or referentially identical or near-identical forms. Analogous to within-speaker variation is the notion of **inherent variation** or **true variation**. The main difference between these terms from within-speaker variation is simply the arenas in which they are used. Whereas sociolinguistics and language acquisition prefer the term "within-speaker variation," syntactic theory tends to prefer the terms "inherent variation" or "true variation" (cf. Barbiers 2009).

Weinreich et al. (1968: 167) propose an even more fine-grained notion of within-speaker variation, which they call **intimate variation**. Intimate variation refers to variation within a clause or other relatively small unit of discourse.

Finally, **developmental variation** refers to the variation associated with child language development. Language development has been an important testing ground for generative and functional models of language. The main source of evidence lies in how developmental variation is interpreted. Specifically, does variation in early child language support a nativist and, by extension, generative, view of language; or does such variation support a constructivist and, by extension, functional, position? This dissertation deals with issues surrounding developmental variation mainly as it pertains to within-speaker variation. A challenge for any study of within-speaker variation is determining what distinguishes it from developmental variation as children move from early first language acquisition to adult competence. This issue will be addressed in analyses of questions in child AAE.

1.3 APPROACHES TO THE STUDY OF WITHIN-SPEAKER VARIATION

Although this dissertation examines all of the aforementioned types of language variation, within-speaker variation is the main focus. Below I provide a brief overview of how within-speaker variation has been studied historically.

As noted in the previous section, within-speaker variation has been under the purview of sociolinguists, specifically quantitative sociolinguistics. Quantitative sociolinguistics developed as a research program centered on the statistical analysis of variation (Sankoff & Labov 1979). The focus of the statistical analysis is calculating the probability of one variant occurring in a given context over another variant. Although grammatical environments are considered, the discipline has often emphasized the conditioning factors of social variables associated with the speaker (e.g., class, race, & socio-economic status). An important aspect of quantitative sociolinguistics is that it treats variation as part of grammar; variation is associated with probabilities, where the probabilities are transmitted to language learners along with structures. Support for this view comes from studies of child language that have shown that children use variants with probabilities similar to the probabilities associated with their caretakers (Washington & Craig 2002a; Henry 2002; Valian 1991a). Variable rule analysis has been used to argue that differences among varieties of English lie mainly in the probability indices associated with the occurrence of a feature (Wolfram & Schilling-Estes 2006).

Variationist sociolinguistics has tended to investigate phonological variation rather than syntactic or morphological variation. Lavandera (1978) points out that social

and stylistic significance can be directly correlated to allophonic variation because phones are not inherently referential. Morphemes, lexemes, and syntactic constructions, on the other hand, are mapped to meaning; thus morphological, lexical, and syntactic variants are arguably not equivalent. On these grounds, Labov (1972: 177) rejected the study of syntactic variation as the study of a sociolinguistic variable. [3]

Beginning in the 1990s, linguists within generative syntax began incorporating within-speaker variation and cross-dialectal variation into models of grammar. An early model of within-speaker (morpho-)syntactic variation was presented by the notion of **multiple** or **competing grammars** (Kroch 1994). Multiple forms associated with different parametric settings in the syntax exist unstably until one "wins out" over time in accordance with the dictates of surrounding grammatical—and to a lesser extent, social—constraints. A prediction of this model is that when a speaker is using a form associated with one of the grammars, other forms within the grammar will be used. An oft-cited example is word-order shift in questions and negation in Early Modern English. Kroch (1989) argues that the parametric shift in English in which main verbs ceased to raise not only led to a word order difference in questions, but it also entailed a change in the syntax of negation (from post-verbal *not* to *do*-support).

An alternative view to the multiple grammars hypothesis comes from the Minimalist Program (Chomsky 1995). Under Minimalism, optionality is built into the architecture of a single language grammar, and variation is at the lexical level. Different

[3] This sentiment has been echoed more recently within generative linguistics (Barbiers 2009), wherein the label "syntactic variation" is restricted to variation between constructions that are semantically equivalent.

lexical items have different feature strengths that will correspond to morph-syntactic variation among individual speakers (Adger & Smith 2005). Although these models differ in specifics, a common assumption is that speakers possess a single grammar, and features that vary are specified as optional in the grammar. Furthermore, what these models have in common is that frequencies and social factors are outside of the language module proper, though they do interface with the language module.

Within-speaker and cross-dialectal syntactic variation have also been accounted for in Optimality Theory (OT; Smolensky & Prince 1993). Although OT is most commonly applied to phonology, researchers have analyzed variation as the result of different constraint rankings in a speaker's grammar. Specifically, Stochastic Optimality Theory (Boersma & Hayes 2001) treats within-speaker variation as constrained by the same considerations that constrain cross-linguistic variation (i.e., economic considerations that affect production vs. contrastive value that tends to maintain differentiation). This approach underscores the relationships among different types of variation as all occurring within a typologically delimited space. Stochastic OT also incorporates probabilities into the constraint rankings. In a sense, Stochastic OT combines many of the insights of variationist sociolinguistics, typology, and generative syntax, and has been applied to cross-dialectal and within-speaker variation in English dialects (Bresnan & Deo 2001; Bresnan, Deo, & Sharma 2007).

The issue of within-speaker variation has been integral to the study of AAE since the 1960s. In fact, one may wonder if within-speaker variation in AAE has been overstated. That is, does AAE exhibit any greater degree of within-speaker variation than

other dialects or languages? One of the more widely-cited insights of Weinreich et al. (1968) was the observation that all natural languages are inherently heterogeneous, and that heterogeneity is ordered and therefore analyzable. In the following section, I give an overview of approaches to the study of AAE and within-speaker variation, and discuss the emphasis on within-speaker variation.

1.4 Approaches to the study of AAE

Broadly speaking, approaches to the study of AAE and within-speaker variation in AAE have fallen into one of two approaches, which I label the **autonomous system** approach and the **diglossic** approach. The autonomous system approach tends to align with generative theoretical frameworks and the diglossic approach tends to align with sociolinguistic theoretical frameworks.

1.4.1 Autonomous system approach

The autonomous system approach treats AAE as a self-contained system whose rules and patterns can be described irrespective of other varieties of English. This view is reflective of the Sausseurian/Chomskyan model of synchronic grammar, wherein a speaker's language is not only internally coherent and systematic, but where the language can also be analyzed without respect to diachronic processes, social motivations, or

contact with other varieties. The autonomous system approach focuses on describing the formal and language-internal features of AAE, such as phonology, morphology, syntax, and semantics, rather than the social, historical, or anthropological aspects of the variety. Historically, researchers of English syntax and semantics in the formal tradition have ignored AAE and other non-mainstream English varieties, focusing rather on national standard languages.

By the same token, researchers of AAE have rarely adopted an autonomous system approach to the study of AAE. This gap is not due to any dearth in linguistic research on AAE; between 1965 and 1995, there had been five times as much research published on AAE than any on other non-mainstream English dialect (Wolfram 2001). However, the bulk of research on AAE has been sociolinguistic. There are several notable exceptions to this trend. Examples of the autonomous systems approach include work from the generative Principles and Parameters/Minimalist perspective (e.g., Green 2002; Roeper & Green 2007; White-Sustaíta 2010), and from Optimality Theory (e.g., Sells, Rickford, & Wasow 1996). Green's work examines micro-parametric cross-dialectal differences between AAE and other varieties of English to account for patterns of tense and aspect. For example, Green (1998) posits an overtly realized Aspectual Phrase to account for the distributional patterns of aspectual markers in AAE, such as habitual *be* and remote past *BIN*. Sells et al. (1996) argue that within-speaker variation in word order differences in Negative Inversion and un-inverted negative declaratives in AAE are the result of different constraint rankings (e.g., *Don't nobody know the truth*. vs. *Nobody don't know the truth*.). White-Sustaíta (2010) argues that within-speaker

variation between Negative Inversion and non-inversion in AAE is motivated by differences in the information structure and syntactic feature strength corresponding to the two different word orders.

These formal approaches to within-speaker variation in AAE fit into the growing body of work on cross-dialectal and within-speaker syntactic variation in European dialects (Haegeman & Zanuttini 1991; Rizzi 1997) and British dialects (Adger & Smith 2005; Henry 1995). The work in North America is also expanding to including other American dialects, such as Appalachian English (Tortora 2006).

1.4.2 Diglossic approach

The diglossic approach to AAE tends to focus on how AAE interacts with—and is influenced by—neighboring language systems (e.g., MAE and varieties of Southern White English). The diglossic approach often treats within-speaker variation as a function of dialect-shifting and parallels research on types of variation between languages in diglossia, including: code-switching among bilingual speakers (e.g., Myers-Scotton 1997), code-shifting along the Jamaican Creole-Jamaican English continuum (e.g., DeCamp 1971), and code-shifting between high and low varieties of language such as Standard and Levantine Arabic (e.g., Fishman 1967). Although diglossic approaches to AAE do describe linguistic features, the focus tends to be on social, stylistic, and anthropological aspects of the variety and of language use. Moreover, the diglossic

approach emphasizes defining AAE in relationship to other dialects of English, both currently and historically, rather than analyzing AAE cross-linguistically.

Following the model of a creole continuum, DeCamp (1971), DeBose (1992), Terrell and Terrell (1993) and others have suggested that speakers of AAE move along a continuum between AAE and MAE, and that variation represents a kind of code-switching between the two dialects. Code-switching results in variation between forms associated with MAE (e.g., overtly expressed copula *be*), and forms associated with AAE (e.g., Ø *be*). The frequency with which speakers use AAE or MAE features depends on their social status and the degree to which they are influenced by patterns from MAE. Under this code-switching model, it could be suggested that when AAE speakers use multiple negative elements (e.g., *I don't want no bike*.) they are speaking at the AAE end of the continuum, and when they use a single negative element (e.g., *I don't want a bike*.), they are speaking at the MAE end of the continuum (Bailey 1965).

Labov (1998) proposes a somewhat different view of AAE, arguing against code-switching between two fully fledged grammars. Instead, Labov suggests that AAE comprises two co-existent systems, one of which is a General English component that serves the primary grammatical function, and another of which is an African American component that is optional and "specialized to develop...semantics of social interaction" (147).

There has also been a great deal of attention paid to within-speaker variation as evidence of the origins of AAE. In particular, arguments have been waged over whether AAE originated as a creole language (Dillard 1972; Rickford 1998) or arose as a second

language learned by speakers of West African languages from speakers of British, Irish, and Colonial American English (Poplack 2000). From the creolist perspective, within-speaker variation among morpho-syntactic forms in AAE can be analyzed as the result of ongoing decreolization. For example, variation between zero copula *be* and overtly expressed copula *be* has been analyzed as being similar to overt and covert copula use in creole languages (Rickford 1998). The decreolization theory views grammatical constraints on copula use in creoles as having been inherited from West African substratum languages, which, like many languages, use certain copulas for predicates, and others for locatives (McWhorter 1999). From the Anglicist perspective (Walker 2000), early AAE acquired copula *be* from English dialects, and the variable realization in AAE is not unique, but a feature of other varieties of English. The higher degree to which copula *be* is omitted in AAE is argued to be a recent innovation.

In order to buttress their arguments, both sides of the origins debate analyze the constraint hierarchies between a chosen variable's occurrence in AAE and its occurrence in the variety to which they are comparing AAE. For example, Rickford et al. (1988) argue that the likelihood that copula *be* will be omitted in AAE increases in certain contexts (e.g., prior to a pronominal form rather than a full NP). In Rickford et al's view, the tendency that copula *be* will be omitted parallels patterns in creole languages. In an analysis of question forms in AAE, Van Herk (2000) argues that the constraints increasing the probability of a non-inverted question parallel the constraints on the rise of *do*-support in Early Modern English questions. In both cases, the authors argue that AAE

has inherited the constraint hierarchies from the antecedent language (i.e., Plantation Creole or Early Modern English).

However, it may be argued that constraint hierarchies on variable forms may do less to prove a feature's origins in one variety or another than they do to underscore cross-linguistic typological tendencies. As Winford (1997) has pointed out, many characteristics of creolized languages are also characteristics of second language acquisition, and vice versa. Therefore, the linguistic evidence may not always be proof of one theory over another. Winford also points out that socio-historical evidence points to a diverse set of circumstances in the early American South, some of which may have been conducive to creolization and some of which would have more likely resulted in second language acquisition. Thus, it is possible that AAE's origins are due to a combination of creolization and second language acquisition.

1.4.3 Theoretical approach of this dissertation

The overwhelming majority of work on AAE has been conducted from the diglossic approach. An important insight from research in this tradition is that AAE does not exist in a vacuum, and that many speakers are surrounded by other varieties of English. However, the almost exclusive adherence to the diglossic approach has meant that detailed synchronic studies of AAE as a linguistic system manifesting language universals lag behind studies of other language varieties. Although work on the social and stylistic aspects of AAE is abundant, descriptions of the language-internal patterns of

AAE tend to rely on formal research on MAE, and differences between AAE and MAE are framed as transformational derivations from an underlying MAE grammar. A classic example is Labov's (1969a) analysis of copula deletion in AAE, which is predicated on the notion that AAE deletes a copula wherever MAE can contract a copula. Apart from the fact that this notion is descriptively inaccurate (see chapter 2 for discussion), it lacks explanatory power for understanding AAE or for understanding cross-linguistic properties of the copula. Further, even if the linguistic factors that give rise to contraction in MAE and copula absence in AAE are similar, the patterns in MAE do not explain how the patterns in AAE relate to other grammatical facts of AAE. Ideally, the similarities between the two varieties should provide insight into the morpho-syntax of copula predication cross-linguistically.

This dissertation addresses within-speaker variation in AAE from both an autonomous system perspective and diglossic perspective. A major goal of this dissertation is to understand how within-speaker variation in AAE recapitulates language universal parameters of question formation. At the same time, a goal of this dissertation is to relate how within-speaker variation in AAE relates to cross-dialectal variation within English. Crucially, I will demonstrate that, although patterns overlap in MAE and AAE, within-speaker question variation in AAE is internally coherent. In other words, I demonstrate that AAE speakers are not deriving question forms from MAE, although shared rules account for overlapping patterns.

Over the last decade, many linguists have advocated for greater integration of formal and functional approaches to the study of language (e.g., Henry 2002). Many

syntacticians—once accused of being "arm-chair" linguists relying solely on personal grammaticality judgments to craft arguments—have begun taking lessons from typologists and are now incorporating more empirical methods into their data analysis (Bresnan 2007). These methods include analyzing corpora of online data, collecting data from sociolinguistic interviews, or gathering grammaticality judgments from several speakers. The use of empirical data demonstrates variation in the use of forms and in grammaticality judgments, leading to an integration of variation into syntactic theory.

Conversely, more recent work in Variationist Sociolinguistics has incorporated syntactic theory into models of language change and variation to show how probabilities may be associated with changing syntactic parameters (e.g., Henry 2002; Kroch 1989). One of the first steps many quantitative sociolinguists take in setting up their experiments is to define the **variable context** or **envelope of variation**. That is, which features actually vary, and what are the constraints on that variation? Do the variable forms have the same meaning? Defining the variable context is especially important if one is researching social or stylistic variation among forms. However, if two forms are grammatically constrained, such that one form is permitted in one grammatical context and the other form is permitted in the other grammatical context, a social or stylistic analysis may not be appropriate.

This dissertation does not endeavor to prove the theoretical superiority of any single framework, but rather to discuss the phenomenon of question variation in AAE in the most lucid terms possible, and in terms most appropriate for the aspect of question variation under discussion. John Goldsmith describes the convergence of formal

linguistics and quantitative linguistics as the "new empiricism" (Goldsmith 2007). Following this course, chapters 2 and 3 analyze attested distributional patterns of questions in AAE through the lens of theoretical syntax, whereas chapter 5 analyzes large amount of child data quantitatively.

1.5 GOALS

In this dissertation, I aim to accomplish two overarching goals. One goal is toprovide a theoretical analysis of the syntax of questions and variation in AAE based on the distribution of grammatical elements system-internally, and based on cross-dialectal comparisons of distributional patterns. Another goal is to examine question production in child AAE in order to describe normal patterns of AAE development, to articulate differences between questions in child AAE and child MAE, and to test predictions about the nature of variation in AAE and how inherent variation influences developmental patterns.

On the basis of my analysis I answer the following questions about the system-internal coherence of AAE and the relationship between question variation in AAE and language variation more broadly:

- What constrains question variation in AAE?
- How do those constraints map to language universal patterns?
- What can question variation in AAE say about language variation more generally?

- When do children acquire the grammar of questions in AAE?
- What are the effects of variation on the acquisition of AAE?
- How early do differences emerge between AAE and MAE in the syntax of questions?

1.6 NOMENCLATURE

1.6.1 African American English

AAE has been referred to by various names, including: Negro English, Black English Vernacular, Black English, Ebonics, African American Vernacular English, African American English, and African American Language (Green 2002). The last three are most commonly used in contemporary research. In this dissertation I will mainly use African American English, rather than African American Language or African American Vernacular English, to refer to the language variety that developed over the last three centuries among African American speakers, and which—through social segregation and isolation or through unique origins—has a number of distinct phonological, semantic, syntactic, prosodic, and discursive patterns (cf. Green 2002; Labov et al. 1968).

Until recently, the term African American Vernacular English was often used synonymously with AAE. However, including "vernacular" entails other meanings and connotations I wish to avoid. Specifically, the term African American Vernacular English has historically had the connotation of speakers who are working class. However, the

features associated with AAE are used across socio-economic classes. Further, "vernacular" is often interpreted to mean that a variety of language is not standard. However, the label AAE already entails that the variety is distinct from the standard and received variety. In this sense, "vernacular" is redundant. Finally, the term "vernacular" can also refer to a more casual or natural (in the sense of un-self-conscious) register, in which speakers use more non-standard/non-prescriptive forms. This dissertation avoids this meaning, given that it is not clear that AAE features that do not occur in other varieties are reserved for casual or informal contexts, as evidenced by work on African American language practices in more formal contexts, such as church and political rhetoric. In sum, the inclusion of "vernacular" in the label adds nothing that is not already expressed by African American English, and entails several connotations I do not wish to entail. Chapter 5 discusses this issue at greater length. [4]

1.6.2 Mainstream American English

Although it may be a relatively straightforward task to define varieties of English according to nationality (e.g., Hiberno-English vs. Australian English), region (e.g., Appalachian English vs. New York English), or ethnicity (e.g., Chicano English vs. African American English), defining a variety of English in terms of social prestige and

[4] See Green (2002: 5-7) for a more complete discussion surrounding the history and issues of naming the variety. She notes that another difference between labels that contain the word "English" (e.g., African American English) *vs*. labels without the word "English" (African American Language) is that the former highlight similarities with other dialects of English whereas the former underscore the distinctive qualities—and possibly distinctive origins—from dialects of English.

status is more challenging. What is Mainstream or Standard American English, and who actually speaks it as their first language? Arguably, there can be no perception of dialect that is free from language ideologies and assumptions about the speakers (Lambert 1972; Ryan & Giles 1982). Thus, listeners may perceive two speakers as both speaking Standard English, even though their dialects may differ greatly.

Mainstream American English is an idea that encompasses several varieties rather than a single homogenous language variety. Wolfram and Schilling-Estes (2006) argue that what constitutes Standard English is what it *lacks*—that is, it lacks stigmatized features associated with non-standard dialects. Examples of such stigmatized features would include negative concord (e.g., *Don't give me no beans*.), the negative auxiliary *ain't*, and substituting [n] for [ŋ] in the progressive morpheme (e.g., *runnin'*). The social values that correspond to linguistic features may change over time (e.g., the once socially acceptable *ain't*), or according to who uses the feature (e.g., *r*-deletion in English RP vs. Boston English) and in which register the feature is used.

In this dissertation I have chosen the label Mainstream American English (MAE) to index the collection of varieties that are perceived as non-stigmatized and as possessing the greatest mainstream/overt prestige (at the supra-regional level) in contrast to local/covert prestige. MAE might also be called Canonical English or Reference English, insofar as it is what the majority of Americans bring to mind when people talk about English. However, MAE is more commonly used than these other labels and does not connote anything I wish to avoid.

1.7 ORGANIZATION

This dissertation is organized in the following way. Chapter 2 establishes that traditional analyses of MAE question syntax only partially account for attested patterns in AAE questions, namely, SAI. Chapter 2 also presents the issues that need to be addressed in an analysis of AAE question variation. Chapter 3 proposes an analysis of all three question forms in AAE. This analysis accounts for the variation within AAE, and it also predicts the differences and similarities between question variation in AAE vs. MAE.

Chapters 4 and 5 center around question variation in child AAE, and to a lesser extent, question variation in child MAE. In chapter 4, I provide an overview of research on child language variation, and I demonstrate why analyzing questions in child AAE is important for AAE studies and for an understanding of the nature of language variation more broadly. In chapter 5, I present my analysis of the child language data I collected at an elementary school in New Orleans over the course of several visits from the spring of 2008 through the fall of 2009. In chapter 5 I also examine differences between AAE and MAE question patterns and compare child AAE question patterns to those described in adult AAE. Further in chapter 5, I examine the consequences of variation in adult language for the acquisition of questions in AAE through an apparent-time study of children's patterns, and I show how the child language data bear on my analysis advanced in chapter 3.

Chapter 2: Background on Questions

This chapter provides an overview of the unresolved issues surrounding the syntax of questions and question variation in AAE, and this chapter is organized in the following way. In section 2.1, I show how the question syntax of AAE and MAE overlap and differ in quantitative and qualitative ways. I also show that developmental patterns in child speakers of AAE and MAE differ in important ways—a difference that I suggest reflects distinct grammatical constraints within AAE and MAE. In section 2.2, I review previous analyses of SAI, ØAux, and Non-Inv and delineate the limits of their applicability to AAE question syntax and variation. I then conclude by arguing that a unique, AAE-specific analysis of question variation is necessary to predict the distributional patterns attested in child and adult AAE.

2.1 Cross-dialectal overlap and difference in questions

2.1.1 Adult patterns

Typically, the syntax of direct questions in AAE has been characterized as being insignificantly different from the syntax of direct questions in MAE. Holm (1991: 243) writes, “Contemporary American Black English follows the word order of standard English in direct questions...” and Martin and Wolfram (2003: 27) argue that AAE is "fundamentally identical to other English varieties in its formation of interrogative

sentences." This perception is further reflected by the sheer silence on the topic of questions in AAE.

It is true that the syntax of questions in AAE overlaps with the syntax of questions in MAE. Both AAE and MAE allow SAI, Non-Inv, and ØAux question types. The following examples are grammatical in both AAE and MAE.

Yes/no questions

11. SAI: Did you go to the store?

12. Non-Inv: You went to the store?

13. ØAux: You go to the store already?

Wh-questions

14. SAI: When are you going to the store?

15. ØAux: When you going to the store?

Although SAI has often been treated as the canonical form in MAE, Estigarribia (2010) points out that question variation is intrinsic to MAE. In work on the acquisition of *yes/no* questions in MAE, Estigarribia argues that question variation occurs to a much higher degree in adult MAE than previously reported. Estigarribia found that non-SAI questions—including what I have labeled Non-Inv and ØAux—often account for over

half of the adult *yes/no* questions in child directed speech in the CHILDES corpus. [5] Further, Estigarribia reports that in an analysis of data from CHILDES, SAI in child-directed speech accounted for just 33-47% of all questions; that is, the majority of questions produced by adult MAE speakers were *not* SAI (Estigarribia 2007: 115-118). Thus, the difference between AAE and MAE questions is not only that AAE exhibits variation and MAE only uses one type, SAI. The differences between AAE and MAE are more complicated.

One possibility is that the main difference between AAE and MAE question variation is that AAE speakers use non-SAI variants more frequently than MAE speakers. This possiblity would be consistent with Variationist claims that the main differences among English varieties lie in the probabilities associated with certain variants' use (Wolfram & Schilling-Estes 2006). Indeed, Rickford (1998: 134) reports that in a survey of 2000 *yes/no* questions in MAE, just 12-14% were Non-Inv, whereas the proportion of Non-Inv in AAE is much higher.[6] A question for an analysis of differences based on probabilities, however, is what accounts for these quantitative differences. Answering this question will be the main focus of chapter 3.

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5 Estigarribia classified non-SAI (i.e., non-canonical) reduced questions as *subject-predicate questions* (i.), *predicate questions* (ii), and *fragmentary questions* (iii), shown in the following examples:

i. You about ready to eat? [=Are you about ready to eat?]
ii. Think that's a panda bear? [= Do you think that's a panda bear?]
iii. In the morning?

The fragment (i) could be produced in response to "I don't know when she will call." This fragmentary question could mean "She will call in the morning?" or "Do you think in the morning?" etc.)

6 The 2000 questions analyzed were those that remained after so-called 'non-count' questions were removed, which include fragments, repetitions, etc.

Quantitative differences between question types in AAE and MAE are accompanied by distributional differences in the availability of question types in grammatical and pragmatic contexts. AAE allows Non-Inv and ØAux in grammatical contexts that prohibit Non-Inv and ØAux in MAE. Note that in the *yes/no* Non-Inv question below (ex. 16; from Green 2007: 85) the question can be asked without any previous mention of the book in the discourse.

16. You can see my book?

    'Can you see my book?'

In contrast, the utterance in MAE would typically follow previous mention in the discourse.

Both the ØAux *wh*-question (17) and Non-Inv *wh*-question (18) are grammatical in AAE (from Green 2007: 89), but they are ungrammatical in MAE.

17. What he said?

    'What did he say?'

18. How she was doing when you saw her?

    'How was she doing when you saw her?'

I will probe more deeply into the distributional differences between ØAux and Non-Inv in AAE vs. MAE in the following sections when I discuss previous analyses of these

question types. For now, these data serve to show that AAE and MAE question syntax overlaps and differs in distributional patterns and with respect to the probabilities associated with the overlapping question types.

Before delving into how previous analyses capture or fail to capture AAE question patterns, I will use the next section to note important differences between the developmental patterns of questions produced by AAE- and MAE-speaking children.

2.1.2 Developmental patterns in questions

Developmental patterns in child language are important both descriptively and for the light they shed on theoretical analyses of linguistic structures, and this is especially the case for developmental patterns in questions. Advocates for a generative model of language and advocates for a functional model of language have both used developmental question patterns to argue their positions. Whereas generativists have argued that the errors children make in question production reveal the acquisition of category-general movement rules of questions (e.g., DeVilliers 1990; Valian, Lasser, & Mandelbaum 1992), proponents of construction grammar argue that these errors reveal the acquisition of specific combinations and constructions (Rowland & Pine 2000).

Developmental patterns can also cast light on models of specific parts of a grammar, such as negation. For example, Henry, McLaren, Wilson, and Finlay (1997) analyze different varieties of British and Hiberno-English to show that dialectal

differences manifested during acquisition are correlated with subtle differences in the syntax of the different dialectal systems.[7]

Likewise, differences between the developmental patterns of question production in AAE and MAE are arguably reflective of differences in the grammatical organization of questions in each variety, and patterns of question development can be used as a diagnostic for theoretical analyses of the adult patterns. Further, differences between the adult patterns are accompanied by the following observed cross-dialectal differences during development.

MAE-speaking children are said to have mastered the syntax of questions at the point they reach 90-100% subject auxiliary inversion; broadly speaking, this occurs for normally developing MAE speakers once they have acquired auxiliaries—around age 5 (Stromswold 1990; Guasti 2000). According to Stromswold (1990), the ability to produce SAI in MAE is predicated on the successful acquisition of auxiliaries. Once auxiliaries have been acquired, the child may apply the transformational rules that derive a question: the auxiliary is moved to the front of the sentence.

In work on question acquisition in AAE, Green (2007; 2011) reports that speakers between ages 3-5 vary among different question forms after they show the ability to produce subject auxiliary inversion. The following examples (from Green 2007: 95-96) show variation among SAI, Non-Inv, and ØAux in 3-5 year olds.

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[7] The authors's comparative study of negative concord in Belfast English and Bristol English illustrates that, though both varieties exhibit negative concord (e.g., *I don't want no cookie*.), there are differences in the distribution of negative elements, which are accompanied by different timelines for the acquisition of negative concord.

Yes/no questions

19. Do this phone go down or up? (J025, 5) *SAI*

    'Does this phone go down or up?'

20. You a pour me some juice? (J003, 3;8) *ØAux*

    (where *a* can be taken to be a reduced form of *will, will -->'ll-->a*)

    'Will you pour me some juice?'

Wh-questions

21. And who this is? (Z091, 4;5) *Non-Inv*

    'And who is this?'

22. How she broke her leg? (T127, 5;7) *ØAux*

    'How did she break her leg?'

This variation is similar to findings for developing speakers of MAE before the age of 5 except that, by age 5, SAI becomes predominant among MAE speakers. Green emphasizes that the 5-year-old AAE speakers in her study continue to use Non-Inv and ØAux with at least as much frequency as they use SAI. Furthermore, in my own research (detailed in chapter 5) I found that AAE-speaking participants in my elicitation study, who were between ages 5-8, continue to use Non-Inv and ØAux alongside SAI, whereas their MAE-speaking peers used SAI near-categorically.

These differences raise a number of questions about the nature of question syntax and variation in AAE vs. MAE. Some of these questions include: How are these differences reflective of the makeup of question syntax in AAE vs. MAE? If question variation is inherent to both AAE and MAE, what is different about the variation in the two varieties that causes child speakers to follow different patterns?

In the remainder of this chapter I will provide an overview of traditional analyses of SAI, ØAux, and Non-Inv, and show that they are insufficient to account for all of the questions variants available in AAE. The following discussion makes clear that further elaboration is needed to account for question variation in AAE and the different developmental patterns in the two varieties.

2.2 PREVIOUS ANALYSES OF SAI, ØAUX, AND NON-INV

2.2.1 SAI

Questions have been a mainstay of linguistic theory for decades, and questions in English have been typically viewed as involving constituent reordering, specifically, subject-auxiliary inversion (SAI). The importance of questions in the theoretical arena is due largely to the word order alternation between declarative constructions and interrogatives, as well as patterns in the acquisition of questions by children. One might say that questions are sparring grounds for generative transformational vs. functionalist theories of language. Historically, generativists have argued that questions provide visible evidence of the structural dependency between declarative and interrogative forms. As

support for a generative theory, researchers in language acquisition have argued that mistakes produced by early language learners mirror incomplete derivational steps in reordering constituents in a questions that take place in the language module of adult speakers (DeVilliers 1990; Stromswold 1990). For example, while on the path to acquiring questions, child speakers of mainstream English (the only English dialect for which we have a significant body of research) often produce non-inverted forms (e.g., *Why you don't leave?*), which can be viewed as questions prior to generative transformation.

In order to discuss the syntax of questions in this section, I adopt the following phrase structure categories and schematic representation of Present-Day English syntax, as they are widely-adhered to in generative literature:

23. CP >IP >NegP >VP

The Complementizer Phrase (CP) is responsible for illocutionary force, associated with, for example, complementizers (e.g. *that, if, whether*), *wh*-words, and topicalized and focused elements (Rizzi 1997). The Inflectional Phrase (IP) hosts agreement, tense, mood and aspect, and IP is generally where auxiliaries and copula *be* are located in declarative derivations. The Negation Phrase (NegP) hosts negation, and in the case of sentential negation in English, NegP hosts *not* (Pollock 1989). The Verb Phrase (VP) is the source of predicative elements and thematic arguments.

Under a generative analysis (e.g., Rizzi 1997, Cinque 1990) the *wh*-word is argued to raise from its original argument position to a leftward position, and the auxiliary raises to a position between the *wh*-word and the subject (ex. 24).

24. You are who? --> Who$_j$ are$_i$ you t_i t_j ?

In contemporary terms, this movement may be overt, which is to say it occurs at the level of Phonetic Form (PF) as it is pronounced (Chomsky 1995). This overt movement is generally the case for questions in mainstream English. Alternatively, this movement may be covert, which is to say it occurs at Logical Form (LF; May 1985), but not PF. That is, the relationships required by the derivation are satisfied at a mental representation, even if the word order pronounced (i.e., PF) is not the same. Such is the case for any language in which the *wh*-word in questions remains in its original argument position (i.e., *in situ*), where it is assumed that the covert movement of the *wh*-word to a higher position occurs at LF. Whether or not movement is overt (at PF) or covert (only at LF) is determined by the strength of features that motivate movement. Strong features correspond to overt movement, and weak feature correspond to covert movement (Chomsky 1995).

SAI is one of several other types of English inversion, including locative inversion (25), comparative inversion (26), wishes (27), and mainstream negative inversion (28), *inter alia*: [8]

25. On the mountain, stood a unicorn.

26. Delilah is much smarter than is Julia.

27. May you live long and prosper!

28. Never have I been so confused.

The syntactic parallels within this collection of seemingly unrelated forms are cited as evidence that language comprises a syntax that is blind and independent of functional concerns or meaning (Chomsky 1977; Newmeyer 2000; Goldberg 2006).

Following early analyses (e.g., Baker 1970; Chomsky 1986; Katz & Postal 1964), the traditional generative view of SAI articulated in most recent terms is that the highest noun phrase bearing a Question (Q) feature (i.e., the *wh*-word or *wh*-phrase) raises to a frontward specifier position within the CP domain (ForceP under Rizzi 1997). The IP head, in which auxiliaries are located, and which also encodes tense, aspect, and agreement, hosts a Q feature in interrogative structures. In English, as well as other languages that exhibit subject-verb inversion in questions, the head of IP raises and adjoins to the head of the CP. A strong question feature on the I head motivates this overt

[8] According to some (e.g., Green 2007), negative inversion in AAE (e.g., *Couldn't nobody beat us*.) would be included in the collection of verb inversion constructions in varieties of English.

movement at PF in English. Once the head of I is in the head of the CP, the Q feature in the specifier of C and the Q feature in the head of I-in-C satisfy the well-formedness requirement in English.[9] The raising of I–to-C results in the subject-auxiliary alternation between declarative and interrogative forms, as in the derivation represented in Figure 2 Items in parentheses indicate their original position prior to covert raising to the position in which they are pronounced.

29. I could do something.

30. What$_j$ could$_i$ I t_i do t_j?

9 For a treatment of interrogatives in English in the HPSG framework, see Ginzburg and Sag (2001).

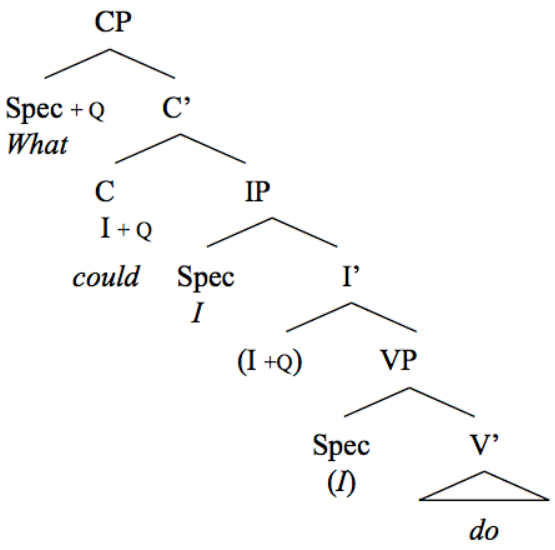

Figure 2. *What could I do?*

Modals and auxiliaries *have* and *be* and copula *be* invert with the subject in interrogative forms (i.e., they raise above the subject in IP to the head of the CP). Sentences that lack an auxiliary in their declarative form require auxiliary *do* in non-subject *wh*-questions and *yes/no* questions. This is a process referred to as *do*-support.

Wh-questions

31. Why did you eat all the plums?

32. *Why ate you all the plums?

Yes/no questions

33. Did you eat the plums?

34. *Ate you the plums?

Examples (32) and (34) are ungrammatical because the main verb, *ate*, has not raised from V to I. Therefore, they have no way to raise to the frontward position when I raises to C. According to Pollock (1989), English differs from Romance languages such as French (as well as earlier English) because English does not allow V-to-I raising for verbs that assign theta-roles.[10] In Spanish, for example, V raises to I, and I then raises to C, resulting in subject-verb inversion in questions. [11]

35. *Tú* eres de Venezuela.

'You are from Venezuela.'

36. De dónde eres *tú*?

'Where are you from?'

---

[10] Copula *be* and perfective *have* do not assign theta-roles and can therefore raise (e.g., *Are you happy now? Have you seen this?*).

[11] A more contemporary way to describe the difference between French/Spanish vs. English is that the I-to-C raising in overt for the former and covert for the latter (discussed further below).

In English, verb morphology is specified via covert V-to-I raising at LF. In the case of questions, *do*-support is required because I raises to the head of C, such that the subject NP intervenes between I (which is now in C) and the verb in the VP, thereby blocking the affix lowering operation (Baker 2003). Auxiliary *do* is merged into the derivation in order to host the stranded affix in I.[12] The following derivation illustrates the operation for example (33).

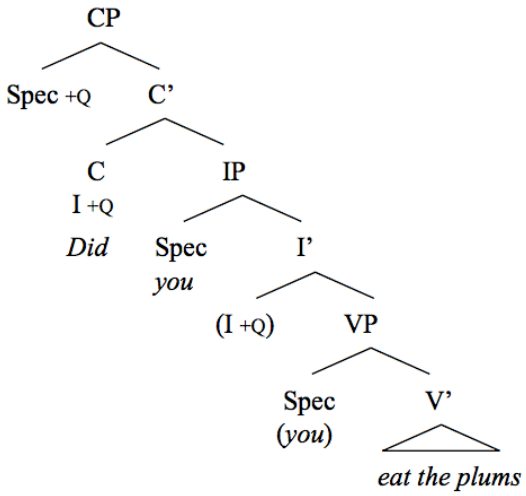

Figure 3. *Did you eat the plums?*

[12] Similarly, *do*-support occurs in constructions with sentential negation because NegP, filled by *not* (in the head or specifier, depending on the analysis), blocks affixation between I and the main verb. Again, *do* is merged into the head of I and hosts "stranded" affix features.

The analysis of SAI reviewed here accounts for SAI question types in both AAE and MAE. However, this analysis will not account for ØAux and Non-Inv.

2.2.2 ØAux

Linguists have long noted that alternations between overtly realized and deleted materials are more likely to occur when there is little risk of semantic ambiguity. Chomsky (1965: 222) formalized this as the Recoverability Condition:

37. Only recoverable deletions are permitted in the grammar.

ØAux questions in both AAE and MAE are consistent with this observation. Neither permits ØAux that risks obscuring the meaning of the question. For example, neither AAE nor MAE permits ØAux with modals.

38. * _____ you ask for more?

'Should you ask for more?

However, AAE permits ØAux questions that are not permitted in MAE, such as the following:

39. What you ate yesterday?

'What did you eat yesterday?' (from Green 2007: 89)

This section considers two previous analyses of ØAux and shows that they do not capture ØAux data such as (39) in AAE. First I review Hendrick's (1982) analyses of ØAux in MAE, before reviewing Labov's (1969) frequently cited and AAE-specific analysis of auxiliary deletion. I then discuss examples from AAE that are not covered by these analyses, and I show that a different analysis, and specifically a syntactic analysis, is motivated. Importantly, each of the analyses in this section cite phonological causes ØAux, whereas in the next chapter I will argue that ØAux in AAE is often syntactic.

According to Hendrick (1982), ØAux in MAE, which he refers to as "reduced questions," comprises two distinct phenomena: ØAux in *yes/no* questions is a syntactic phenomenon, whereas ØAux in *wh*-question is a phonological phenomenon. *Yes/no* questions in MAE permit ØAux with auxiliary *be*, *have*, and *do* (Hendrick 1982: 801):

40. (Are) you seeing Jane today?

41. (Have) you seen Jane yet?

42. (Did) you see Jane yet?

Hendrick argues that ØAux in *yes/no* questions are the result of the following syntactic operation:

43. AUX --> Ø/Comp__

Crucially, the auxiliary raises from I to the complementizer position before deleting. The fact that the auxiliary deletes from C explains why there are no examples in MAE of ØAux declaratives (e.g., *You seeing Jane today*.) or embedded *wh*-questions (e.g., *He asked why you seeing Jane*.), in which the auxiliary is not in C, but in I. If the auxiliary deleted while in I, we might expect to get ØAux declaratives or ØAux in embedded *wh*-questions in MAE.

This analysis cannot extend to AAE, because AAE permits auxiliary-less declaratives (44; from Labov 1969), and AAE permits ØAux in embedded *wh*-questions (45-47; from Green 2002: 87-8).

<u>Auxiliary-less declarative</u>

44. He sick.

'He is sick.'

<u>Embedded questions</u>

45. It's gonna ask do you wanna make a transfer. *SAI*

'It's gonna ask if you want to make a transfer.'

46. I wonder if the mailman dən passed.[13] *Non-Inv*

'I wonder if the mailman has passed.'

47. I wonder what YOU doing about it. *ØAux*

'I wonder what you're going to do about it.'

48. You saw my book (yesterday)?

'Did you see my book yesterday?'

49. *You did saw my book yesterday?

This example suggests that there was never an auxiliary in C that was deleted, otherwise we would not find the tense-marking on the main verb.[14] The point here is not that Hendrick's analysis is wrong, but that it will not account for all examples of ØAux questions in AAE.

Hendrick argues that ØAux in *wh*-questions in MAE are phonological on various grounds, including the fact ØAux in *wh*-question has a different distribution than ØAux in *yes/no* questions. For example, not only are the auxiliaries that can delete in *wh*-questions more restricted—the auxiliaries *will, do,* and copula *be* cannot delete—but also ØAux *wh*-questions are only possible with 2nd person, not 1st or 3rd (Hendrick 1982: 811).

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[13] Note that *dən* is an unstressed completive aspectual marker, and has perfective properties.

[14] Although it is possible to alternate between *You den sold the manuscript?* and *You sold the manuscript?* with a perfective/completive reading for both (Terry 2005), Green 1998 shows that the aspectual marker *den* is in another node (AspP), and so this alternation is a separate issue.

50.

a. Why you sitting here?

b. *Why I/she sitting here?

A phonological analysis of ØAux *wh*-questions in AAE does not account for cases such as the following (from Green 2007: 89), in which the tense is marked on the main verb.

51. What he said yesterday?

'What did he say yesterday?'

52. What he ate yesterday?

'What did he eat yesterday?'

If auxiliary deletion were a phonological operation on the auxiliary, we would not expect to see tense marking on the main verb; the tense would have deleted along with the auxiliary or never been there at all.

Labov's (1969) analysis—informally called the "contraction feeds deletion analysis"—specifically addresses auxiliary and copula deletion in AAE. According to Labov, wherever MAE can contract (e.g., *She's happy*), AAE can delete an auxiliary (e.g., *She happy*)—proof to Labov that deletion is a phonological process. Whereas MAE only deletes some of the material in contractions, AAE deletes all of the material. However, this generalization does not hold in all contexts. As Akmajian, Demers, and

Harnish (1979) and Hendrick (1982) observe, there are grammatical cases of auxiliary-less questions in AAE in which there is no corresponding grammatical contracted auxiliary in MAE (following examples from Hendrick 1982: 808):

53. Kay see Bill (yesterday)? *AAE*

'Did Kay see Bill (yesterday)?' *MAE*

*'dKay see Bill (yesterday)? *MAE*

Furthermore, the "contraction feeds deletion" analysis does not account for questions in which tense is marked on the main verb, such as (39), because neither AAE nor any other dialect permits a contracted auxiliary when the main verb is marked for tense.

54. *What'd he said yesterday?

Thus, a different analysis is needed to cover all of the cases of ØAux in AAE that these analyses do not capture.

Further support for the idea that alternation between ØAux and SAI in AAE *wh*-questions is syntactic, rather than phonological, comes from embedded questions. It is has long been recognized that AAE varies between SAI and Non-Inv in embedded *yes/no* questions, as in examples (55) and (56), but *contra* Labov et al. (1968), AAE also allows embedded ØAux *wh*-questions, as in example (57) (examples from Green 2002:87-8).

55. It's gonna ask do you wanna make a transfer. *SAI*

'It's going to ask if you want to make a transfer.'

56. I wonder if the mailman dən passed.[15] *Non-Inv*

'I wonder if the mailmn gas passed.'

57. I wonder what YOU doing about it. *ØAux*

'I wonder what you're doing about it.'

Further evidence that ØAux questions are syntactically distinct from SAI in AAE comes from ØAux in embedded *wh*-questions. If ØAux questions resulted from phonological deletion affecting the left periphery due to some de-stressing rule, we would expect embedded clauses to resist deletion.

Also note that examples such as (39), repeated here as (58), are theoretically interesting in light of the traditional explanation for *do*-support in English questions.

58. What he said? *ØAux*

As noted, the primary reason given for *do*-support in SAI in English questions is that, because I has raised to C, *do* is needed to host tense and agreement,which is in the I-in-C position. The affix in I-in-C is unable to affix-lower to the main verb in the VP due to the intervening subject NP. Yet, there is no stranded affix in the ØAux example from

[15] Note that *dən* is an unstressed completive aspectual marker, and has perfective properties.

AAE; the main verb is inflected for tense, just as it would be in a positive declarative construction.

Given that the main verb is inflected for tense, it cannot be the case that a tensed auxiliary *do* in the form of *did* has undergone phonological deletion, otherwise, the non-deleted SAI counterpart would look like the following ungrammatical construction:

59. *What did he said?

Furthermore, we cannot maintain the usual analysis of SAI and *do*-support provided in the previous section for such cases of ØAux. Either I has not raised to C and the question feature on I does not have to be in head-adjoined relationship with C (i.e., the Q feature on C does not need to be checked overtly, but can wait until LF); or I has head-adjoined to C and the subject in the specifier of IP does not necessarily block affix-hopping from I-in-C to the main verb. If the latter were true, what is the purpose of *do*-support when *do* does occur in SAI constructions? In either scenario, one must also account for variation between ØAux and SAI in which *do*-support does occur. I will return to this problem in the following chapter.

Finally, the pragmatic distribution of ØAux in AAE also differs from that of MAE. In MAE, ØAux is generally viewed as being reserved for informal speech (Zwicky & Pullum 1983), but there is no evidence that such is the case in AAE.[16] It is too often assumed that patterns in non-mainstream English dialects that are dissimilar from

[16] Zwicky and Pullum (1983) analyze ØAux in MAE *wh*-questions as a morphophonemic phenomenon.

patterns in MAE are informal, but these assumptions are not always empirically supported.

2.2.3 Non-Inv

Non-Inv in MAE has been traditionally considered a type of echo question (Quirk et al. 1985), also called "rising tone declaratives" or "declarative questions," so-called because they follow the declarative word order. These question types are not true interrogatives, but rather are a type of pseudo-question (König and Siemund 2007). Declarative questions include requests for clarification or confirmation of information previously introduced in the discourse, and initiation repairs—all of which entail bias towards an expected response.

In all varieties of English, declarative questions either take the form of a *yes/no* question without subject-verb inversion and with rising intonation clause-finally (60), or as a *wh*-question in which the *wh*-word occupies the same position that the argument would occupy in the declarative version, and it receives stress (61). In both cases there is a bias towards an expected answer.

60. You already went to the store?

61. You asked *who* to the dance?

Echo questions should be excluded from true interrogative classification, because, as König and Siemund (2007: 101) point out, echo questions can be created from declaratives, questions, and imperatives by replacing the queried phrase with a *wh*-word, as in the following:

62. John lives *in Paris*.~He lives *where*?
63. John lives *in Paris*. ~ *Where* does he live?
64. Go *to Paris*! ~ Go *where*?

For this reason, Huddleston (1994), cited in König and Siemund (2007), argues that echo questions are not a sentence type, but an *operation* that can be applied to any of the basic sentence types.

The bias in declarative questions in MAE is apparent based on the restricted context in which they are pragmatically acceptable. The following examples from Gunlogson (2011: 139) show that echo questions cannot be used, as she puts it, "out of the blue."

65. [to passerby walking dog]

    Pardon me, but...

    a. Is that a Weimaraner?

    b. #That's a Weimaraner?

66. [initiating a phone conversation]

a. Is Laura there?

b. # Laura's there?

Gunlogson (2002) argues that the interrogative properties of echo questions arise through an interaction of multiple elements, including prosody (i.e., rising tone) and context.

König and Siemund (2007) observe that *yes/no* declarative questions in MAE—what they call "rising intonation declaratives"—are unlike formally-marked interrogatives in that they follow three patterns, summarized here:

- rising intonation can extend beyond the scope of what is being queried: "So, Kim went to the meeting but you stayed home?" (König & Siemund 2007: 29),
- they cannot be neutral, in the sense that there is no expectation; the intonation introduces bias toward an expected response, and
- they do not license negative polarity items, as formal interrogatives do:
    - Have you ever met him?
    - *You have ever met him?

Another restriction on Non-Inv in MAE is the prohibition on non-inversion of the subject and auxiliary in *wh*-questions when the *wh*-word is fronted.

67. *Who she saw?

'Who did she see?'

The only time the subject and auxiliary can be not inverted in *wh*-questions in MAE is in an echo question where the *wh*-word is also in its declarative argument position.

68. She saw *who*?

In such cases, clarification of the identity of the person is being sought, or surprise at the identity of the person is being stated. In sum, Non-Inv in MAE is never a true interrogative.

In contrast, Non-Inv in AAE can be used for echo questions, as in MAE, but Non-Inv in AAE can also be used as a true interrogative, in other words, a genuine request for information (see Washington & Craig 2002; Green 2002a). The following Non-Inv *yes/no* question cited by Green (2007: 85) is a true interrogative.

69. You can see my book?

'Can you see my book?'

MAE would only license this example with an interpretation where the speaker is expressing incredulity or seeking clarification. AAE, however, permits this construction with both an echo question interpretation and a regular question.

Although research on AAE prosody is scant (e.g., Foreman 2000; Tarone 1972, 1973; Thomas 2007), Green (1990) found that *yes/no* questions in AAE often end with a level tone, rather than a final rise in tone. In contrast, other varieties of English end

yes/no question with a final rise in tone. [17] Thus, the two different interpretations on *yes/no* Non-Inv in AAE—echo question vs. genuine interrogative—are licensed by different intonational contours and contextual factors.

Not only do native speaker grammaticality judgments and analyzing surrounding discourse demonstrate that Non-Inv in AAE can be a type of true interrogative, but it is also possible to show that Non-Inv *yes/no* questions in AAE can be a true interrogative by looking at the distribution of negative polarity items. As noted above, the licensing of negative polarity items is one of three criteria put forth by König and Siemund (2007) for distinguishing formal questions from echo questions. Unlike MAE, AAE can license negative polarity items in some instances of Non-Inv. [18]

70. He gave you any trouble? [19]

'Did he give you any trouble?'

Note that the tense marking on the main verb in (70) indicates that this is not an auxiliary *do* question that has undergone phonetic deletion.[20] In this way, AAE patterns with

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[17] Green (1990) further found that tone in *wh*-questions in AAE is similar to that found in MAE, which is the same as declaratives in MAE (Pierrehumbert 1990). Green's finding for *yes/no* question intonation in AAE is notable given Ultan's (1978) claim that 95% of the world's languages use rising intonation to indicate a question.

[18] Although AAE permits non-biased readings of Non-Inv *yes/no* questions, negative polarity does introduce a bias, just as negative introduces bias in inverted and non-inverted *yes/no* questions in MAE. See Ladd (1981) Romero and Han (2004) for discussion.

[19] This example was constructed by the author and submitted to native AAE-speaking linguists for judgment.

[20] Whereas MAE does not allow (70), MAE does allow ØAux such as the following.

iv. ~~Did~~ he give you any trouble?

languages such as Russian; Russian *yes/no* questions can also license NPIs without any other overt grammatical marking or word order change (Meyer & Zybatow 2003, cited in König & Siemund 2007).

Unlike MAE, AAE also permits Non-Inv in *wh*-questions where the *wh*-word is fronted, as in the following example from Green (2007: 89):

71. How she was doing when you saw her?

'How was she doing when you saw her?'

This example is interesting in light of the analysis of SAI discussed in section 2.2.1. Recall that the traditional analysis of SAI is that the auxiliary-filled I raises and adjoins to the head of C in order to check question features with the *wh*-word, which is in the specifier of the C. Yet this example of a Non-Inv *wh*-question in AAE shows that the auxiliary in I is clearly still *in situ*. This raises the question of how the features check, and furthermore, what licenses the variation between SAI and Non-Inv. I will address these issues in the following chapter.

72.

a. How was she doing when you saw her? *SAI*

b. How she was doing when you saw her? *Non-Inv*

However, the lack of tense or agreement marking indicates that the auxiliary has undergone deletion or that the I node is not in the syntax of this construction.

For now, note that traditional analyses of Non-Inv in MAE do not cover the full range of Non-Inv question types available to AAE. Whereas Non-Inv in MAE is syntactically identical to declarative constructions—arguments and verbs are in their declarative position—Non-Inv *wh*-questions in AAE involve word order variation from declarative constructions; AAE Non-Inv *wh*-questions allow syntactic frontward displacement of the *wh*-word while the subject and verb maintain a declarative word order. Although there is no visible evidence that the AAE *yes/no* Non-Inv question is a distinct structure from a declarative echo question—inasmuch as all elements follow the declarative word order—Non-Inv *yes/no* questions in AAE can license NPIs and a non-biased reading. These differences between Non-Inv and declaratives in AAE imply that a syntactic operation(s) derives Non-Inv questions in AAE, the details of which will be explored in the following chapter.

2.3 CONCLUSION

In sum, patterns of variation among SAI, Non-Inv, and ØAux in both main and embedded questions in AAE suggest a kind of syntactic variation that cannot be reduced to phonological deletion. Although traditional analyses of SAI in English can account for SAI in AAE, both ØAux and Non-Inv in AAE require further analysis, as does variation among the three question types.

This chapter has provided an overview of questions in AAE. In this overview have shown that while many of patterns of question syntax overlap with the patterns in

MAE, there are quantitative and distributional differences in attested adult patterns, and these differences are accompanied by developmental differences in child AAE. I have also reviewed previous analyses of SAI, Non-Inv, and ØAux in general English, as well as ØAux in AAE, and demonstrated that the analyses of Non-Inv and ØAux cannot extend to all cases of Non-Inv or ØAux in AAE, nor do they account for variation among all three forms.

In the following chapter, I investigate the distribution of question forms more deeply in order to lay out my analysis of question variation in AAE. I also lay out the rules that children must acquire before presenting data that supports my analysis and elaborates on the differences between question systems in AAE and MAE across the lifespan.

Chapter 3: The Grammar of Questions in Adult AAE

In this chapter I provide my analysis of questions and question variation in AAE. I show that interrogative variation is composed of two types of variation—morphological and syntactic. Further, I show that whereas morphological variation is largely constrained by grammatical factors that operate across declarative and interrogative constructions, syntactic variation is specific to interrogatives and exhibits a greater degree of optionality.

In the introduction, I noted that a descriptive schema of question variation in AAE might look like the following figure, in which questions vary between having an auxiliary or not (ØAux), and if questions have an auxiliary, they vary between inverting (SAI) or not inverting (Non-Inv):

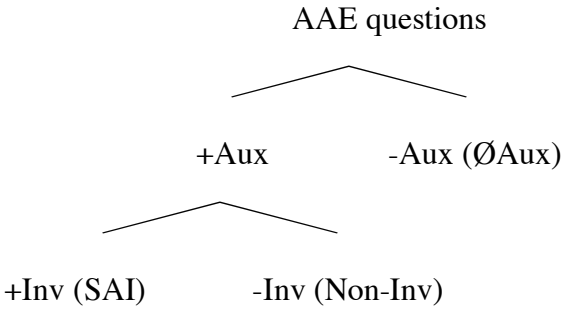

Figure 4. Descriptive schema for question variation in AAE

However, based on the distribution of forms according to grammatical constraints, I argue that Non-Inv and ØAux are often syntactically equivalent and are both types of I-*in situ* forms. Both Non-Inv and ØAux contrast with SAI. Whereas SAI entails I-to-C movement, Non-Inv and ØAux do not. Therefore, a more accurate schema of question variation in AAE looks like Figure 2, where questions vary syntactically between I-to-C movement (SAI) and I-*in situ*; and I-*in situ* questions vary between those with auxiliaries (Non-Inv) and those without (ØAux).

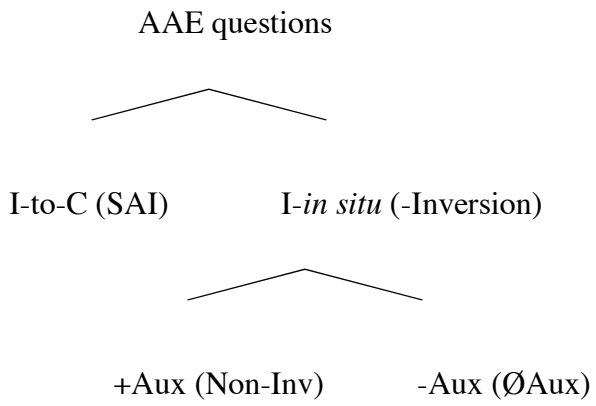

Figure 5. Analytical schema for question variation in AAE

In general, the auxiliary, polarity, and tense determine the possibility of Non-Inv and/or ØAux, whereas SAI is typically permitted in all environments, such that there are always at least two options for how a question may be realized. In this way, AAE possesses true syntactic variation in the question system. Following others (e.g., Barbiers

2009, Lavandera 1978), I define true syntactic variation (or *free variation* in the sociolinguistic literature) as variation among referentially, semantically, pragmatically, and socially equivalent forms, in contrast to pragmatic question variation of the sort studied in MAE questions.

I illustrate the syntactic analysis with the semantically vacuous non-emphatic auxiliary *do* (i.e., *do*-support). I follow by showing how the distributional patterns of the other auxiliaries support this analysis. I then contextualize the remaining syntactic optionality between SAI and the *in situ* forms against the backdrop of contemporary theoretical analyses of internal syntactic variation. I argue that within-speaker syntactic variation is inherent to AAE question grammar, much like interrogative variation in Present Day French or *do*-support variation in Early Modern English is inherent to individual grammars. Although social and stylistic meanings may attach to the variants over the lifespan, all forms are part of the core syntax of AAE.[21]

My analysis accounts for the distributional differences between AAE question variation and MAE question variation described in chapter 2. My analysis also accounts for the developmental differences between question acquisition in AAE and question acquisition in MAE, and these developmental differences are elaborated on in the following chapters. I conclude by showing how an analysis of child patterns supports my analysis of the distributional differences between AAE question variation and MAE question variation, and I lay out the target question grammar that children must acquire.

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[21] Though, as Eckert (2005) and others have pointed out, not all linguistic variables have salient social meaning. Moreover, meanings may shift in different regional and social contexts and in tandem with other linguistic variables.

This chapter is organized in the following way. In section 3.1, I address auxiliaries and auxiliary variation in AAE. Auxiliaries in AAE overlap with auxiliaries in other varieties of English, with the exception of the degree to which they vary between overt and covert forms. This variation accounts for a large portion of question variation in AAE. In section 3.2, I lay out the distribution and rules of question variation in AAE, and I provide an analysis of question variation in AAE. In section 3.3, I conclude by showing how my analysis accounts for the distributional and developmental differences between AAE and MAE, and what children acquiring AAE questions must do to master the interrogative system.

3.1 AAE AUXILIARIES

At the heart of question variation in AAE is whether the auxiliary is overtly realized. The overt realization of the auxiliary is the primary distinction between ØAux, on the one hand, and SAI and Non-Inv, on the other. This variability is part of a more general variability in AAE auxiliaries in both declaratives and interrogatives (ØAux forms do not occur in AAE imperatives). The English auxiliary as a linguistic category is by its very nature "unstable," insofar as it exists on a continuum between a lexical verb and a grammatical particle, as the history of English auxiliaries demonstrates. What were once past tense forms of lexical verbs have largely grammaticalized into markers of

tense, aspect, and mood.[22] In accord with the Recoverability Condition (see chapter 2), the more semantic content an auxiliary possesses, the less likely the auxiliary will alternate with ØAux in AAE.

3.1.1 Auxiliaries & NICE

AAE auxiliaries include *do*, modal verbs, such as *will, can, may, would, should, might*, and the tense and aspect auxiliary forms of *have* and *be*. These auxiliaries are syntactically, but not semantically, unified. The auxiliaries are all distinguished from lexical verbs by possessing the so-called NICE properties, discussed at length in the literature on MAE auxiliaries, and which are summarized here.

Negation: Auxiliary verbs can be followed by sentential negation.

- He will not come.
- You do not live here.

Inversion: Auxiliary verbs can invert with subjects in *yes/no* questions, non-subject *wh*-questions, and other inversion constructions.

- Do you want to come?
- Who will you see?

[22] See Warner (1993) for an extensive treatment of the history of English auxiliaries

Contraction: Auxiliary verbs can contract with *not*.

- Don't, won't, shouldn't, etc.

Ellipsis: Auxiliary verbs can appear without main verbs when the main verb is understood.

- He likes apples, but she doesn't (like apples).
- Jerome eats a lot, and so does Vera.

In addition, auxiliary verbs occur as question tags, whereas main verbs cannot.

- You like apples, don't you?
- He can't come, can he?

All AAE auxiliaries exhibit some type of variation, either morphologically between an overt form or a Ø form, or, where overt, syntactically between inversion and *in situ*. Some AAE auxiliaries vary morphologically with a ØAux counterpart in declaratives (e.g., *He is at home*. ~ *He__ at home*.). The auxiliaries that do not vary with ØAux, such as most of the modals, vary syntactically between SAI and Non-Inv question types (further discussed below).

In addition to distinguishing auxiliaries from lexical verbs, the NICE properties also distinguish AAE auxiliaries from AAE aspectual markers. Aspectual markers resemble auxiliaries in form, but have different semantic functions and different syntactic

distribution. The markers include: aspectual *be*, remote past *BIN*, completive *dən*, remote past completive *BIN dən*, habitual completive *be dən*, future completive *(a) be dən*. Unlike auxiliaries, aspectual markers do not host agreement or tense. As Green (1995) notes, aspectual markers, like lexical verbs, require *do*-support for negation, and aspectual markers are not able to invert in questions (they either occur in Non-Inv or SAI constructions with a supporting auxiliary), cannot contract, do not participate in ellipsis, and they cannot alternate with ØAux. They also require a supporting auxiliary in tag questions (e.g., *She be working, don't she?*).[23]

NICE properties apply to all auxiliaries in AAE, but auxiliary variation between overt and ØAux in declaratives is constrained by auxiliary, tense, and person. The linguistic principles governing variation between overt auxiliaries and ØAux in AAE declaratives extend to questions. Therefore, any discussion of question variation must include a discussion of general AAE auxiliary variation. The following section provides an overview of the availability of ØAux in the AAE auxiliary paradigm within declarative constructions.

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[23] These distributional differences between auxiliaries and aspectual markers in AAE led Green (1995) to posit a separate grammatical position for aspectual markers that is rightward of tense and negation and leftward of the verb phrase. Recall the layering of elements is as follows: CP< IP<NegP<*AspP*<VP. The relative order of the aspectual marker to negation and the verb phrase is evident in the following sentence (Green 2002: 48).

v. ...he doesn't even be there.
'...he isn't usually there.'

3.1.2 General auxiliary variation

Variation between overt auxiliaries and ØAux follows Chomsky's Recoverability Condition, discussed in section 2.2.2. That is, material cannot delete if there is too great a risk of semantic ambiguity. The following tables, adapted from Green (2002: 36-8), summarize the variation between overt auxiliaries and ØAux in AAE declarative constructions. As the following descriptions reveal, the auxiliaries with the greatest semantic load, including most modals, do not vary with ØAux, because a covert form would violate the Recoverability Condition.

The variability of copula and auxiliary *be* is the most frequently discussed (morpho-) syntactic feature in AAE research. Observe that *be* is obligatorily realized in past tense constructions, but it can vary with ØAux in present tense constructions (Wolfram 1969:166). Labov (1969), Dechaine (1995), and Green (1993), suggest that *be* is required in past tense to distinguish past from present. According to Dechaine, present tense in AAE is the unmarked and default tense. Therefore, *be* is optional in most persons and numbers in the present tense, but obligatory in the marked past. [24]

[24] Dechaine (1995) argues that the obligatory contracted *'m* in *I'm* is simply a pronoun.

Copula/Auxiliary *be*			
Present			
Person/number	*Unemphatic*	*Emphatic*	*Negative* [25]
1st sg.	I'm	am	I'm not/I ain't
1st pl., 2nd sg.. pl. 3rd sg., pl.	ØAux ~ is	is	ain('t)/not
3rd sg. neuter	it's	is	it's not/it ain('t)
Past			
Person/number	*Unemphatic*	*Emphatic*	*Negative*
All	was	was	wadn't/wasn't

Table 1. Copula and auxiliary *be*

The future auxiliaries in AAE alternate with ØAux in restricted contexts. Where the future form is not overtly realized, context distinguishes future from present meaning.

73. You be surprised how the Lord can use you.

'You'll be surprised how the Lord can use you.' (Green 2002: 53)

Future Auxiliary-1			
Person/number	**Unemphatic**	**Emphatic**	**Negative**
All	'a (e.g., I'a, she'a) I'll He/she/you ØAux	WILL	won('t)
Future Auxiliary-2			
Person/number	**Unemphatic**	**Emphatic**	**Negative**
All	I'ma/I'm gon/I'mon~ØAux	--	I ain't gon/I'm not gon
2nd, 3rd sg, pl.	gon/gonna	--	ain't gon/not gon

Table 2. Future auxiliaries

[25] Note that *ain't* occurs in present tense forms of negative *be*, past tense negative *did*, and negative *have*.

Non-emphatic auxiliary *do* only occurs in negative constructions. As table 3 shows, overt *do* is obligatory in negative constructions, and it occurs in emphatic contexts.

Auxiliary *do*			
Present			
Person/number	**Unemphatic**	**Emphatic**	**Negative**
All	ØAux/do/'d	DO	don('t)/on('t)
Past			
All	ØAux/did	DID	didn't/din/ain('t)

Table 3. Auxiliary *do*

According to Labov et al. (1968: 223), although *have* is included in the morpho-syntactic features of AAE, the overt realization of *have* is infrequent. Green (2002) characterizes the overt use of *have* as emphatic. Formal analyses of *have* and the Perfect aspect in AAE have demonstrated that *have* is not required to convey a Perfect reading, and that the simple V-ed form in AAE is ambiguous between a simple past reading and a Perfect reading (Dechaine 1993; Green 1998; Terry 2005). The following sentence in AAE can be interpreted with either of the MAE glosses, depending on the context (Terry 2005: 221).[26]

74. John ate the rutabagas.

'John ate the rutabagas.'

'John has eaten the rutabagas.'

[26] Distributional evidence that a Perfect reading is available is shown in the following example, where a simple V-ed form in AAE is compatible with since adverbials (Terry 2005: 223).

vi. John ate steak since he was a child.
'John has eaten steak since the time he was a child.'

Auxiliary *have*			
Present Perfect			
Person/number	**Form**	**Emphatic**	**Negative**
All	ØAux	HAVE	ain(‘t), haven’t
Past Perfect			
All	ØAux	HAD	hadn’t

Table 4. Auxiliary *have*

Generally, the other modals in AAE (e.g., *can* and *might*) must be overtly realized (Green 2002: 42). Given that the other modals contain non-recoverable content, such as aspect and mood, it is consistent with the Recoverability Condition that they typically do not alternate with ØAux.

To summarize, it is possible for AAE auxiliaries to vary with ØAux provided that the Recoverability Condition is not violated. In the case where no semantic content is lost, variation between an overt auxiliary and ØAux is determined by multiple factors, including emphasis, phonology, and person. Variation between ØAux and Non-Inv, specifically, is discussed in section 3.2.2.

3.2 INTERROGATIVE VARIATION

In this section I analyze auxiliary variation specific to interrogatives. First, I distinguish ØAux that is the result of phonological deletion of an auxiliary in an SAI construction from ØAux that is syntactic—i.e., where an auxiliary never occurs in a derivation. Historically, cases of ØAux in AAE questions have been put aside in Variationist analyses of question variation because they cannot be classified as either SAI

or Non-Inv. For instance, in Van Herk's (2000) study of the syntax of questions in AAE, he omits all cases of ØAux from his analysis, though they account for nearly half of all questions in his corpus. This problem is only a problem if one assumes that all ØAux questions are necessarily the result of phonological deletion, and that the grammar underlying the AAE system is derived from MAE. However, discarding ØAux from question variation analyses is problematic given that it is part of the descriptive grammar and no analysis of question variation in AAE is complete without them.

Second, after establishing that ØAux questions are often syntactically distinct from phonological deletions, I use auxiliary *do* to argue that Non-Inv and ØAux are syntactically identical. I further argue that question variation should be considered syntactic variation between SAI, on the one hand, and Non-Inv and ØAux, on the other. I follow by showing how this analysis extends to the other auxiliaries involved in interrogatives. In the case of present tense copula and auxiliary *be*, where SAI, Non-Inv, and ØAux are all available and may be referentially equivalent with no difference in emphasis, variation between Non-Inv and ØAux is morphological and subject to the same constraints and analyses as variation between overt *be* and ØAux in declaratives. The data are derived from secondary sources which are cited. For examples that I was unable to find, I constructed examples based on descriptions of AAE in the literature and using grammaticality judgments of AAE speakers. Such examples are in a faded font.

3.2.1 Phonological vs. syntactic ØAux

Labov et al. (1968) demonstrate why researchers have avoided including ØAux in discussions of AAE question syntax. Labov et al. argue that it is impossible to definitively determine whether an auxiliary, such as in the following questions, has undergone phonological deletion from a pre-subject position (i.e., SAI) or deletion from a post-subject position (i.e., Non-Inv).

75. What I need, a 6 or a 5, right?

'What do I need, a 6 or a 5, right?' (Labov et al 1968: ex. 391)

76. Why they listen to me?

'Why do they listen to me?' (Labov et al 1968: ex. 393)

However, we should note that we never find examples in which an overt (unemphatic) *do* occurs in the Non-Inv position in affirmative questions in AAE (ex. 77 and ex. 78); thus, there is no reason to ever hypothesize that examples (75) or (76) result from auxiliary deletion in a non-inverted position.

77. *What I do need?

78. *Why they do listen to me?

Nonetheless, because AAE shows no verbal agreement in present indicative, it is often impossible to determine whether an auxiliary carrying agreement feature has been deleted, or if there was never any auxiliary at all. Unlike other varieties of English, in AAE even 3rd person singular indicative can have null marking (e.g., *She walk to the store everyday*.). If overt agreement on the main verb were obligatory, we could use the presence or absence of verbal inflection to determine whether an auxiliary has been deleted or never was.

79. Why she walk**s** to the store everyday?

80. Why ~~does~~ she walk_ to the store everday?

The presence of 3rd person singular *–s* in example (79) would prove there had been no auxiliary *do* support that had been deleted, whereas the lack of agreement in example (80) would indicate that *do* had been deleted.

Labov et al. do point out cases where past tense marking appears on the main verb, to the right of the subject, are a type of Non-Inv.

81. How I just cheated?

'How did I just cheat?' (Labov et al 1968: ex. 398)

In this sentence, tense-marking on the main verb indicates that there was never an auxiliary bearing agreement, because the agreement appears on the verb.

Labov et al. suggest that examples of ØAux that have no agreement on the main verb most likely result from auxiliary deletion of an SAI question. The authors base this assumption on examples in which the same utterance is repeated in quick succession, and in which the auxiliary occurs in the first utterance, but not the subsequent utterance, as in the following (Labov et al. 1968: ex. 402; italics mine).

82. What *is* they goin' to fight for?...What __ they goin' fight for?

Labov et al. interpret example (82) as necessary deletion and assumes that there is something about intimate variation (i.e., variation within a small unit of discourse) that implies phonological deletion rather than variation at the syntactic level.

Yet this assumption is debatable, as there is evidence that intimate variation is frequently syntactic, not phonological or morphological. As Morgan, Meier, and Newport (1989) and others have pointed out, in acquisition studies of adult-child interactions in MAE, adults frequently use syntactic variants (or what the authors call "syntactic minimal pairs") in succession when speaking to children. That is, intimate variation is often syntactic variation and not phonological deletion. One way to determine if variation is syntactic rather than the result of phonological deletion would be by finding examples of intimate variation between examples in past tense where the variation visibly affects tense and agreement marking, such as in the following constructed example. Past tense appears on the auxiliary in the first utterance, whereas it appears on the main verb in the second.

83. What did he say yesterday?...What he said yesterday?

Given such an example, we could substantiate the claim that intimate variation is just as likely an alternation between syntactically distinct structures as it is the result of phonological deletion.[27] Keeping mindful of these kinds of alternations in larger corpora would provide more definitive evidence of how common syntactic intimate variation is.

This discussion shows even when there is no agreement-marking on the main verb to prove that there was never an auxiliary in a present tense ØAux derivation in AAE, there is evidence that ØAux forms are not the result of auxiliary deletion from an SAI form. For this reason, in the absence of proof that an auxiliary has undergone phonological deletion, ØAux or *auxiliary-less* is a more appropriate and agnostic label for such question types than *auxiliary deletion*. [28]

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[27] The converse is not true, for it is not necessarily the case that if no past tense is marked on the main verb that there has been deletion of a tensed auxiliary *do*, as in the following.

vii. What did he say yesterday?
viii. What he say yesterday?

The reason this example remains open to more than one interpretation is because AAE permits zero-marking of past-tense (Rickford 1999), so variation between the forms above could also be between syntactically distinct structures, one which has an auxiliary that is overtly marked for past tense, and one which does not have an auxiliary and in which the past tense is not overtly marked. Thus, we have a clear method for proving variation between syntactically distinct structures, but the means for proving variation as the product of phonological deletion is less solid.

[28] See Appendix H for a summary of Labov et al's data, including frequencies and distribution of question types.

3.2.2 Syntactic ØAux = Non-Inv [29]

This section lays out the argument for the syntactic equivalence of Non-Inv and ØAux. Using auxiliary *do*, I argue that both are types of I-*in situ* constructions; they differ only in the morphological realization of I, depending on polarity and semantics.

3.2.2.1 Auxiliary do

This section probes more deeply into the distribution of ØAux vs. Non-Inv with auxiliary *do* to shed light on what determines the realization of a question as either ØAux or Non-Inv. The following tables show that across question types, auxiliary *do* is only required in SAI forms and with negation. Positive auxiliary *do* questions will vary only between SAI and ØAux, but not between Non-Inv. Conversely, negative auxiliary *do* questions vary only between SAI and Non-Inv, but not ØAux.

[29] My pursuit of an analysis in which ØAux is grammatically-conditioned form of Non-Inv is built upon Labov et al.'s (1968) observation that ØAux in which tense marking appears on the main verb is structurally identical to Non-Inv forms. My analysis and any problems with it are, of course, my own.

Wh- questions- *Do*			
Tense & Polarity	**SAI**	**Non-Inv**	**ØAux**
Positive Present	Why do you eat?	*Why you do eat?	What they say? (Green 2002: 130)
Positive Past	Why did you eat? (Green 2002:85)	*Why you did eat?	How you knew I was here? (Green 2002: 85)
Negative Present	Why don't I eat? Why õ I eat?	Why I don't need no grease? (Labov et al. 1968: ex. 399)	*Why you not eat?
Negative Past	Why didn't you eat?	So why you didn't go to school? (Labov et al. 1968: ex. 396) Why you ain't eat?	*Why you not ate?

Table 5. *Do* in *wh*-questions [30]

Yes/no Questions- *Do*			
Tense & Polarity	**SAI**	**Non-Inv**	**ØAux**
Positive Present	Do you have some? (Labov et al. 1968: ex. 390)	*You do eat?	You want some water too? (Green 2002: 128)
Positive Past	Did you eat? Dju eat?	*You did eat?	You traded your other one? (Green 2002: 128)
Negative Present	Don't you eat?	You don't believe me? (Rickford & Melnick 2010)	*You not eat?
Negative Past	Didn't you eat?	You didn't eat? You ain't eat?	*You not ate?

Table 6. *Do* in *yes/no* questions

[30] The ungrammaticality of the positive Non-Inv *do* forms in both *wh-* and *yes-no* questions is attested by Labov et al.'s 1968 corpus of AAE in which the authors never find such forms. Based on an analysis of diasporic varieties of AAE and the early AAE recorded in the ex-slave recordings, Van Herk (2000) finds that positive *do* auxiliary categorically inverts. Native AAE speaker judgments also attest that positive unemphatic *do* cannot occur in a Non-Inv question type.

The complementary distribution of Non-Inv and ØAux according to polarity is predicted by the role of unemphatic auxiliary *do* in general English: to carry stranded affixes encoded in the I node (see chapter 2). If I raises to C in a *yes/no* question or, as in the following figure, I has raised to C in a non-subject *wh*-question, the subject intervenes between I and V and affix-hopping is blocked. In this case, *do*-support is triggered (Figure 6).

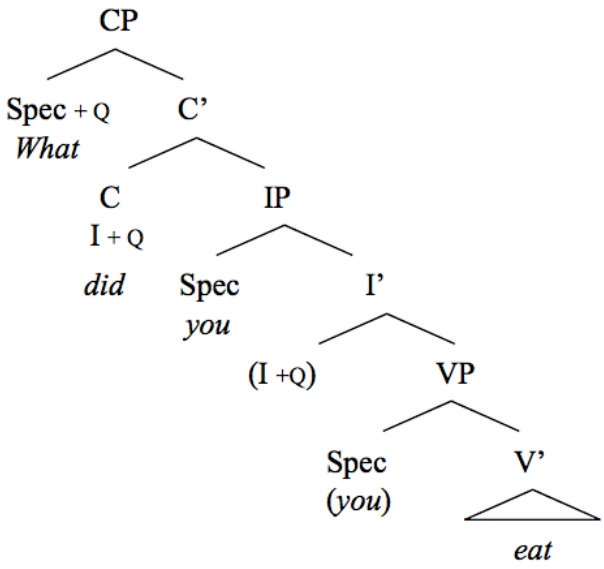

Figure 6. *What did you eat?*

In a subject *wh*-question, there is no subject intervening between I and V because the subject has raised above to the specifier of C. The relationship between I and V is such that affixation—whether it is via lowering or covert V-to-I raising, depending on one's view—is not interrupted. The main verb is inflected with agreement features, and *do*-support is not triggered (Figure 7).

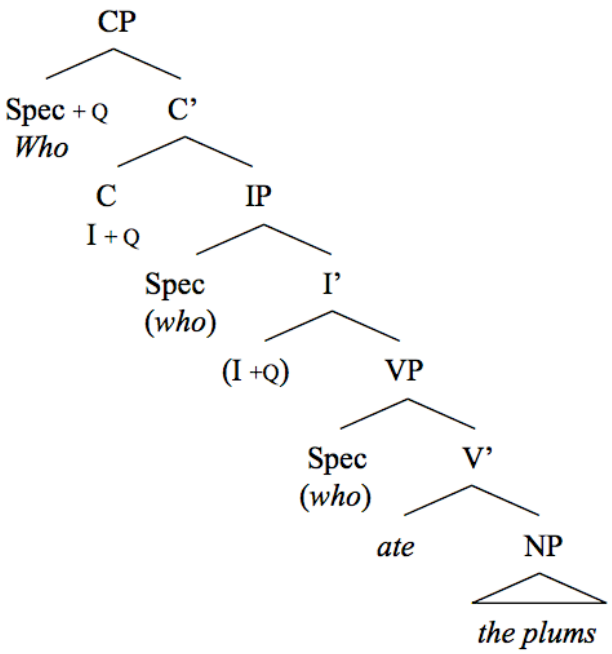

Figure 7. *Who ate the plums?*

Returning to the distributional evidence in AAE, it is clear that Non-Inv and ØAux do not involve overt I-to-C head-adjoinment at PF.[31] In Non-Inv, the presence of the auxiliary in the post-subject position provides evidence that I does not overtly raise to C at the pronounced level of PF, as in the following derivation of the Non-Inv question: *Why he don't eat plums?*

[31] Putting aside those cases of ØAux in AAE that may be phonological deletion of a raised auxiliary.

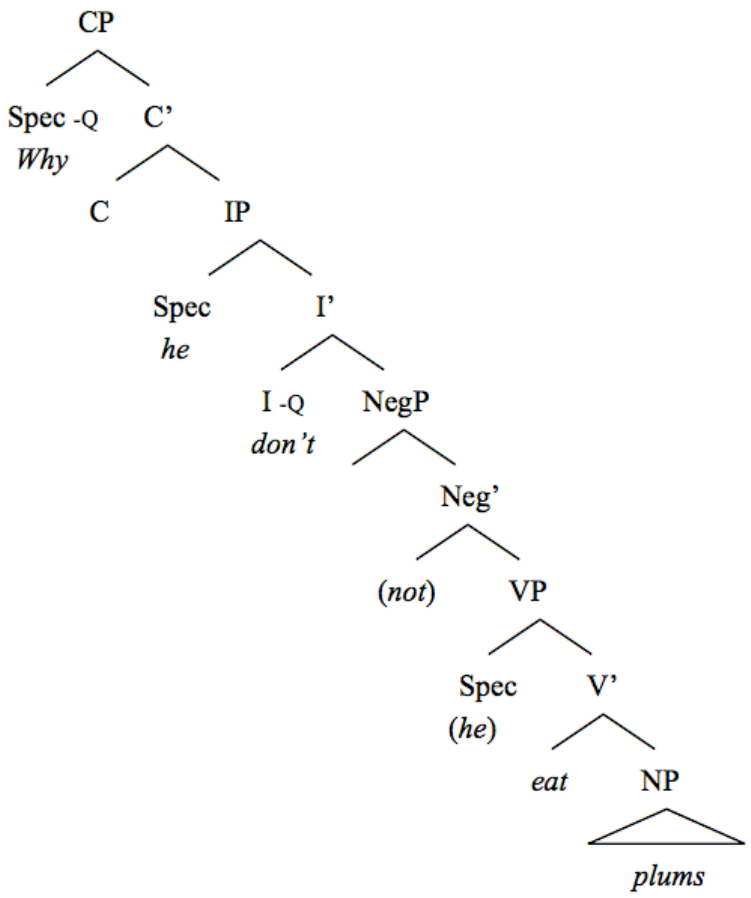

Figure 8. *Why he don't eat plums?*

In the case of ØAux where the tense is clearly marked on the main verb, we must also assume there has been no I-to-C raising because affix-hopping occurs. If I had raised to C, the subject *you* would be intervening between I-in-C and the verb, thereby interrupting affix-hopping. In this case *do*-support would be triggered, and *do* would carry tense and agreement; tense agreement would have disappeared with the phonological deletion of *did* and the main verb would be uninflected for tense. Therefore, it could not be the case that *do*-support was triggered and then deleted. Instead, it must be the case that I is *in situ*, and affix-hopping is able to occur between I and V. [32] The following tree illustrates the structure for the ØAux question *What you ate?*

[32] The alternative analysis is that I has raised to the head of C, and for some reason the intervening subject in the specifier of I does not interfere with affix-hopping from I-in-C to the verb in the VP. Such an analysis would require further modifications of the nature of affix-lowering. Given no reason to suspect this alternative analysis to be the case, we will maintain the simpler analysis that I is *in situ*.

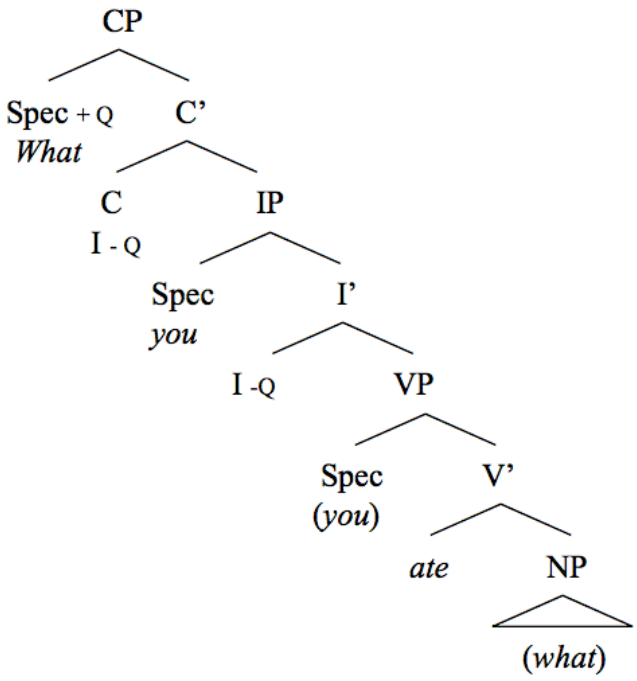

Figure 9. *What you ate?*

Thus, Non-Inv and ØAux question types are syntactically identical in terms of having no I-to-C raising, which is in contrast to SAI, and which results from I-to-C movement. From a movement-based analysis, Non-Inv and ØAux are a type of I-*in situ* question. The movement of I-to-C in order to satisfy the well-formedness criterion on questions,

and the check of Q features on I and the specifier of C, is satisfied covertly at LF (see chapter 2).[33]

The complementary distribution of Non-Inv and ØAux questions with auxiliary *do* shown in the table is explained. It follows that Non-Inv with *do* would only occur in negative questions. In a positive question where I is *in situ*, there is no element intervening between I and V, so *do*-support is not triggered (Figure 9). However, in a negative question where I is *in situ*, the *not* in NegP is intervening between I and V, affix-hopping is blocked, and *do*-support is triggered (Figure 8). Thus, ØAux and Non-Inv are both I-*in situ* constructions, and the difference is a morphological one that depends on the polarity. The analysis with *do* suggests that SAI varies syntactically with I-*in situ* forms (i.e., ØAux or Non-Inv), while ØAux and Non-Inv vary morphologically. In positive *do* questions, AAE allows SAI (ex. 84) or ØAux (85; Green 2002: 85). In negative *do* questions, AAE allows SAI (86) or Non-Inv (87; Labov et al. 1968: ex. 399).

Positive *do* questions

84. How did you *know* I was here? *SAI*

85. How you knew I was here? *ØAux*

[33] Green (2009) suggests that a null Q feature raises in the case of Non-Inv.

Negative *do* questions

86. Why don't I need no grease? *SAI*

87. Why I don't need no grease? *Non-Inv*

3.2.2.2 Other auxiliaries

An analysis of interrogative variation actually being reduced to a binary syntactic alternation between I-to-C head adjoinment and I-*in situ* holds up to scrutiny with the other auxiliaries. Not surprisingly, ØAux is generally not possible with modals due to their non-recoverable epistemic and deontic content. That is, the overt realization of modals is essential to the meaning of the sentence. Thus, variation is limited to SAI or Non-Inv. The following tables show that Non-Inv and ØAux are in complementary distribution, insofar as ØAux is not allowed and Non-Inv is permitted, regardless of polarity. Whereas unemphatic auxiliary *do* is only motivated in the Non-Inv question types by the triggering of *do*-support with negation, modals can also occur in positive Non-Inv constructions because they are already part of the declarative construction. That is, they already occur in the I node without any syntactic trigger. The variation between SAI and Non-Inv with modals can be construed, again, as the difference between I-to-C head adjoinment vs. I-*in situ*.[34]

[34] As noted, aspectual markers pattern with modals, insofar as they only vary between SAI, and Non-Inv. Like modals, aspectual markers encode non-recoverable information.

***Wh*-Questions- Modals**			
Tense & Polarity	SAI	Non-Inv	*ØAux
Positive Present	What can I eat?	What I can eat?	*What ~~can~~ I eat?
Positive Past	N/A	N/A	N/A
Negative Present	What can't I eat?	What I can't play? (Labov et al. 1968: ex. 400)	*What ~~can't~~ I eat?
Negative Past	N/A	N/A	N/A

Table 7. Modals in *wh*-questions

***Yes/no* Questions-Modals**			
Tense & Polarity	SAI	Non-Inv	*ØAux
Positive Present	Can he go? (Dillard 1972: 63)	You can get good grades and sleep? (Green 2002: 128)	*You ~~can~~ help me?
Positive Past	N/A	N/A	N/A
Negative Present	Can't you help me?	Why I can't play? (Rickford & Melnick 2011)	*You ~~can~~ not help me?
Negative Past	N/A	N/A	N/A

Table 8. Modals in *yes/no* questions

Based on research on auxiliary *have* in declarative constructions (see section 3.1.2), wherein overt *have* is emphatic and zero marking Perfect is the default (e.g., Green 2002), we should analyze ØAux in Perfect constructions not as a deletion of *have*, but as the default form, whereas the overt occurrence of *have* in questions is the emphatic form. Thus, for non-emphatic constructions, ØAux will be default. For emphatic constructions, there is syntactic variation between the overt auxiliary forms of SAI and

Non-Inv. The following tables show the possibility of all three questions types with auxiliary *have*. In this case Non-Inv and ØAux are not in complementary distribution, but this is because the meanings are different. If the meaning is emphatic, we predict that the I-*in-situ* form will be Non-Inv, and if it is unmarked, we predict the *in-situ* form will be ØAux.

Yes/no*-questions-auxiliary *have			
Tense & Polarity	**SAI**	**Non-Inv**	**ØAux**
Positive	Have you seen her?	You have/You've seen her?	You seen her?
Negative Present	Haven't/Ain't you seen her?	You haven't/ain't seen her?	*You not seen her?

Table 9. *Have* in *yes/no* questions

Wh*-questions- auxiliary *have			
Tense & Polarity	**SAI**	**Non-Inv**	**ØAux**
Positive Present	What have you seen?	What you have/you've seen?	What you seen?
Negative Present	What haven't/ain't you seen?	What you haven't/ain't seen?	? What you not seen?

Table 10. *Have* in *wh*-questions

Lastly, variation between Non-Inv and ØAux with auxiliary and copula *be* shows the greatest deal of "free" variation, that is, variation within identical grammatical contexts that is not constrained by emphasis or pragmatics. As noted, copula and

auxiliary *be* have been subject to much research on AAE. The following table shows the distribution of *be* among the three question types.

Wh*-questions Copula/Auxiliary- *be			
Tense & Polarity	**SAI**	**Non-Inv**	**ØAux**
Positive Present	What is they going' fight for? (Labov et al. 1968: ex. 402)	What I'm thinkin' of? (Labov et al. 1968: 296)	How you gon do on your midterm?[35] (Green 2002: 130)
Positive Past	Why was/were you happy?	What they was doing? (Green 2002: 85)	*Why you happy yesterday?
Negative Present	Why isn't/aren't you happy? Why ain't you happy	Why she ain' over here? (Dillard 1972: 63)	Why you not happy?
Negative Past	Why wasn't/weren't you happy?	Why you wasn't/weren't happy?	*Why you not happy yesterday?

Table 11. Copula and auxiliary *be* in *wh*-questions

Yes/no* questions Copula/Auxiliary-*be			
Tense & Polarity	**SAI**	**Non-Inv**	**ØAux**
Positive Present	Is you down? (Labov et al. 1968: ex. 389)	You's/You're happy?	He sleeping in the car? (Green 2002:84)
Positive Past	Was/Were you happy?	You was/were happy?	*You happy yesterday?
Negative Present	Ain't/Isn't you happy?	You ain't/isn't/aren't happy?	? You not happy?
Negative Past	Wasn't/Weren't you happy	You wasn't/weren't happy?	*You not happy yesterday?

Table 12. Copula and auxiliary *be* in *yes/no* questions

[35] ØAux *be* is ungrammatical in 3rd person singular inanimate constructions where pronominal *it* is left in the final position. E.g., **What it?* But it is grammatical in "*What it for?"* (cited in Labov 1969: 22). ØAux is also ungrammatical with 1st person singular constructions **Why I happy?* (cf. *Why she happy?*).

Whereas ØAux *do* and Non-Inv *do* are in complementary distribution according to polarity, ØAux *be* and Non-Inv *be* are only in complementary distribution in the past tense, while they are in overlapping distribution in the present tense. Specifically, both ØAux *be* and Non-Inv *be* can occur in the present tense in both positive and negative sentences, but ØAux *be* is ungrammatical in past constructions. This distribution between ØAux *be* and Non-Inv *be* in questions mirrors the distribution of ØAux *be* and overt *be* in declarative constructions— that is, ØAux *be* can only occur in present tense constructions and is ungrammatical in past tense constructions (see 3.2.2). The complementary distribution of ØAux *be* and Non-Inv *be* in past tense is therefore straightforward.

What about the overlapping distribution of SAI, ØAux, and Non-Inv in present tense *be* constructions? SAI entails I-to-C raising whereas Non-Inv entails I remaining *in situ*, based on the visible evidence of the relative position of elements (Figure 8 & 9), but ØAux *be* constructions are more complicated. Whereas past ØAux *do* constructions may show agreement on the main verb, indicating the lack of I-to-C raising, there is no visible diagnostic in copula or auxiliary *be* constructions. In copula *be* constructions, *be* is the only verbal element which could host tense or agreement. In auxiliary *be* constructions, the main verb only hosts the aspectual progressive *–ing* morpheme, and is unchanged whether or not auxiliary *be* is present. Thus, we cannot say with certainty that cases of ØAux *be* are not phonological deletion of the auxiliary from an inverted position. The following derivations for the ØAux *be* construction *Where you going?* show the difference from a derivational perspective. In the tree in Figure 10 the auxiliary is deleted

from a pre-subject position, and in the tree in Figure 11 the auxiliary is deleted from the post-subject *in situ* position.

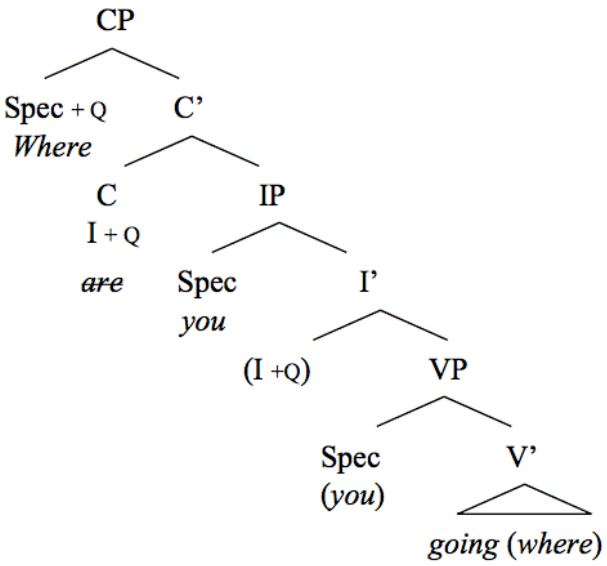

Figure 10. *Where ~~are~~ you going?*

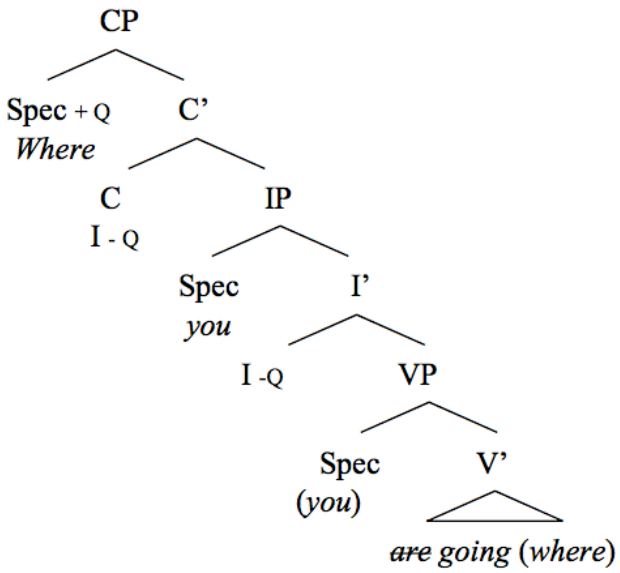

Figure 11. *Where you ~~are~~ going?*

The third alternative to either of these derivations, of course, is that there is no deleted auxiliary. In this case, both ØAux and Non-Inv in *be* constructions are *in situ* constructions, and the variation between the two is morphological. Given evidence that the two forms are realizations of the same phenomenon in *do* constructions, modals, and

have, the simplest and most unified approach is to assume that the same holds for auxiliary *be*; that is, ØAux and Non-Inv are syntactically equivalent and equal I-*in situ*.

At the very least, we can make two generalizations about ØAux *be* and Non-Inv *be* question types: 1) they both distinguish themselves from SAI in not having an auxiliary *be* in the 2nd position in *wh*-questions or in the 1st position in *yes/no* questions, and 2) the distribution of ØAux *be* in questions mirrors that of overt and covert realization of *be* in declaratives. Thus, although we may not have license to construe ØAux *be* and Non-Inv *be* as the same syntactic type of non-inversion as we did with *do*, they do form a class apart from SAI.

What determines variation between ØAux and Non-Inv in present tense *be* questions? Answering this question is tantamount to answering the question of what conditions the realization of copula/auxiliary *be* in present tense declaratives. This topic has inspired much research and debate, some of which was discussed in Section 3.1.2; further discussion is beyond the scope of this analysis.

3.2.2.3 Summary

I have argued that interrogative variation in AAE consists of morphological variation in the realization of the auxiliary and syntactic variation between I-to-C movement and I-*in situ*. Given that some instances of ØAux may be the result of phonological deletion of an auxiliary in an SAI form and some may I-*in situ* forms where no auxiliary has ever occurred, the following schema shows all possible forms for AAE

questions. The following table provides examples demonstrating how each form would be realized. [36]

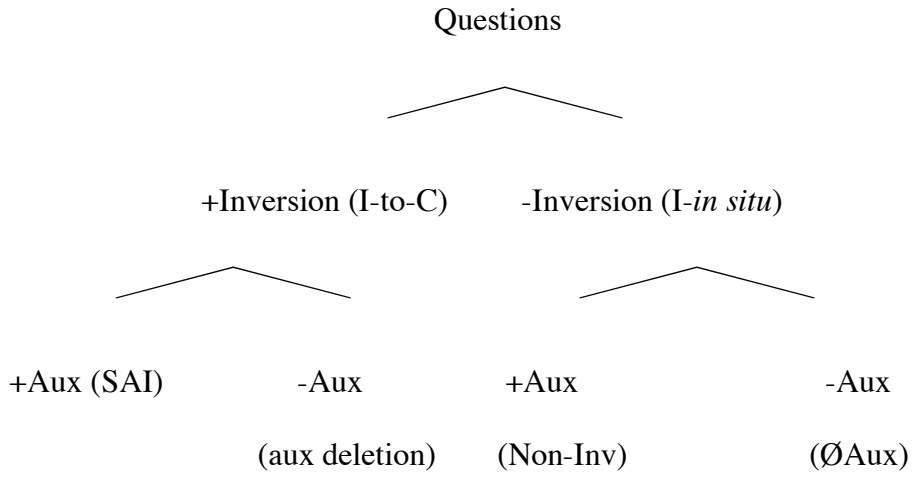

Figure 12. Schema for question variation in AAE revised

	I-to-C (+Inversion)	**I-in situ (-Inversion)**
+Auxiliary	SAI Did you eat yet?	Non-Inv You didn't eat yet?
-Auxiliary	Phonological ØAux __You eat, yet?	Syntactic ØAux You ate yet?

Table 13. *Yes/no* question forms according to syntactic type

[36] Note that the schema allows for auxiliary-less questions that are the result of auxiliary deletion as a phonological phenomenon, though this chapter does not answer for the constraints conditioning its occurrence with different auxiliaries.

	I-to-C (+Inversion)	**I-in situ (-Inversion)**
+Auxiliary	SAI What did you eat?	Non-Inv Why you didn't eat?
-Auxiliary	Phonological ØAux What __ you eat?	Syntactic ØAux What you ate?

Table 14. *Wh*-question forms according to syntactic type

3.2.3 Syntactic variation between SAI and *in situ* forms

Having established that variation between Non-Inv and ØAux is morphologically and semantically determined, we can address what determines the syntactic variation between these *in situ* forms and SAI. By and large, all auxiliaries (and aspectual markers) permit variation between SAI and *in situ* question forms.

In *yes/no* questions, prosody licenses different word orders. As discussed in the previous chapter, Non-Inv *yes/no* questions may end in a level tone, rather than the rising tone associated with *yes/no* echo questions in mainstream English (e.g., Green 1990; Foreman, and Thomas 2007). That is, the absence of auxiliary raising in *yes/no* questions may only be licensed by certain prosodic contours. Furthermore, variation between an overt auxiliary in SAI or Non-Inv vs. ØAux is also determined by emphasis, as in variation between overt auxiliaries and ØAux in declaratives. However, we must still clarify how the *in situ* question forms satisfy the syntactic criteria that distinguish interrogatives from declarative constructions. [37]

[37] An obvious difference between declarative constructions and *wh*-constructions is that a *wh*-word is in the specifier of C. *Yes/no* questions differ from declarative constructions because, as was discussed in chapter 2, certain NPIs may be licensed.

In accordance with the analysis of question subject auxiliary inversion laid out in chapter 2, if SAI in English interrogatives is motivated by a well-formedness constraint requiring that I adjoin to the C head in order for the Q features to check with one another, how do the *in situ* forms satisfy this requirement, if they do at all? One possibility is that the Q features check at PF in the SAI forms, but only at LF in the *in situ* forms. That is, the head of I adjoins to the head of C covertly. This explanation is the one which has been given for interrogatives in other languages in which verbs and *wh*-words remain *in situ* at PF, such as Non-Inv structures in French or languages in which *wh*-words are *in situ* in questions (e.g., Japanese; Kuno 1978). The idea is that question features in questions with *in situ* elements are weak, and check covertly at LF.

The explanation that *in situ* interrogatives in AAE are a case of weak Q features does not address what determines variation between the feature strength themselves in SAI vs. Non-Inv, as in the following:

88. Why didn't you leave?

89. Why you didn't leave?

Given evidence that the two question types are referentially and semantically equivalent, it does not make sense to argue that the differences in feature strength map to different interpretations.[38] There appears to be a real syntactic optionality in feature strength.

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[38] Labov et al. (1968) argue that all question variants are part of the core "vernacular" dialect spoken by participants.

Now let us contextualize this optionality within a formal syntactic framework. A variety of theories have been advanced to account for true variation, some of which were discussed in chapter 1. Unlike phonological and lexical variation, true syntactic variation has only been recently explained in syntactic frameworks. Two related theories come from Henry (1995, 2003) and Kroch (1989), and I will adopt them here. Kroch (1989) argues that morphological and syntactic variation within individuals reflects competing grammars. That is, each grammar has a unique set of parametric settings that entail grammatical correlations, such as the correlation between verb raising and adverbial position in Early Modern English. Similarly, Henry (1995, 2003) argues that individual parameters within a single grammar may have an optional setting that maps to corresponding probabilities acquired by a first language-learner from the probabilities transmitted in the input of ambient language. Recently, Yang (2004, 2011) and others have used corpus evidence to show that child language learners are sensitive to probabilities associated with syntactic variation. This line of research has further shown that these statistical probabilities associated with variation in parameter settings map to gradual diachronic change.

These theories are consistent with AAE-specific observations that AAE-speaking children use morpho-syntactic variants with similar frequencies recorded in the input of their caregivers (e.g., Washington & Craig 2002). Therefore, it seems most likely that the parametric setting associated with I-to-C movement has an optional setting. As noted in chapter 1, question variation in AAE has been documented for over a century. This variation in AAE may be part of a long gradual shift from one form to another, analogous

to the slow shift from V-to-I movement to V *in situ* that has been proposed to be the underlying cause of the rise in *do*-support in Early Modern English.

To summarize, this discussion considerably reduces the scope of variation among question types in AAE. The scope of true syntactic variation is limited to certain auxiliaries and specific auxiliary-polarity-tense combinations. This discussion also explains why variation is possible with certain combinations and not others. I have argued that SAI can be construed generatively as I-to-C movement. I have also argued, based on the complementary distribution of Non-Inv and ØAux with *do* modals, and aspectual markers, that Non-Inv and ØAux are syntactically I-*in situ*. In the cases where variation between Non-Inv and ØAux is possible, such as with *have* and *be*, I have argued the variation is morphological, and subject to the same analyses posited for *have* and *be* variation in declaratives. That is, variation between Non-Inv and ØAux is a subset of auxiliary variation—and therefore morphological—and it is not specific to the interrogative system or interrogative variation, *per se*.

As noted, variation between SAI and the *in situ* forms is correlated to differences in intonation. Furthermore, Non-Inv that is rhetorical—i.e., echo questions—vs. a Non-Inv question that is a genuine request for information is also conditioned by intonation (Green 2011; pc). All three forms are grammatically and prosodically constrained.

3.3 CONCLUSION

This analysis of question variation in AAE accounts for the distributional differences between question variation in AAE and MAE question variation described in Chapter 2. The distributional differences fall out of the syntactic differences between the two varieties. Whereas overt I-to-C movement is obligatory in MAE with true interrogatives, I-to-C movement can be overt or covert in AAE. This is to say, the Q feature strength on the I node in MAE is always valued strong in MAE, whereas the Q feature strenght can be valued as strong or weak in AAE. Many of the distributional differences between questions in these two varieties fall out of this syntactic distinction. Thus, we never find Non-Inv in true *wh*-questions in MAE because the I-node can never remain *in situ* at the pronounced PF level if a *wh*-word has raised to the specifier of CP.[39] Likewise, we never find I-*in situ* at the pronounced PF level in true *yes/no* interrogatives in MAE. Non-Inv *yes/no* questions in MAE are echo questions, not direct questions, as evidenced by the fact that MAE Non-Inv *yes/no* questions never co-occur with NPIs. Recall that given the right intonation, AAE *yes/no* Non-Inv questions license certain NPIs, which is a criterion for distinguishing true interrogatives from echo questions (see chapter 2). However, because I-*in situ* at PF is a syntactic option for true interrogatives in AAE, we find Non-Inv *wh*-questions, and Non-Inv true *yes/no* questions. Other distributional differences between questions in AAE and MAE result from the fact that

[39] Recall that MAE, and AAE, allow echo *wh*-questions, in which both I and the *wh*-word are *in situ* (e.g., *She is dating **who**?*), but such examples are not genuine interrogatives in the sense we are analyzing here.

AAE permits auxiliary variation to a greater degree than MAE does. In this way, AAE parallels Russian, French, and other languages with question variation.

This analysis also predicts developmental differences in question acquisition in AAE vs. MAE. I have argued that a major difference between question variation in AAE vs. question variation in MAE is that AAE exhibits true syntactic variation (i.e., variation between referentially and pragmatically equivalent variants) between SAI and *in situ* forms (i.e., Non-Inv and ØAux). This syntactic variation is part of the core grammar of AAE. Following research in syntactic variation and acquisition (e.g., Henry 2003, Kroch 1989, Yang 2002), as well as much of the work in Variationist sociolinguistics, inherent variation is predicted to be part of the earliest grammar acquired by children, as opposed to social or pragmatic variants that are argued to be acquired later. Therefore, it follows that MAE speakers acquire SAI and go through a period of using SAI almost exclusively, given that it is the canonical form and question variation in MAE is pragmatically and semantically conditioned. However, AAE-speaking children should exhibit question variation, which they have received in the input, from the outset; and this variation should persist without any intermediary period in which just one canonical form is used. This prediction is borne out by the child data discussed in chapter 5.

Whereas MAE speakers can be said to have mastered the basic syntax of questions when they use SAI at 100%, we can say that AAE speakers have mastered the basic syntax of questions and question variation when they have mastered the rules of auxiliary variation and overt I-to-C movement. The rules of variation are syntactic as well as morphological. In contrast, research has shown that MAE speakers first acquire

auxiliaries in declaratives and then acquire obligatory overt I-to-C movement in true interrogatives. *Do*-support is triggered in accordance with traditional analyses of the role of auxiliary *do* to carry stranded affixes: when the main verb cannot carry agreement due to overt I-to-C movement or in the presence of *not* in the specifier of NegP.

AAE speakers acquire auxiliaries as well as auxiliary variation in declaratives, a topic that has received some attention following Kovac and Adamson (1982). The rules conditioning auxiliary variation have been argued to include phonological, semantic, and social constraints. AAE speakers also acquire optional covert interrogative I-to-C movement, that is, true syntactic variation. *Do*-support in AAE is triggered by the same rules as MAE: overt I-to-C movement or the presence of *not* in the specifier of NegP, coupled with there being no other auxiliary in the derivation. Thus, if there has been overt I-to-C movement and there is no auxiliary, *do*-support occurs. If the I node is *in situ* and the NegP is filled with *not*, *do*-support will occur. However, if the I node is *in situ* and there is no *not*, there will not be *do*-support.

The following chapters address question variation from the perspective of developmental patterns. Specifically, I examine developmental differences between AAE and MAE question variation in controlled experimental contexts, and show that the analysis provided in this chapter predicts the developmental differences between the dialects. I also examine the grammatical factors conditioning question variation among child AAE speakers, and show how the child patterns cast light on the nature of syntactic variation.

Chapter 4: Implications of Research on Questions in Child AAE

In the remainder of this dissertation I consider within-speaker question variation in child AAE, and I look at cross-dialectal variation in the use of questions in child AAE and child MAE speakers (ages 5-8). The description and analysis of questions and question variation in adult AAE presented in chapters 2 and 3 were based on examinations of attested data in existing literature and were theoretical in nature. The analyses of questions in child AAE and child MAE in the next chapter are based on empirical data I collected in a controlled elicitation context.

Here, the primary goal of studying child patterns is to describe patterns of question production in child AAE and to see if those patterns follow or depart from the patterns attested in adult AAE, described in chapters 2 and 3. In addition, I address three theoretical research questions based on the data: (1) Is syntactic variation present in the early grammar of AAE speakers, that is, part of the core grammar? (2) Are the cross-dialectal differences in the syntax of AAE and MAE questions described in chapters 2 and 3 apparent in young children in a controlled experimental context? Do AAE- and MAE-speaking children produce question patterns that are qualitatively, quantitatively and measurably different from each other between the ages of 5 and 8? (3) Is it possible to compare two dialects among child speakers to answer larger questions about the effects of syntactic variation on acquisition?

Before describing and analyzing the data I collected in chapter 5, this chapter gives background for the above-stated research questions by giving a brief overview of issues in child language and variation, of research on child AAE, and of research on questions in child MAE and child AAE.

4.1 CHILD LANGUAGE AND VARIATION

Estigarribia (2008) notes that syntactic variation during language development has gone under-researched; nor is there much research on variation among older children (Roberts 2002). This gap is especially notable within AAE studies, where variation has been a fundamental aspect of studies in adolescent and adult language patterns. Most research on child AAE has concentrated in communication sciences and disorders with a focus on distinguishing non-mainstream patterns from disordered language patterns (section 4.2). Language patterns of elementary school-aged children in AAE are only recently garnering attention (Craig and Washington 2006). This age group is important for a number of reasons, both practical and theoretical. Practically speaking, this is the age group during which the so-called black-white achievement gap emerges. The extent to which dialectal differences account for this gap is not clear (in contrast to socio-economic status; Stockman 2010), but it is still important to have a lucid picture of the patterns associated with this age range.

From the perspective of linguistic theory, filling out this age range is also vital to understanding the nature and development of variation. As Roberts (2002) and Eckert

(2000) have pointed out, patterns of variation begin to take shape prior to adolescence. In fact, we have reason to suppose that variation is acquired along with syntactic rules (Henry 2002). In AAE specifically, Kovac and Adamson (1981) found that children had acquired patterns of variation in copula and auxiliary *be* that mirrored those documented for adults by the age of 7.

4.1.1 The role of variation in acquisition

From the perspective of acquisition, variation in the input of child-directed speech has been argued to hinder acquisition based on studies in lexical variation (Clark 1987; Markman & Wachtel 1988) and morphological variation (Miller & Schmitt 2010); but variation has also been argued to facilitate acquisition in syntactic variation (Brown, Cazden, & Bellugi 1969; Morgan, Meier, & Newport 1989; Newport, Gleitman, & Gleitman 1977). Morgan, Meier, and Newport (1989) show that cross-sentential cues—that is, cues from multiple but structurally and semantically related sentences—actually help language learners acquire complex phrase-structures and adult syntactic patterns. On the one hand, a language is complicated by having a group of sentences with identical or nearly-identical words and meanings because there are multiple structures to acquire. On the other hand, such related sentences also provide learners with what the authors call "phrase-structure cues." The movement of a word or set of words (e.g., focus-fronting) or substitution of a complex NP with a pronoun allows children to infer constituency: for example, if a child hears the sentence *[The girl next door's cat] likes tuna...[He] likes*

tuna, then she can infer that "The girl next door's cat" is a complex NP. The authors found that participants were better able to learn an experimental language if they were provided with cross-sentential cues. The authors cite studies showing that caregivers often used syntactic "minimal pairs" in repetitions, which aid learners' language development (Newport, Gleitman, & Gleitman 1977).

With regard to the acquisition of questions and variation in MAE, Estigarribia (2008) argues that variation among syntactic alternates of *yes/no* questions in adult input facilitates child acquisition of more complex question syntax. He makes the case for viewing syntactic variants in children's language—which had historically been dismissed as errors (Brown 1973)—as mirrors of adult variation. This view departs from traditional attitudes that developmental variation represents errors on the path to acquiring correct forms and that these errors occur at different points in the development of a grammar, rather than concurrently (see chapter 2).

4.1.2 Locating variation in a grammar during language development

Dismissing variation as the product of developmental errors may be an outgrowth of traditional generative treatments of core syntax as invariant. For example, Kroch (1994: 185) suggests that, although speakers of a language may vary between morpho-syntactic forms with identical referential value, only one form is acquired initially as part of the core grammar. Speakers may acquire variants later, but variation among multiple forms is not part of the core syntax of a grammar. This model is consistent with

traditional generative and synchronic views of grammar, which were less hospitable to within-speaker variation than later generative theories. More recent generative theories, such as Optimality Theory and Minimalism (Adger & Smith 2005; Roeper & Green 2007), incorporate within-speaker variation into their models.

Modeling core syntax as a collection of categorical forms or parameters (i.e., non-variant) is not restricted to generative linguistics. Variationist sociolinguistics, which is built upon the notion that ordered heterogeneity and within-speaker variation are inherent to language (Weinreich, Labov, & Herzog 1968), has restricted variation in its own way by modeling variation as alternation between vernacular vs. standard features. Vernacular features refer to features within a single speaker's repertoire that are perceived as non-standard, as opposed to other features within the same speaker's repertoire that are more standard. That is to say, standard features are those that occur in the national mainstream, whereas vernacular features are those that are restricted regionally, socially, or ethnically. According to Labov (1997), an individual's vernacular language is "the form of language first acquired, perfectly learned, and used only among speakers of the same vernacular" (p. 395). Traditionally, sociolinguists have agreed that vernacular speech is most likely to occur in unmonitored, informal, and casual speech. In contrast, speakers are less likely to use vernacular features in formal contexts (Wolfram & Schilling-Estes 2006). Under this view, vernacular forms are more "natural" for speakers, and in some sense, more inherent to a speaker's system than standard forms.

This way of thinking has lead to popular notions that variation in AAE must be a kind of code-switching between idealized AAE forms (i.e., the vernacular variants) and

idealized MAE forms (i.e., the standard variants) (Bailey 1965; DeBose 1992). Under this model, speakers acquire a single form at home and acquire any variants later in life from speakers of other dialects. The only way this model would be sustainable across multiple generations is if adult speakers who vary between multiple forms never used standard variants in the home around young language learners. That is, caretakers would only use one form—the "vernacular" form—with children. Yet we know this is not the case based on studies of child directed speech, which document AAE-speaking caretakers using morphological, phonetic and syntactic variation with children (Washington & Craig 2002a).

Based on acquisition in Belfast English, Henry (2002) argues that variation is inherent to the core syntax of a speaker, and that speakers acquire not only multiple parametrical settings (e.g., verb-raising vs. verb-*in-situ*) but also the frequencies associated with those variants. In her words:

> "If grammars are naturally variable, we would expect variation to appear in the early stages of children's grammars. On the other hand, if grammars were in some sense naturally invariant, then we would expect children to perhaps acquire a single grammar, only later adding another variant for stylistic or sociolinguistic reasons" (278).

By way of example, Henry cites the acquisition of variation between *there is* and *there are* among child speakers of Belfast English. She showed that they used the forms with the same frequency as their caretakers, showing that not only do children acquire grammatical variants, but they appear to acquire probabilities as well. One question for

this observation is what other factors might facilitate the acquisition of these probabilities.

It is important to note that inherent syntactic variability and sociolinguistic variation need not be viewed as mutually exclusive phenomena. In fact, core grammars must be equipped for syntactic variability in order to have socially significant syntactic variation. Thus, it is possible that some variants are acquired with social meanings attached, whereas other variants may come to be associated with social meanings only later among peers, and still others may not have social meanings *per se*, but just probabilities associated with internal (i.e., grammatical) factors.

Studies of elementary-aged speakers are essential in tracking the shift from variation associated with acquisition to variation associated with adolescent and adult language.[40] This age range forms a linguistic bridge from acquisition to adult competence and younger elementary aged children provide the earliest window into variation that is not an artifact of first language acquisition.

4.2 RESEARCH ON CHILD AAE

The majority of work on the development of language variation in AAE has been conducted within the scope of communication sciences and disorders (Stockman & Vaughn-Cooke 1982; Oetting & McDonald 2002a; Seymour, Roeper, & deVilliers 2003;

[40] Variation associated with adolescent and adult language must be further analyzed as either variation that is inherent to the core grammar, or variation that should be analyzed as code-switching (see, e.g., Weldon 2004).

Wyatt 1996). This dissertation's use of patterns in child AAE to understand the nature of language variation more broadly is therefore a relatively novel endeavor (cf. Green 2011). The clinical focus has been due to the fact that certain features in adult AAE are associated with patterns of acquisition of MAE (e.g., Ø copula, Ø auxiliary, consonant cluster reduction, Ø third-person verbal marking, & non-inverted questions). Thus, child AAE speakers are at risk of being misdiagnosed with developmental delays where there are none, or being overlooked when there are delays. That is, their appropriate use of AAE patterns may be mistaken as an acquisition error when compared to MAE, or their disordered patterns may be mistaken as dialectal. [41]

Based on AAE acquisition research, a number of generalizations can be made about the early language patterns of AAE speakers. AAE speaking children go through the same broad developmental stages (e.g., MLU, syntactic complexity, narrative skills, semantic categories, and pragmatic and discourse development) as speakers of MAE (Stockman 2010), though certain differences correlate to differences in the target system.[42]

A challenge for acquisition studies in AAE phonology and morphology is distinguishing developmental variation from stable variation associated with adult patterns (i.e., within-speaker variation). For example, from the ages of 2 to 5, speakers of MAE go through a period of variable copula *be* usage before using it categorically by age

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[41] See the Diagnostic Evaluation of Language Variation (Seymour, Roeper, & deVilliers 2003), a standardized language test which measures language development with normative values for both MAE and AAE speakers.

[42] For example, AAE speakers acquire /r/ prior to MAE speakers, which Stockman (1996) suggests is the result of the different phonological patterns associated with /r/ in AAE.

5 (Becker 2000). In contrast, developing speakers of AAE never go through a period of 100% overt copula use, which is consistent with the fact that it is variably realized in the adult variety in particular environments. The limited research on AAE acquisitions shows no indication that children ever go through a period of using forms that are variable in adult AAE in a way that is categorical; auxiliaries, copula *be*, possessive –s, third person singular –s, and past tense –ed show variable use in both the developmental and adult patterns of AAE (Ross, Oetting, & Stapleton 2004; Stockman 2010).

Given the high degree of morpho-syntactic variation documented in adult AAE, it is inappropriate to gauge successful acquisition of features by categorical use, as has been done for overlapping features in MAE. In order to distinguish acquisition from mastery in the case of variable forms, it is necessary to look at distributional patterns, rather than the categorical or variable presence of features.

Research on the acquisition of copula and auxiliary *be* in AAE demonstrates this approach. Several studies have considered variable *be* acquisition by examining the phonological, grammatical, and semantic constraints on the overt production of *be* among child speakers (Kovac & Adamson 1981; Green, Wyatt, & Lopez 2007; Benedicto et al. 1998; Wyatt 1996). Kovac and Adamson's and Wyatt's studies consider the acquisition of variable *be* according to the preceding and following grammatical environments (e.g., NP *vs*. AdjP); Benedicto et al's study considers the effect of presentational vs. predicational contexts for the realization of overt or Ø *be*; and Green et al's study considers the semantic effect of event arguments on the realization of *be*. Each of these studies focuses on children's patterns of variation in light of other grammatical factors in

their language. Although this research has important clinical applications for AAE-speaking children, it is also important for theoretical understanding of acquiring variation in AAE and cross-linguistically.

4.3 RESEARCH ON QUESTIONS IN CHILD LANGUAGE

Whereas AAE question-types exhibit overlap among variants with semantic referential equivalence, MAE questions arguably vary around a single canonical form: SAI (see chapters 2). Thus, the targets of question acquisition in MAE and AAE are different. MAE speakers must acquire auxiliaries, distinguish auxiliaries from main verbs, and learn to invert the appropriate elements to form a question. AAE speakers, on the other hand, acquire auxiliaries and aspectual markers (e.g., aspectual *be*, remote past *BIN*); distinguish auxiliaries from aspectual markers; distinguish main verbs from auxiliaries and aspect markers; learn to invert the appropriate element; and finally, they must learn where it is possible to vary between the overt and Ø realization of the auxiliary and where it is possible to vary between inversion and non-inversion. Furthermore, these elements are acquired at different points, rather than simultaneously (see Green 2011). Thus, the criteria for measuring acquisition will necessarily be different.

4.3.1 Questions in child MAE

MAE speaking children are said to have mastered the syntax of questions at the point when they reach 90-100% auxiliary use subject auxiliary inversion. Broadly speaking, this occurs for normally developing MAE speakers by age 5 (Stromswold 1990; Guasti 2000). However, as noted, MAE questions do exhibit variation, an issue that I address below.

The volume of work on question acquisition in MAE has been largely motivated by the implications of question acquisition for syntactic theory. Young MAE speakers (ages 2-5) go through predictable stages of acquisition, and these stages include errors cited as evidence for the existence of a Universal Grammar (UG)—specifically, one that generates sentences with the aid of category-general movement rules (DeVilliers 1990; Valian, Lasser, & Mandelbaum 1992).

Acquisitional patterns in MAE include auxiliary-less questions and non-inverted questions forms that are ungrammatical in adult MAE.

73. What she likes? *ØAux*

(Ambridge, Rowland, Theakston, & Tomasello 2006)

74. What you can do? *Non-Inv*

(Rowland & Pine 2000)

Note that both of these forms are both grammatical in adult AAE and reflective of interrogative strategies documented cross-linguistically, which points again to general limits on language variation. Although the developmental forms in MAE are not grammatical in adult MAE, they do occur in other varieties—in this case, AAE—and cross-linguistically. This points to the fact that developing speakers' "errors" are reflective of more universal patterns of question variation.

According to Stromswold (1990), the ability to produce SAI in MAE is predicated on the successful acquisition of auxiliaries. Once auxiliaries have been acquired, the child may apply the transformational rules that derive a question (i.e., subject auxiliary inversion). The following table, adapted from Ambridge et al. (2006), summarizes the major findings for developmental patterns in MAE question acquisition.

Question feature	**Acquisition patterns** (cf. Ambridge et al. 2006)
WHAT	Shows lowest rate of Non-Inv among all *wh*-words (Kuczaj & Brannick 1979; Rowland & Pine 2000) and fewest question errors (Labov & Labov 1978; Erreich, 1984).
WHY	Shows highest rate of Non-Inv among all *wh*-words (Kuczaj & Brannick 1979) and greatest numbers of question errors (Labov & Labov 1978; Erreich, 1984).
DO	Shows more inversion errors (Santelmann et al. 2002) and higher rates of errors in general (Labov & Labov 1978) compared to other auxiliaries.
BE (copula & auxiliary)	Shows low rates of inversion errors (Maratsos & Kuczaj, 1978 inter alia) and high rates of correct use (Labov & Labov 1978; Valian & Casey 2003)
Negative polarity items	Show high rates of non-inversion with *wh*-questions and frequent doubling error (Maratsos & Kuczaj 1978; Stromswold 1990)

Table 15. Developmental patterns in MAE question acquisition.

In more recent research on the acquisition of *yes/no* questions in MAE, Estigarribia (2010) shows that question variation occurs to a much higher degree in adult MAE than had been previously reported. He found that non-SAI questions often account for over half of the adult *yes/no* questions in child directed speech in the CHILDES corpus. [43] The average SAI input was only 33-47% of all questions (2010). He also found that the relative frequency of question types produced by individual children reflected the input frequency produced by their caretaker. This suggests that not all question errors reported in earlier research are actually errors.

How do we square Estigarribia's arguments with research on question acquisition in MAE that measures MAE-speaking children's successful mastery of question syntax as the use of SAI 90-100% of the time? Estigarribia is analyzing data from children ages 1;3-5;1, and arguing that non-SAI variants are making up a significant proportion of their question utterances; other researchers have asserted that by 5 normally-developing MAE speakers are producing SAI 90-100% of the time.

One interpretation is that, as Estigarribia argues, some of the non-SAI variants produced by the child speakers are grammatical, and these grammatical non-SAI forms actually facilitate the acquisition of other forms. However, SAI is a canonical form that MAE speakers settle by age 5, before children begin deploying the other variants

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[43] Footnote 5 is repeated here for ease of reference: Estigarribia classified non-SAI (i.e., non-canonical) reduced questions as *subject-predicate questions* (ix.), *predicate questions* (x.), and *fragmentary questions* (xi.), shown in the following examples:

ix. You about ready to eat? [=Are you about ready to eat?]
x. Think that's a panda bear? [= Do you think that's a panda bear?]
xi. In the morning?

The fragment (xi.) could be produced in response to "I don't know when she will call." This fragmentary question could mean "She will call in the morning?" or "Do you think in the morning?" etc.)

according to the pragmatic and grammatical restrictions discussed in chapter 2 for Non-Inv and ØAux in MAE. For, as examples (73) and (74) attest, not all forms produced by developing speakers are grammatical Non-Inv and ØAux types in MAE. Thus, it appears that MAE speakers go through a period of question development in which they use question variation, including some forms that are ungrammatical in adult MAE. Then they settle on SAI as a canonical form and use the grammatical forms of Non-Inv and ØAux again at some point. This last point is obviously conjectural given the lack of research on the use of non-SAI forms in child MAE. Chapter 5 will address this issue more fully.

In chapter 2 I discussed how patterns of question variation in adult AAE and adult MAE differ. The data analyzed in chapter 5 will demonstrate how cross-dialectal variation between AAE and MAE is apparent in a controlled elicitation task with child speakers of both dialects.

4.3.2 Questions in child AAE

Given that adult AAE exhibits variation among SAI, ØAux, and Non-Inv, looking for a point at which speakers use SAI 90-100% of time is clearly an inappropriate gauge for successful acquisition. Instead, developmental errors include categorically ungrammatical Non-Inv (e.g., *Why she do eat?*), ungrammatical ØAux forms (such as ØAux past be in *Why she not at school yesterday?* or ØAux modals, such as *She help*

me? to mean 'Can she help me?'), double-auxiliary errors (e.g., *Why do he don't want to come?*), and failing to front *wh*-words in content questions.

Another criterion for determining acquisition of the adult variety may be whether frequency of forms is correlated with age, though this is more complicated given the high rates of individual variation among adult speakers. However, are there preferences for variants, where variation is possible, according to age? If so, at what age do speakers reach a plateau where variation is no longer developmental?

In this section I present findings from the literature on questions in child AAE. As noted in the introduction, research is scant and quite recent.

4.3.2.1 Craig and Washington

Craig and Washington (Craig and Washington 1994; Craig and Washington 1995; Craig and Washington 2004; Craig and Washington 2006; Craig et al. 2003; Washington and Craig 2002a) have conducted a number of studies on elementary-aged AAE speakers. Their approach can be classified as a feature- and frequency-based approach, insofar as they examine the frequency with which children use dialect features associated with AAE. One of their goals is to determine how the use of features associated with AAE changes through elementary school via contact with MAE. Although the authors do not present any single study focusing on questions *per se*, Washington and Craig (2002b) look at questions among other dialect features in the speech of children (ages 52-85 months) as compared to the speech of their caregivers. Within this study, they examine

non-inversion in questions and Ø auxiliary across sentence types (i.e., they fold together auxiliary-less questions with auxliary-less declaratives).

The authors found a high degree of individual variation in the use of features.[44] However, they also found that the frequencies associated with features used by children corresponded to the frequencies associated with the same features in the language of their caretakers. That is, children varied greatly from one another, but resembled their respective caretakers. This finding supports Henry's (2002) findings, noted above, in the acquisition of variation between *there is* and *there are* in Belfast English. Children used each variant with the same frequency observed in their caregivers' language.

Craig and Washington found that children and adult used Ø auxiliary forms in both declarative and question contexts to a high degree. Of 26 features examined, Ø auxiliary was among the most prevalent in the speech of both adults and children. They also found that Non-Inv questions were used more by caregivers than children (86% vs. 32%, respectively). However, they also found that a higher percentage of children's Non-Inv question forms were formed with a *wh*-word than was true for the caregivers. The authors note that a reason for this discrepancy is that the functional contexts in which the adults and children produced questions were different. Children were more likely to request new information, which requires a *wh*-word, whereas caregivers were more likely to request confirmation, using a *yes/no* question. The authors conclude that differences in

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[44] Individual variation has been noted for years in research on adult AAE (Baugh 1979; Cukor-Avila and Bailey 1995; Labov et al. 1968).

production rates are the product of discourse function and the parent's authority role in the interactions, as opposed to grammar or competence (222).

The interactional setting in which the data were gathered in Craig and Washington's study has advantages and limitations. Although this context is ideal in terms of collecting natural language samples, it does limit the number of questions that can be gathered, the pragmatic context in which they are produced, and the grammatical context. Specifically, it limits what we know about the pragmatic and grammatical constraints on variation in the children's language.

4.3.2.2 De Villiers

As part of the larger DELV project (Seymour, Roeper, and deVilliers 2003), de Villiers (2004) assessed the pragmatic skills of normally developing and language disordered AAE- and MAE-speaking children (ages 4-9) in the production of questions. After showing participants a series of pictures, he had children ask *wh*-questions to gain specific information about scenarios shown in pictures. In one example, the investigator presented the participant with a picture and said: "The girl is painting something. You need to find out what she is making. Ask her the right question, and I'll show you the answer." Children's morphosyntax was allowed to vary, because morphosyntactic variation was not under investigation. For example, both *"What she paintin'?"* and *"What is she painting?"* were considered pragmatically appropriate (De Villiers 2004: 59). The goal was to determine if children were able to identify to whom or to what was

being referred, and if they were able to ask pragmatically appropriate questions in relation to the pictures. The author found that there was no difference between AAE- and MAE-speaking children, though both groups showed age effects (i.e., speakers produced more pragmatically appropriate questions at older ages).

4.3.2.3 Green (2007, 2011)

In work on question acquisition in AAE, Green (2007; 2011) reports that speakers between ages 3-5 vary among different question forms after they show the ability to produce subject auxiliary inversion. The following examples (from Green 2007: 95-96) show variation among SAI, Non-Inv, and ØAux for 3-5 year olds.

<u>*Yes/no* questions</u>

75. Do this phone go down or up? (J025, 5) *SAI*

'Does this phone go down or up?'

76. You a pour me some juice? [45] (J003, 3;8) *ØAux*

'Will you pour me some juice?'

[45] The morpheme *a* can be analyzed as a reduced form of *will*: *will* -->*'ll*--> *a*

Wh-questions

77. And who this is? (Z091, 4;5) *Non-Inv*

'And who is this?'

78. How she broke her leg? (T127, 5;7) *ØAux*

'How did she break her leg?'

Such variation is similar to findings for developing speakers of MAE, until they reach 5, whereupon MAE speakers use SAI predominantly. Another major difference is that neither of the *wh*-question examples is grammatical in adult MAE, while they are both grammatical in adult AAE. The following chapter will have more to say about the emergence of differences at age 5 among AAE and MAE speakers.

An important fact about these data and Green's findings is that we do not find a period between ages 3 and 5, after a child acquires competence in auxiliary and inversion production, where speakers produce 100% SAI, 100% Non-Inv, or 100% ØAux. I will take up this fact again in the following chapter in the discussion of question data from 5-8 year olds, where one of the research questions is whether there is ever a group trend toward 100% of any one form across grammatical contexts.

4.4 THEORETICAL IMPLICATIONS FOR COMPARING CROSS-DIALECTAL ACQUISITION

Throughout this dissertation I have asserted that part of the reason for the lack of substantive research on questions in AAE is due to the incorrect assumption that AAE question syntax is identical to MAE or derived from MAE question syntax. Analyzing the differences between questions in the two varieties, especially in child language, may provide insight into cross-linguistic acquisition. Since the 1980s there has been a push to extend the search for language universals and limits on variation into the arena of acquisition (Valian 1991b; Slobin 1997; Givon 1985; Romaine 1989: 18).

Stoll (2009) notes that a major obstacle for comparative acquisition is determining comparability. That is, when one is considering a particular pattern in two different languages, it is difficult to tease apart all of the different factors in the languages that may contribute to how the pattern under investigation is realized.

Towards addressing this dilemma, Slobin (1997: 5) distinguishes between acquisition research between typologically diverse languages and between typologically related languages. He refers to the latter as the intra-typological approach and suggests that by comparing related languages within language families (e.g., Slavic languages), researchers can hold many more factors constant beyond the pattern being studied. This approach has been carried out in what has been called micro-parametric, microcomparative, and microsyntactic research in related adult languages (Kayne 2000).

Comparing question patterns in child AAE and MAE might be considered an even more microscopic version of the intra-typological approach, insofar as AAE and MAE

share at least much in common typologically, if not more, than sister languages. This type of research has become increasingly popular in comparative micro-syntax in adult language, as in the work on Dutch/Flemish dialects (Barbiers 2009: Haegeman & Zanuttini 1996) and English dialects (e.g., Henry 1995; White-Sustaíta 2010). It has also been conducted in cross-dialectal acquisition in dialects of English. For example, Henry et al. (1997) compared the acquisition of negation and negative concord in Belfast English and Bristol English. Their study illustrated that, although both varieties exhibit negative concord (e.g., *I don't want no cookie*.), differences manifested during acquisition of negation in each variety correlated with subtle differences in the syntax of negation in the two systems.

Therefore, by comparing closely related languages, it may be possible to control for the comparability of other features besides those being investigated. MAE and AAE provide an ideal "laboratory,"—as Slobin 1997 and Kayne 2000 have referred to the study of closely related languages or dialects—because the two dialects exhibit a number of (morpho)syntactic differences; yet, the systems overlap in most typological respects.

In comparing the question patterns of AAE- and MAE-speaking children, one issue is whether the distinct patterns of question variation in the input in the two varieties bring about different rates of acquisition. MAE speakers are said to have acquired the syntax of questions by age 5. Is the same true for AAE, or do AAE speakers master adult AAE question syntax at a different point? Whereas acquisition of questions in MAE has been defined as categorical SAI use, we may define acquisition of questions in AAE as only producing the variants licensed by adult AAE.

Chapter 5: Questions in Child AAE: Experimental studies [46]

Chapter 4 provided background on why research on child AAE is important and how it may have theoretical implications for our understanding of variation in child language cross-linguistically. I also argued that comparing questions in child AAE and child MAE may shed light on issues of variation cross-linguistically. In this chapter I report three experiments on question variation in child AAE. The first experiment is a cross-dialectal comparison of question production by child AAE speakers and child MAE speakers (ages 5-7). The second and third experiments analyze factors constraining question variation in child AAE. Before turning to a description of the experiments, let us consider the research questions to be addressed by these studies.

5.1 RESEARCH QUESTIONS

5.1.1 Constraints on variation

A major goal of this study is to answer the following questions: What do questions look like in 5 to 7 year old AAE speakers? What are the language-internal and language-external constraints on question forms among child AAE speakers? Specifically, what grammatical factors condition the use of certain question forms over others? Are they the same as those described in chapter 5 (e.g., auxiliary, polarity, tense)?

[46] Many thanks to my undergraduate assistants Ayelet Ronen and Erin Gustafson, and to post-doctoral student Douglas Bigham, for their work transcribing and coding data.

What are the proportional rates of different question forms relative to one another? Are there differences in the rates of question form use between different production contexts, such as elicited vs. spontaneous production? Does children's use of SAI, Non-Inv, and ØAux give any indication that Non-Inv and/or ØAux index a more informal register than SAI, such that they might be interpreted as sociolinguistic variants that children use to index a local identity?

5.1.2 Is question variation present at all?

In chapters 2 and 3, I analyzed question variation in AAE as being true syntactic variation—that is, variation that is part of the core grammar that AAE-speaking children acquire. Do patterns in child data support this claim? Recall that Kroch (1989) and others have argued that all children acquire a single syntactic form and add sociolinguistic variants later in life. However, we know from Green (2011) that young AAE speakers (3-5) vary among SAI, Non-Inv, and ØAux forms in certain contexts. This finding does not exclude the possibility that they may settle on a single form at a later point, just as MAE child speakers also use different question variants from 2-5 before settling on SAI questions as the canonical form. Therefore, an issue for child AAE is whether children settle on a single variant between 5 and 7, before incorporating the other two forms later. Such a scenario would support Kroch's hypothesis that children acquire a single syntactic form, before acquiring social variants later. On the other hand, Henry (2002) suggests that inherent variation should appear early and continuously in a child's grammar. If the

child AAE speakers in this study use all three question variants, then we can conclude that there is always variation in AAE grammar, from acquisition into later childhood. Such a result will point toward core variability in the question syntax of AAE, and support the analysis I provided in chapter 4.

5.1.3 Differences between AAE and MAE

From a cross-dialectal perspective, what differentiates question variation between MAE and AAE among child speakers? As has been noted, questions in MAE do vary among question types. Are the rates of SAI, NI, and ØAux use in questions significantly different between child speakers of AAE and MAE (ages 5 to 7)? What differences can we see in variation between child speakers of MAE and AAE? Is there any new light shed on questions in child MAE by comparing them to question patterns in child AAE? In chapters 2 and 3, I suggested that question variation in AAE is true syntactic variation, whereas question variation in MAE is phonological and pragmatic. Do the child data support these claims?

5.1.4 Rate of acquisition

As noted above, researchers generally agree that MAE speakers acquire the syntax of questions by age 5. An issue for AAE then, is whether the higher degree of variation in AAE questions prolongs the period of question acquisition or facilitates and measurably shortens it. Acquisition would be defined as following the grammatical constraints on variants attested for adult AAE (discussed in chapters 2 and 3). There are conflicting reasons to hypothesize that variation would prolong question acquisition or that it would contract the period, as compared to the period in MAE. In their study of German-speaking children's acquisition of the passive construction, for which there are multiple forms, Abbot-Smith and Behrens (2006) argue that negative interference is responsible for the later acquisition of constructions that have variant syntactic forms. Specifically, they argue that, "the construction conspiracy hypothesis predicts...that the acquisition of a target construction will be hindered by the prior acquisition of a construction that has an identical semantic–pragmatic function, or whose meaning is initially indistinguishable for a language-acquiring child..." (p. 998). In morphology, Miller and Schmitt (2010) examined acquisition of the plural morpheme in two dialects of Spanish, one in which the morphological forms vary between final *-s* and Ø (e.g., *casa**s*** vs. *casa_*, 'houses'), and one in which only a final *-s* is grammatical (e.g., *casas*). The authors found that children who received input that had a categorical plural (i.e., always *casas*) acquired plural morphology earlier than those children who were exposed to plural morphology that varied between *–s* marking and Ø marking. On the other hand,

there are also the aforementioned arguments of Morgan, Meier, and Newport (1989) and Estigarribia (2008) that variants can facilitate the acquisition of semantically-identical but syntactically-different forms. In considering question variation in speakers ages 5-7, the studies presented in this chapter will determine whether the variation can be viewed as errors and/or as developmental. Errors are defined as those question types that are unattested/ungrammatical in adult AAE, including: Non-Inv with affirmative *do* (e.g., *Why she do eat?*), ØAux with past copula/auxiliary *be* (e.g., *Why she not at school yesterday?*) or ØAux modals (e.g., *She help me?* to mean 'Can she help me?'), double-auxiliary errors (e.g., *Why do he don't want to come?*), and failing to front of *wh*-words in content questions (see chapter 3 for discussion of the ungrammatical types of question forms in AAE). Variation that can be correlated with development would be apparent in statistical analysis, if certain forms are correlated with sub-groups of ages.

5.2 Overview of studies

5.2.1 Field site and participants

I began collecting data for this study in the Spring of 2008 from the International School of Louisiana, a charter school (grades k-8) in the urban center of New Orleans. The school hosts a French and Spanish immersion program, and whites and African Americans are relatively equally represented. The children spend the majority of the school day in one of the target languages, and about 2 hours a day in English instruction (e.g., English, Art, and Computers). I observed students during lunch and recess, and

noted that they primarily spoke with one another in English. I spent a combined total of 5 weeks collecting data and observing students in classrooms, lunchtime, and during recess.

The immersion context had several advantages for these studies, which I describe here. Although the effects of an MAE-speaking classroom on the development of AAE are not widely understood, Craig and Washington (2006) found that students' use of AAE features decreased as they reached higher grade levels within MAE-speaking classrooms.[47] Therefore, the influence of MAE may exert less of an influence on AAE speakers' dialect in a second language immersion context than in a non-immersion context. A possible concern about the immersion context is whether Spanish or French might have a measurable interference effects on participants' respective variety of English. Holobrow, Genesee, and Lambert (1991) found no performance differences between the English used by working- and middle-class white and African American students in an immersion context vs. working- and middle-class white and African American students in a non-immersion context. Therefore, I deemed that the benefits of an immersion context would outweigh any potential drawbacks.

After obtaining IRB consent, participants were recruited with a letter and consent form sent to parents of all kindergarteners, first-graders, and second-graders in the school. A copy of the letter and consent form are included in the appendix (see Appendix A).

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[47] The degree to which AAE speaking children would acquire a second dialect in MAE is of course dependent on whether they receive sufficient exposure to the dialect. For example, there is little evidence that exposure through television is sufficient to acquire a second variety. Moreover, Ogbu (1999) notes several socio-cultural reasons why AAE speakers' exposure to MAE in elementary school does not necessarily result in MAE acquisition or use, such as the desire to maintain a distinct identity and avoiding the symbolic rejection of their own community's language.

5.2.2 Socio-economic status

Relative to other schools in the city, the school is unique in its racial and economic diversity; the school is required to maintain a minimum 50% at-risk admission rate. Due to the socio-political history of New Orleans, the majority of AAE speakers in this study came from lower-income homes, whereas most of the MAE speakers came from middle class homes. In the recruitment letter I did not ask caretakers to disclose information on their socio-economic status because I felt it would potentially offend caretakers given that my study would be investigating language and race, an already sensitive topic.[48] My knowledge of the background of the students came from talking with teachers and administrators, and was therefore general. Thus, I did not code or analyze socio-economic status. The ethnic make-up of the school is reflective of New Orleans' demography, as many lower-income whites and middle class African Americans left the urban center for the outskirts or suburbs, starting in the 1950s (Campanella 2006; White-Sustaita *to appear*). Previous research on AAE has observed a correlation between an increased use of features and patterns unique to AAE among AAE speakers from lower socio-economic bracket, given their generally reduced contact with MAE in, for example, higher education. However, I circumvented this issue by classifying and grouping participants according to their language use, which I address in the following section.

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[48] In fact, I did bring up the subject of SES with administrators and teachers, and they were uncomfortable with the topic.

5.2.3 Dialect classification

The data discussed in this chapter include data produced in spontaneous speech during participant-investigator interaction, and data collected from elicitation tasks. I am a native of New Orleans and speaker of MAE. There has been debate as to whether an investigator's race influences the type of data collected from child participants. Although I did not test whether language patterns changed based on whether the child was talking to me or an African American adult, several researchers have found that the quality of language produced by children in elicitations was not systematically influenced by the race of the investigator (Craig & Washington 2006; Seymour, Ashton, & Wheeler 1986).[49]

In order to classify the dialect of the participant, I analyzed the data produced in spontaneous speech using feature-based and listener judgment methods. Participants were classified as AAE speakers by referring to Craig and Washington (2006) and Oetting and McDonald (2002), who provide descriptions of patterns associated with child AAE (see Appendix B). Therefore, there were African American students whom I classified as MAE speakers. [50] Participants were required to be native speakers of English, and for English to be the language used in the home. Due to the social and ethnic segregation that

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[49] This is not to say that children are unaware of racial differences, or are not more at ease with investigators of the same race—simply that they have not been shown to switch grammatical forms to accommodate the forms used by the investigator.

[50] In this regard, the distinction between AAE and African American Language (discussed in the Introduction) is important. In this dissertation, AAE refers to the variety that developed among African Americans over the past four hundred years and that is characterized by distinct phonological, morphological, syntactic, and semantic patterns (historically referred to as *vernacular*). AAE is distinct from African American Language, insofar as AAL can refer to a diverse range of regional and social varieties and registers used by African Americans (including AAE).

persists in the city, it is likely that AAE-speakers and MAE-speakers do not experience significant dialect-contact before starting school, and their exposure to each other's dialects would have been limited.

5.2.4 Transcription and establishing reliability

With the help of two senior level undergraduate linguistics majors and a post-doctoral linguist, I transcribed the recordings orthographically. Because I was examining morphology and syntax, transcriptions were broad, rather than phonetically narrow. I trained the undergraduates to recognize grammatical and phonological features of AAE, and the post- doctoral assistant had a Ph.D. in linguistics with a specialization in socio-phonetics and English dialectal variation.

To establish transcription reliability, I had experimental elicitations transcribed twice, once by an assistant and once by me. Fortunately, there were very few discrepancies with a kappa score of .97.

5.3 EXPERIMENT 1: QUESTION PRODUCTION IN AAE AND MAE

5.3.1 Introduction

The purpose of this experiment was to determine what differences are present in the patterns of question variation produced by AAE and MAE speakers in a controlled elicitation context, and whether the variation in AAE questions is characteristic of acquisition.

Data were collected from a total of 63 children, 57 of whom were included in this study. Six of the participants were excluded because they were not cooperative or gave incomplete or unintelligible answers. The participants included 29 AAE- speaking children and 28 MAE-speaking children, ranging in age from 5;2 to 7;7 (AAE mean age = 6;1 and MAE mean age= 6;2).

5.3.2 Procedure

The investigator elicited one *yes-no* and six *wh*-questions from each participant by engaging in a "make-believe" game. The investigator gave the participant a cell phone (turned off) and asked him/her to pretend to call Wal-Mart using embedded questions. [51]

[51] Klee (1985) criticizes the use of embedded questions, arguing that recency effects of the non-inversion in embedded question could lead a child to produce non-inversion in the matrix question. However, it was deemed that having children repeat the question produced by the investigator would possibly leader to greater recency effects. In either case, though, Labov (1965) and Stewart, Baratz-Snowden, and Shuy (1973) show that AAE-speaking children may hesitate when a standard form is presented, but will continue to use their own grammar to produce a form that may be different from the example.

The investigator instructed the child to ask the store a series of questions. There were an average total of 7 prompts and 7 elicited questions per participant. The investigator acted both as the prompter and the toy store owner on the other end of the line. The role switching of the investigator did not appear to bother the child participants, but lent an air of fun to the activity. The same set of questions was used with every child in the same order. Recall there are three possible forms, SAI, Non-Inv, and ØAux. In MAE, speakers can vary among all three in *yes/no* questions, whereas speakers of AAE can also vary among all three forms in *wh*-questions as well. The following examples in Table 16 show each question type produced by a single AAE-speaking participant during an elicitation task.

Prompt	**Response (AAE #001; male, age 5;7)**	**Question type**
Ask the store what they sell.	*What do y'all sell?*	SAI
Ask them where you can get a bike now.	*Where I can get a bike now?*	Non-Inv
Ask them who they sold them to.	*Who you sold them to?*	ØAux

Table 16. Example elicitations

5.3.3 Results

A total of 194 questions in AAE and 191 questions in MAE were collected in the elicitation tasks. Differences between dialect and age question types produced in elicitation tasks were analyzed with a series of one-way analyses of covariance (ANCOVAs) by covarying age in months, using the statistical software program SPSS. For each of the three ANCOVAs, the dependent measures were the proportion SAI, ØAux, or Non-Inv responses.[52] The independent measures included the categorical factor of dialect, and the scalar covariant of age in months. The main effects of dialect and age were examined, as was the interaction between age and dialect. Because previous research has shown that questions in MAE reach SAI 100% by age 5 (Stromswold 1990), dialect was predicted to have a significant effect on question form production. Given that studies on the acquisition of copula *be* in child AAE have shown that developmental variation persists in child speakers until adult age 7 (Kovac and Adamson 1981; Wyatt 1996), it was predicted that age would have a significant effect on question production. The interaction between age and dialect was predicted to be significant; specifically, it was predicted that age would have no effect on MAE question production, but that it would have an effect on AAE question production. Finally, the frequency with which speakers produced errors was compared in the AAE- and MAE-speaking children.

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[52] See Guy and Bayley (1995) for a similar analytical procedure on relative pronoun realization in English, which also has three possible outcomes (i.e., *that*, *wh*-word, or zero).

Dialect	SAI		Non-Inv		ØAux	
	M	*SD*	*M*	*SD*	*M*	*SD*
AAE (29)	.55	.31	.14	.11	.33	.25
MAE (28)	.97	.06	.01	.03	.01	.05

Table 17. Mean proportion scores and standard deviations of question type given for each dialect group in elicitation tasks.

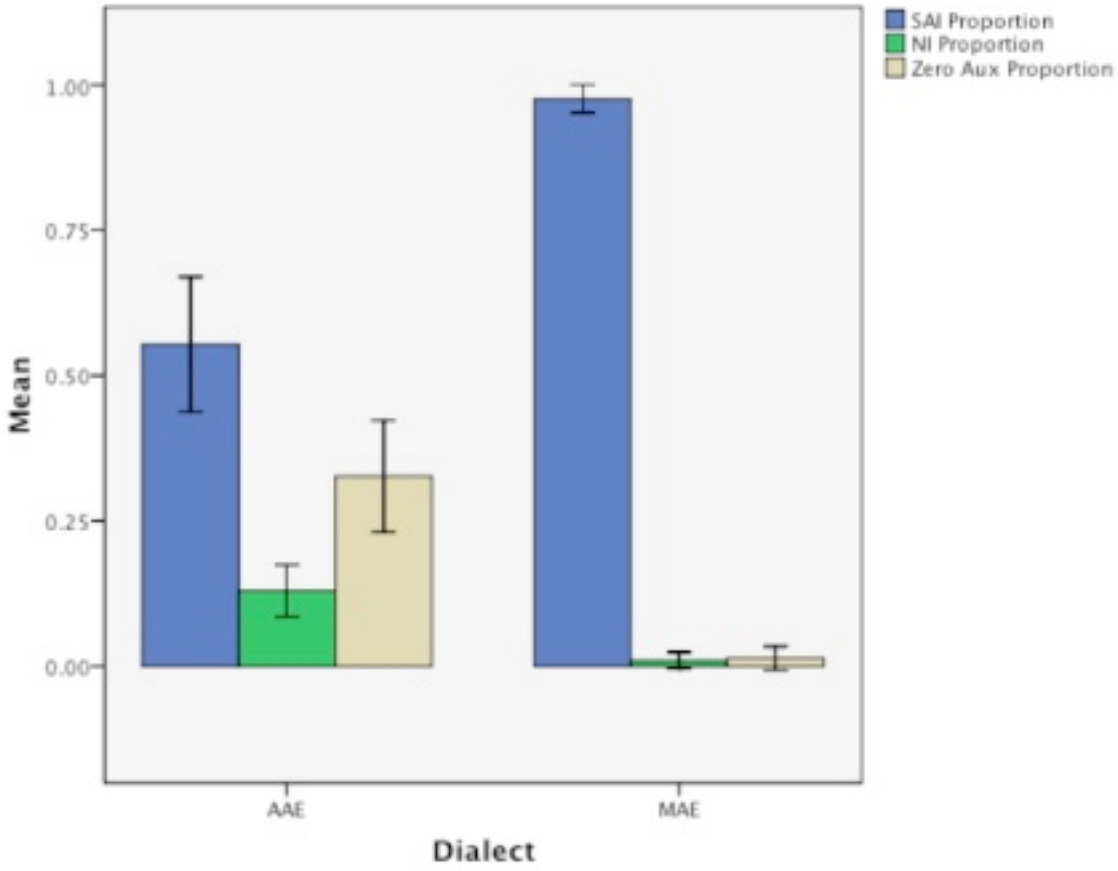

Figure 13. Relative mean proportions of each question type produced by AAE and MAE speakers in elicitation tasks.

As predicted, ANCOVAs performed for each question form revealed significant main effects of dialect for SAI, Non-Inv, and ØAux production. As Table 17 indicates, AAE speakers produced SAI 55% percent of the time on average in contrast to a mean rate of 97% for MAE speakers: F (1, 57) = 49.99, $p < .01$. AAE speakers produced Non-Inv in 14% of their responses in contrast to 1% for MAE speakers: F (1, 57) = 25.41, $p < .01$. Finally, AAE speakers produced ØAux 33% of the time, in contrast to 1% for MAE speakers: F (1, 57) = 40.22, $p < .01$. Table 17 lists the mean scores of question form production and their standard deviations.

However, these figures are somewhat misleading with regard to production rate of each form for AAE speakers, for these proportions represent a rate of production with respect to all questions included in the elicited data. Yet, as noted in previous chapters, neither Non-Inv nor ØAux are possible in all environments in adult AAE. Analyzing Non-Inv only in the environments where it can occur in adult AAE reveals that AAE-speaking children produced Non-Inv in 40% of the contexts that permitted it (e.g., with modals, auxiliary *be*, and negative auxiliary *do*, but not with positive auxiliary *do*). Likewise, analyzing ØAux only in the environments where it can occur in adult AAE reveals that it occurs 36% of the time. Table 18 lists the scores and percentages for each question form that occurs in the AAE data. As will be reported below in the discussion of errors, children did not produce Non-Inv or ØAux in contexts in which those forms are unattested in adult AAE.

Question Type	SAI	Non-Inv	ØAux
Yes-No	27/35 77%	2/3 67%	6/34 18%
***Wh*-questions**	84/159 53%	25/64 39%	52/127 41%
Total	111/194 57%	27/67 40%	58/161 36%

Table 18. Frequency of question types in elicited AAE questions out of total number where they should be able to occur based on adult patterns.

The ANCOVAs revealed no significant main effect of age on the rate of production for SAI ($F_{(1,57)} = .036$ $p = .851$), Non-Inv ($F_{(1,57)} = .361$ $p = .550$), or ØAux ($F_{(1,57)} = .142$ $p = .708$). In order to tease apart the two dialects to see if there was an effect of age one dialect and not the other, an ANCOVA looking for an interaction between dialect and age was conducted. If question type were a function of age in AAE but not MAE (in which SAI production was near-categorical), this difference would appear in an analysis of the interaction between dialect and age. However, ACOVAs revealed no significant interaction between dialect and age for SAI ($F_{(1,57)} = .094$ $p = .761$), Non-Inv ($F_{(1,57)} = .005$ $p = .943$) or ØAux ($F_{(1,57)} = .051$ $p = .823$).

Errors in AAE were taken to include any instances of Non-Inv or ØAux that are ungrammatical in adult AAE (discussed in chapter 3), as well as auxiliary-doubling, and tense-marking errors. Of the 194 tokens in the AAE data, there were two errors.

79. Why *did* y'all *don't* sell bicycles no more?

80. Why do y'all don't sell bicycles?

There were no errors with ungrammatical Non-Inv (e.g., Non-Inv with positive auxiliary *do*), or with ungrammatical ØAux (e.g., ØAux where modal CAN is unexpressed).

Of the 191 tokens in the MAE data, there were two auxiliary-doubling errors.

81. Why *do* y'all *don't* sell scooters anymore?

82. Why *do* they *don't* have toys?

There were also two ØAux forms and three Non-Inv questions types in the MAE data, shown below.

<u>ØAux</u>

83. Who they sold them to?

84. What else dey sell?

<u>Non-Inv</u>

85. Why you don't sell toys?

86. Why you don't sell toys?

87. Where I could get a bicycle?

Based on adult MAE, we might classify these responses as errors. But we must also allow for the possibility that these are the result of dialect contact between child AAE speakers and MAE speakers.[53] [54]

5.3.4 Discussion

The results suggest a number of conclusions. First, the fact that the children do no produce forms in the elicited questions that are unattested or ungrammatical in adult AAE, as well as the absence of an effect of age on variation among the three types, suggest that AAE speakers have mastered the grammatical elements of AAE questions by age 5; and thus, variation in adult AAE question type input does not prolong question acquisition relative to question acquisition in MAE. By age 5, the use of SAI, ØAux and Non-Inv by AAE speakers aligns with the grammatical patterns described in chapter 3. For these children, the presence of variable forms did not prevent the acquisition of semantically and pragmatically identical constructions. This contrasts with arguments that the presence of variable forms in a child's input will prolong the period of acquisition (Abbot-Smith and Behrens 2006; Miller and Schmitt 2010). What these data cannot answer is whether the syntactic variation actually facilitates the acquisition of question forms in AAE such that child AAE speakers arrive at AAE adult grammatical

[53] These five examples are each produced by different speakers of different ages (ranging from 5;3 to 7 years old).
[54] Thanks to Sonja Lanehart for pointing this out.

forms prior to MAE child speakers. Only data from an early age could possible address this.

There was no period of 100% SAI in the AAE data (nor 100% of Non-Inv or ØAux). This result, taken together with the reported variation in earlier ages (3-5) (see chapter 4), is evidence that question acquisition in AAE is qualitatively and quantitatively different from MAE acquisition. Whereas MAE speakers vary among the three forms on the path to producing SAI categorically, the diagnostic for acquisition cannot be the same in AAE. These results, taken together with reported variation in earlier ages, also show that variation between the three forms in AAE is present from the outset. That is, there is no single form acquired, followed by later additions of syntactic variants. If the youngest AAE speakers only used ØAux and Non-Inv, and did not begin using SAI until later grades, we might wonder if SAI use was contingent upon contact with SAI in MAE questions. One remaining question is what exactly marks AAE questions as developmental? Furthermore, are there developmental markers in these data from 5-7 year olds that have gone overlooked, or are such developmental markers only present in younger speakers? I will revisit this question in the conclusion.

These results also show that qualitative differences in question variation are present in AAE and MAE from the outset of grammatical question production. Despite the availability of contexts where MAE speakers could use Non-Inv or ØAux, they produce SAI almost categorically when directly asked to produce a question. The fact that virtually no Non-Inv or ØAux questions occur in the child MAE data (specifically the type that are grammatical in adult MAE) suggests that the elicitation context

discouraged those forms. Put another way, even though MAE may allow certain reduced questions in rapid speech or informal contexts, the child MAE speakers almost never produce them. In contrast, all three forms are present in the elicited AAE data. It is worth noting that I often asked AAE-speakers repeat ∅Aux and Non-Inv questions in the elicitation to insure that I'd heard correctly. Sometimes this repetition exhibited an alternate form, but more often the form remained the same. Labov et al (1968) argued that repetitions of ∅Aux questions in which SAI 'do' appeared are proof that 'do' is present underlyingly but deleted. I suggest that the variation may simply be two alternate and underlyingly different forms, and is simply syntactic variation that is also intimate variation, discussed in chapter 3. This suggests that SAI is canonical for MAE speakers, variation notwithstanding. Thus, not only are the grammatical contexts in which MAE and AAE speakers can produce Non-Inv and ØAux different, so too are the pragmatic contexts, and these constraints are present as early as 5.

A number of questions remain, however. Namely, what is constraining the variation among the different forms for the AAE speakers? On the one hand, the elicitation context serves as a type of pragmatic and social control for production. Given that all three forms occur in the elicitation context, it does not appear that the three forms are socially or stylistically conditioned. These data don't allow a comparison of grammatical features, because each child only produced an average of seven questions, and the combinations of *wh*-words, auxiliary, and polarity—all factors which have been shown to condition question variation in developmental MAE and in adult AAE (Van Herk 2000)—were not tightly controlled in this study. The experiment presented in the

next section will further examine whether social factors condition variation among the three forms.

Another remaining issue is whether developmental variation might be apparent in a study differently designed. The third experiment will examine the issue of age more fully. Finally, a limitation of this study is that it is possible that there were ordering effects given that the prompts were delivered in the same order.

5.4 Experiment 2: Grammatical and discourse effects on question production in AAE

5.4.1 Introduction

The focus of the second experiment is two-fold. On the one hand, one goal is to determine how grammatical factors within a question influence its realization as one of the three possible forms in AAE. Therefore, this study analyzes *wh*-word, auxiliary, and polarity. Unlike the first experiment, this experiment contains a sufficient number of questions in various combinations to make statistically meaningful conclusions about the grammatical factors. The selection of grammatical factors and the motivation for their selection is discussed in greater detail below.

Whereas the previous study only considered elicited question production, this study also compares the production of spontaneous questions vs. elicited questions in order to say more about pragmatic and sociolinguistic constraints on the usage of the three forms. A common practice in sociolinguistics is to classify features in a non-

mainstream dialect according to whether they do or do not also occur in mainstream English. Thus, a traditional variationist approach to question type alternation in AAE would classify SAI as the standard form, based on the fact that it occurs in both AAE and MAE, and classify Non-Inv and ØAux as the vernacular variants of questions, based on the fact that that they only occur in AAE. Indeed, following the variationist sociolinguistic trend, work on child AAE does classify both variants as "vernacular" forms (Craig and Washington 2006; Oetting and McDonald 2002b).

Although the label "vernacular" has descriptive value for dialectologists insofar as it flags a form as non-standard, the label entails a host of sociolinguistic assumptions. The definition of vernacular varies, depending on the author. Vernacular can refer to a non-standard dialect that stands in contrast to a standard or mainstream variety in a diglossic context (Fishman 1967). In this context we might say someone speaks a vernacular language variety. Vernacular can also refer to features within a single speaker's repertoire that are non-standard as opposed to other features within the same repertoire that are more standard. According to Labov (1997), an individual's vernacular language is "the form of language first acquired, perfectly learned, and used only among speakers of the same vernacular." Traditionally, sociolinguists have agreed that vernacular speech is most likely to occur in unmonitored, informal, and casual speech. In contrast, speakers are less likely to use vernacular speech in formal contexts. Labov (1984) notes that "any systematic observation of a speaker defines a formal context where more than the minimum attention is paid to speech." Under these definitions, vernacular forms are more "natural" for speakers, and in some sense, more inherent to a speaker's system than

standard forms. Because vernacular features stand in contrast to mainstream features, it is easy to see why speakers would attach meanings to vernacular features that index either an oppositional stance to mainstream culture or covert prestige (in the Labovian sense). However, the social values of variants cannot be assigned *a priori* based on patterns in the standard variety. Empirical research must determine the factors that condition variation within a community of speakers (Eckert 2005).

Therefore, this study seeks to determine whether children's production of question variation gives any indication that Non-Inv and ØAux are used in discourse in any measurably different way from SAI. That is, is there any indication that Non-Inv and ØAux forms are sociolinguistically or stylistically conditioned variables? Research on child AAE has generally relied on naturalistic data arising from classroom interactions and caregiver-child interactions, and what has been reported of questions in child AAE in the literature is derived from naturalistic data (Washington and Craig 2002a). A limitation for this method, and for studying question formations generally, is that questions do not occur frequently in naturalistic speech (Labov et al. 1968; Van Herk 2000). Also, questions produced spontaneously are not controlled for stylistically or pragmatically. The experimental data in this experiment were elicited through methods used in studies of question acquisition in mainstream English (Bellugi 1971).

Participants were 23 AAE-speaking children (15 males and 8 females) aged between 5 and 8;2 (mean age = 6;5). Three of the original 26 participants were excluded after failing to produce questions and/or giving unintelligible responses to the elicitations.

5.4.2 Procedure

The investigator introduced the participant to a dragon puppet, and told the participant that the dragon only spoke when asked questions. Using embedded questions, the investigator instructed the child to ask the puppet a series of questions. On average, 24 non-subject *wh*-questions were elicited, containing every possible combination of the independent factors under scrutiny: auxiliary, polarity (i.e., positive or negative), and *wh*-word (further discussed below). The same questions were used with every child, but in a randomized order to control for order effects. Table 19 provides examples of prompts and sample responses from a female (age 5;6). Note that she uses ØAux, Non-Inv, and SAI. Question prompts were interspersed with play and chat, depending on the attention span of the participant.

***Wh*-Word**	**AUX**	**Polarity**	**Prompt**	**Example response (#034, female, age 5;6)**
who	**DO**	**positive**	Ask him who he played with yesterday.	Who you played with yesterday?
who	**DO**	**negative**	Ask him who he didn't see yesterday.	Who you ain't wanna see?
what	**BE**	**positive**	Ask him what he's going to do after school.	What are you gonna do after school?
what	**BE**	**negative**	Ask him what he isn't going to let his friends do?	What ain't you gonna let your friends do?

Table 19. Example prompts with *wh*-word, auxiliary, polarity combinations and sample responses.

5.4.3 Results

As noted, questions generally do not occur with great frequency in spontaneous interactions. However, Table 22 shows all *wh*-questions spontaneously produced (i.e., not elicited) and recorded during investigator-participant interactions. The data come from 16 of the 23 participants. The remaining 7 did not produce any spontaneous questions. The number of spontaneous questions produced varied depending on how talkative the child was. Some of the participants asked a number of *wh*-questions, whereas 7 of the children did not ask any *wh*-questions. As the table indicates, all three question types occur in natural speech.

	Number	**Percentage**
SAI	17	38%
NON-INV	14	31%
ØAUX	14	31%
total	45	100%

Table 20. Frequency of question type in spontaneous *wh*-questions.

The controlled elicitation task enabled the gathering of a much larger set of questions to analyze. A total of 675 responses were gathered from the 23 participants, after eliminating a small number of non-responses and errors (e.g., double auxiliaries: *Why do you don't want any?*). As the following Table 21 shows, all three forms were robustly represented. As will be discussed below, these proportions are similar to those reported for spontaneous questions in Table 20 above.

	Number	Percentage
SAI	302	45%
NON-INV	168	25%
ØAUX	205	30%
total	675	100%

Table 21. Frequency of question type for all elicited questions

5.4.3.1 Predictors of question variation

First let us discuss the three linguistic predictors and the simple frequency distributions of the response types with each.

Auxiliary. Variable auxiliary presence is well documented in declarative constructions in AAE. Although research on variable auxiliary presence and copula *be* is copious, there has been little work comparing it to auxiliary *do*. Thus, the two auxiliaries considered here were auxiliary *do* and auxiliary *be*. These were controlled for person and tense, so that auxiliary *do,* if realized, would be in the 2nd person singular past *did* form, and auxiliary *be*, if realized, would be the 2nd person singular present *are* or *is* forms. Person was always 2nd singular because the children were directing the questions to a puppet. For this reason, this study examines the effect of 2nd person singular *do* and *be* on the realization of question type, rather than the auxiliaries in general. The reasons for selecting the present tense for *be* and past tense for *do* are discussed below.

As has been discussed in chapter 3, a concern for looking at ØAux questions in the present tense is determining whether the form is the result of phonological deletion.

Example (88), which has no auxiliary, can potentially be analyzed as an SAI question type in which auxiliary *do* was deleted from a pre-subject position (89).

88. Why they listen to me? (Labov et al. 1968; example 393)

89. Why *do* they listen to me?

However, past tense contexts provide clues in the form of tense-marking on the main verb. If a ØAux question in the past tense exhibits past tense marking on the main verb, we can safely surmise that there was no auxiliary that underwent deletion.

90. What he said yesterday? (Green 2007; 89)

If an auxiliary had been present, we would not expect any tense marking on the main verb; it would have disappeared with the deleted auxiliary *do*, as in example (91).

91. What ~~did~~ he say yesterday?

Therefore, questions with ØAux questions in which the main verb is marked with the past tense can be safely counted as ØAux without fear that they were actually SAI prior to rapid-speech phonological deletion.

In the case of auxiliary *be*, it has long been documented that both auxiliary and copula *be* are rarely absent in the past tense (Labov 1969), in contrast to the present tense,

where *be* is optionally present and optionally inverted. Thus, whereas *be* questions would only be able to vary between SAI and Non-Inv in the past tense, they vary among all three forms in the present tense, as in the following example.

92. Why are you gonna fly to Mississippi? *SAI*

93. Why you're gonna fly to Mississippi? *Non-Inv*

94. Why you gonna fly to Mississippi? *ØAux*

Table 22 shows the frequency distribution of question type by auxiliary. Auxiliary alone does not appear to strongly predict question type. As the table indicates, all three question types occur with both *be* and *do*. The multivariate analysis will shed light on any affect auxiliary had on the question types.

	BE	**DO**	**total**
SAI	166 (47%)	136 (42%)	302
NON-INV	77 (22%)	91 (28%)	168
ØAUX	110 (31%)	95 (30%)	205
total	353	322	675

Table 22. Auxiliary and question type

Wh-word. The literature on question acquisition in mainstream English (Ambridge et al. 2006) and Van Herk's (2000) analysis of questions in earlier and diasporic varieties of AAE both show that rates of Non-Inv are higher with certain *wh*-words than others. The *wh*-words used in the present study were: *what, why, when, who, where*, and *how*. Table 23 shows the frequency distribution for the question types with each *wh*-word. [55]

	who	***what***	***why***	***how***	***when***	***where***	**total**
SAI	44 (42%)	55 (51%)	54 (44%)	50 (45%)	48 (39%)	51 (48%)	302
NON-INV	26 (25%)	22 (20%)	34 (28%)	23 (21%)	37 (30%)	26 (25%)	168
ØAUX	35 (33%)	31 (29%)	35 (28%)	37 (34%)	39 (31%)	28 (27%)	205
total	105	108	123	110	124	105	675

Table 23. *Wh*-word and question type

As the table shows, all three question types occur with all six *wh*-words. Visual inspection does not reveal any categorical absence or presence of one or two question types with any of the *wh*-words. Note, however, that for all *wh*-words, approximately half of the questions produced with each *wh*-word (between 42% and 51%) are SAI, while the remaining half are divided between Non-Inv and ØAux.

---

[55] I only considered non-subject *wh*-questions, because subject *wh*-questions never involve *do*-support or subject auxiliary inversion, as the following subject *wh*-question demonstrates. The second example can only be grammatical where *did* receives an emphatic reading.

xii. Who went to the store?

xiii. cf. * Who did go to the store?

Polarity. As in the case of *wh*-words, I chose to consider positive and negative polarity based on the observations in both mainstream English acquisition literature (Stromswold 1990; Rowland and Pine 2000) and adult AAE (Van Herk 2000) that Non-Inv is more likely with negative polarity than positive polarity. The observations are borne out in the child AAE data. Table 24 shows a strong influence of polarity on Non-Inv and ØAux. The distribution is near-complementary between the two responses, which I address in the multivariate analysis.

	positive	**negative**	**total**
SAI	164 (46%)	138 (43%)	302
NON-INV	25 (7%)	143 (45%)	168
ØAUX	166 (47%)	39 (12%)	205
total	355	320	675

Table 24. Polarity and question type

5.4.3.2 The multivariate analysis

To examine the influences of the predictors on question type with statistical accuracy, I performed mixed-effects binary logistic regression in the open-source statistical program "Rbrul" (Johnson 2009), which runs in the open-source software environment R (R Development Core Team 2010). This program combines several factors in a probabilistic model predicting a specified outcome. Because the possible

question response outcome is not binary, but rather varies among three possible responses, I performed separate binary analyses on the same dataset for each of the three possible outcomes, which were coded as binary by being specified as present or not present.[56] Each model combined the independent factors as fixed factors, and these were paired in all possible combinations to test for interactions. The models tested these for the extent and significance of their relative power to predict the choice of question variant. To control for individual bias among subjects (i.e., some individuals varied a great deal among the three variants, whereas others preferred a single variant), speaker code was included as a random effect.

The highly significant interaction between auxiliary and polarity in both Non-Inv ($p < 0.001$) and ØAux ($p < 0.001$) is clear in table 25. Whereas *do* never occurs with Non-Inv when polarity is positive and never occurs with ØAux when polarity is negative, auxiliary *be* can occur in both contexts, despite showing a preference for following the same pattern as *be* (discussed below). Therefore, I divided the dataset according to auxiliary based on the categorical differences exhibited by the two auxiliaries. As a result, there were six models: a model for each response variable (i.e., SAI, Non-Inv, and ØAux) with *be,* and a model for each response variable with *do*.

[56] See (Guy and Bayley 1995) for a similar analytical procedure on relative pronoun realization in English, which also has three possible outcomes (i.e., *that*, *wh*-word, or zero).

	DO			BE		
	positive	**negative**	**total**	**positive**	**negative**	**total**
SAI	73	63	136	91	75	166
NON-INV	0	91	91	25	52	77
ØAUX	95	0	95	71	39	110
total	154	168	322	187	166	353

Table 25. Polarity and question type for each auxiliary

DO. Variation among the three forms with auxiliary *do* (2nd person throughout) is sensitive to both *wh*-words and, of course, to polarity. ØAux questions only occur with positive polarity, and Non-Inv only occur with negative polarity, whereas SAI can occur with both. Thus, question variation with auxiliary *do* is not really among the three types, but rather just between SAI and ØAux in positive constructions, and just between SAI and Non-Inv in negative constructions.

Variation between SAI and ØAux is further influenced by *wh*-word. Figures 14 and 15 present the odds ratios of the significant terms in the SAI and ØAux models. The odds ratio specifies the ratio of likelihoods that SAI or ØAux, will occur when the predictor is set to the specified value. So, in the SAI model, the odds ratio for *what* is 2.37, meaning that if a question contains *what*, SAI is 2.37 times as likely as the alternative outcomes (i.e., Non-Inv or ØAux). Odds ratios smaller than 1 indicate a disfavoring effect. Comparison of Figures 14 and 15 illustrates that the odds ratio hierarchies for the *wh*-words are nearly in complementary distribution between SAI and

ØAux. For example, of the *wh*-words, *what* has the most favoring affect on SAI, but it has the most disfavoring affect on ØAux.

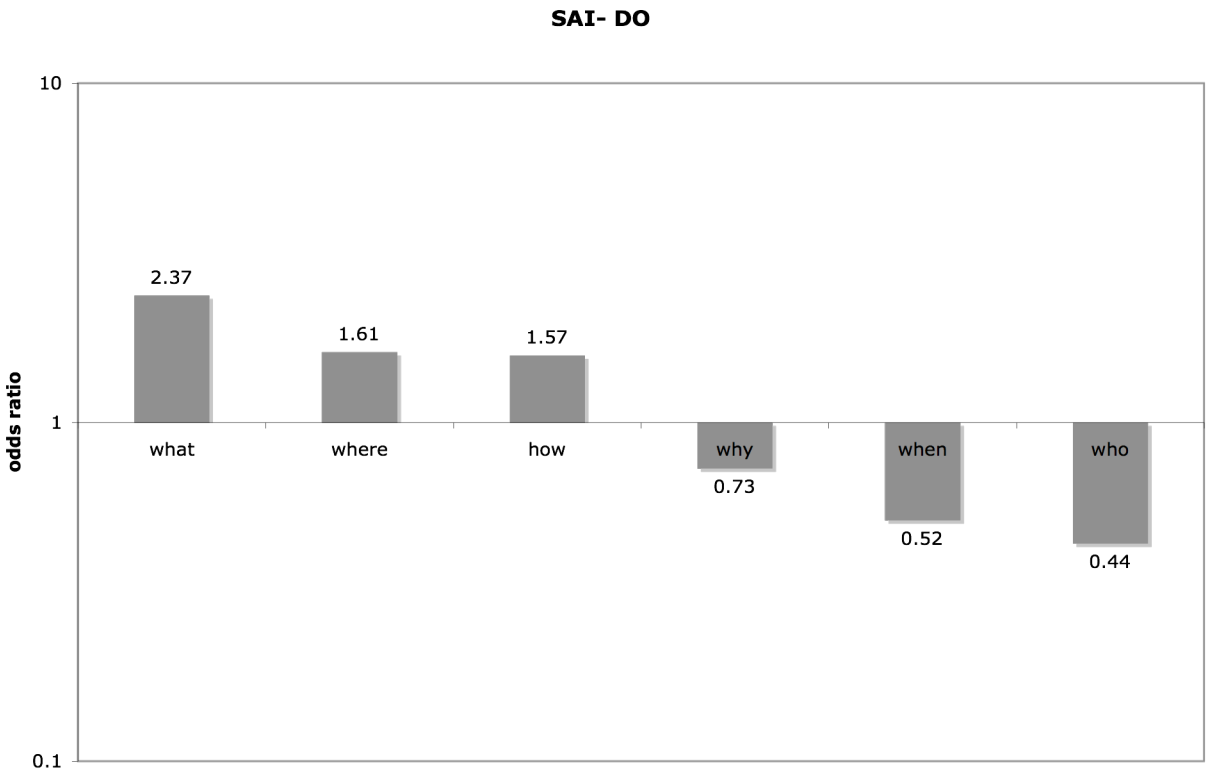

Figure 14. Odds ratios for *wh*-words in SAI constructions. Labels show numerical odds for each *wh*-word ($p < 0.01$).

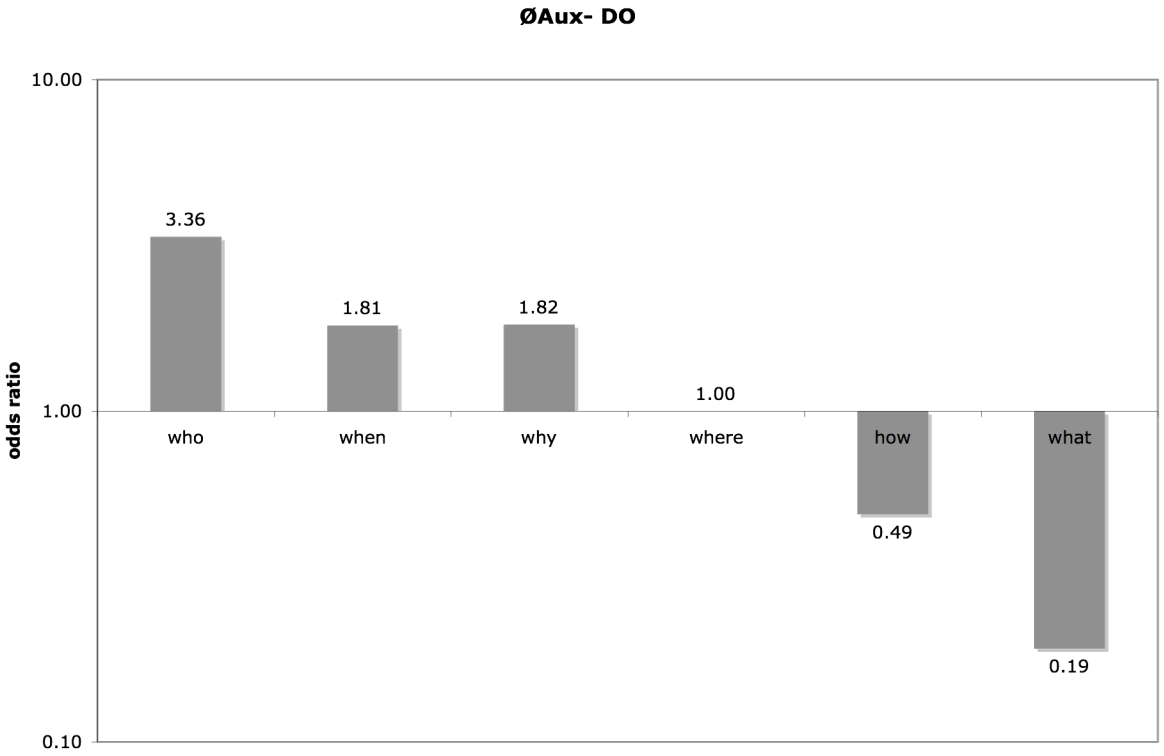

Figure 15. Odds ratios for *wh*-words in ØAux constructions. Labels shown numerical odds for each *wh*-word ($p < 0.01$).

BE. Variation among the three forms with auxiliary *be* (i.e., 2nd person) is also sensitive to *wh*-words and polarity. Although no factor significantly influences SAI, there is preferential split between ØAux and Non-Inv influenced by polarity. ØAux is much more likely to occur with positive polarity (e.g., *When you gonna build your castle?*; $p <$ .0001), whereas Non-Inv is much more likely to occur with negative polarity (e.g., *Why you're not gonna fly to Mississippi?*; $p <$ .0001). Moreover, ØAux is more likely to occur with *how* or *why* than the other *wh*-words.

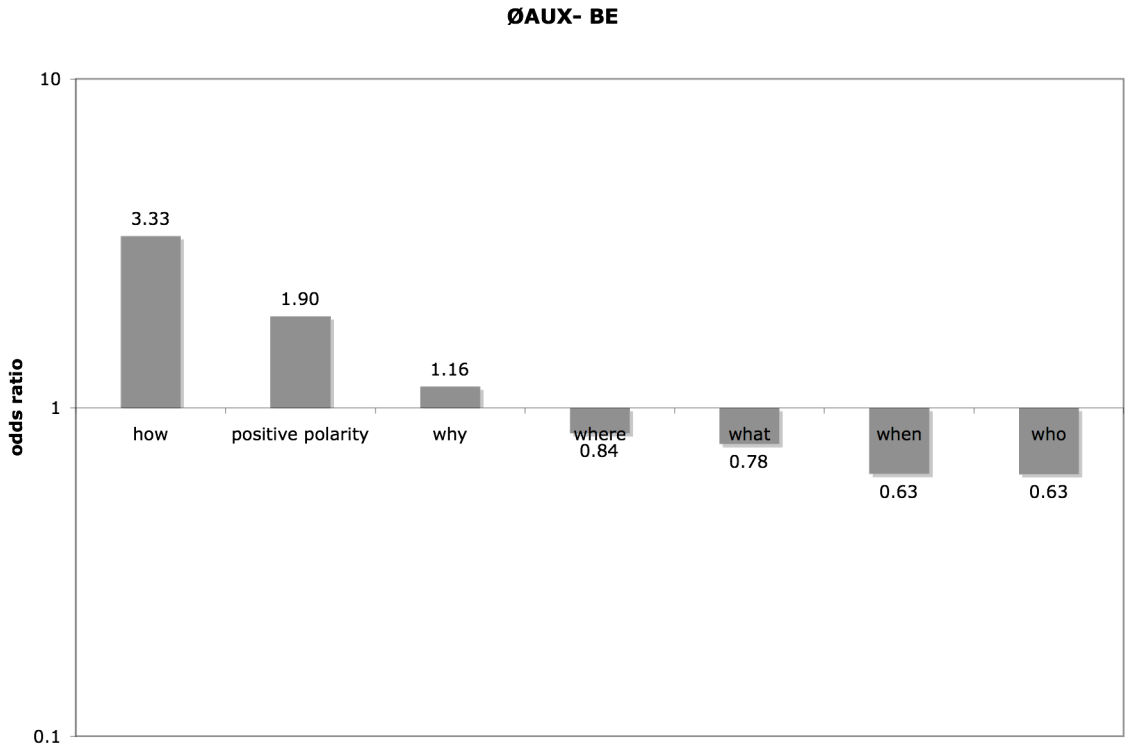

Figure 16. Odds ratios for polarity and *wh*-words in ØAux *be* constructions. Label shows numerical odds for each *wh*-word ($p < 0.01$) and positive polarity ($p <$ 0.0001).

5.4.4 Discussion

To summarize, the analysis yields the following findings:

- All three responses—SAI, Non-Inv, and ØAux—are robustly represented in the experimental child data. SAI occurs 45% of the time, Non-Inv occurs 25% of the time, and ØAux occurs 30% of the time.
- Although the number of spontaneous questions collected (n = 45) is not sufficiently high to compare with the elicited data, we do see that there is a similar proportion of question types in the spontaneous and elicited data. For spontaneous *wh*-questions, SAI was produced the most (38%), following by equal rates for Non-Inv (31%) and ØAux (31%). These rates are similar to the rates reported for the experimental elicited data. The different production contexts did not considerably alter the ratios of question types, as we might expect if Non-Inv and ØAux were reserved for less monitored spontaneous speech (i.e., sociolinguistic notion of "vernacular") and SAI were reserved for more formal contexts.
- Question types with 2nd person auxiliary *do* only vary between two responses, whose values depend on polarity. Negative questions vary between SAI and Non-Inv, whereas positive questions vary between SAI and ØAux. Variation between SAI and ØAux is further attenuated by *wh*-word, with *what* and *how* favoring SAI but disfavoring ØAux, while *who, when*, and *why* favor ØAux but disfavor SAI.

- Question types with 2nd person auxiliary *be* vary between all three responses, but the likelihood of ØAux *vs*. Non-Inv is significantly predicted by polarity, with positive polarity favoring ØAux, and negative polarity favoring Non-Inv. This preferential pattern resembles the categorical pattern for auxiliary *do*. ØAux is further favored by the *wh*-words *how* and *why*.

These results allow us to make two generalizations about question variation in child AAE. First, children show no signs of avoiding the forms that are non-standard or vernacular from the point of view of MAE, that is, ØAux and Non-Inv. In fact, taken together these forms occur more frequently than the standard form, SAI (55% *vs*. 45%, respectively). This is also the case for the small group of spontaneous question data. By way of comparison, recall that in the previous study MAE-speakers produced SAI near-categorically, despite there being *yes/no* questions in which Non-Inv and ØAux would have been grammatical in MAE. That is, MAE child speakers avoided these forms in the controlled elicitation, likely due to their pragmatic and social restrictions in MAE. A second generalization we can make is that the variation in questions is highly sensitive to linguistic factors within the questions. In fact, polarity restricts variation categorically with *do* and preferentially with *be*, and *wh*-words restrict variation preferentially. If we compare these results with attested patterns of question variation among adult speakers, discussed in chapter 5, we see correspondences between the child variation and adult variation. The categorical absence of Non-Inv with positive auxiliary *do* is present in both Labov et al.'s (1968) and Van Herk's (2000) descriptions of adult AAE as well as

the child data presented here. Van Herk also found a highly favoring effect of negation in his corpus of adult data—categorically in Non-Inv with *do*, and preferentially in Non-Inv with *be*. Van Herk also notes that the causatives, *why* and *how*, favor Non-Inv in the data he analyzes. Citing Stein's (1988) analysis of the rise of *do*-support in Early Modern English, Van Herk argues that *wh*-causatives represent heavier NPs than other *wh*-words, and therefore they resist fronting in the form of inversion. In the child data, we see that the causatives *how* and *why* have a favoring effect on ØAux in *be* constructions, while *why* has a favoring effect on ØAux in *do* constructions. In chapter 3, I argued for the structural identity of ØAux as a positive form of Non-Inv. This relationship is evidenced by their complementary distribution with auxiliary *do* and near-complementary distribution with auxiliary *be*. Thus, the favoring effect of causative *wh*-words on ØAux forms in the child data is worth connecting to Van Herk's finding for the favoring effect of causatives on Non-Inv in early and diasporic adult AAE. The child data mirror the patterns of adult data described in the literature.

5.5 EXPERIMENT 3: WHAT VS. WHY

5.5.1 Introduction

The first experiment provided evidence that variation among the three forms for the 5-7 year olds was not an artifact of acquisition. The second experiment showed that variation is sensitive to grammatical factors. The purpose of the third experiment is to more closely examine the effects of *wh*-word *what* and *why* on variation, both as a means of further testing for age variation and to further test how *wh*-word influences the choice of question type.

To better understand the choice to use *what* and *why*, let us consider the special place they hold in studies of question acquisition in MAE. As noted in chapter 4, studies in the acquisition of questions in MAE have shown that MAE speakers invert at different rates with different *wh*-words, and that the greatest developmental lag occurs between *what* and *why*. On the one hand, *what* exhibits the lowest rates of Non-Inv (Kuczaj 1979), and the lowest rate of any questions errors, including ØAux (Labov & Labov 1978; Erreich, 1984). MAE speakers acquire SAI with *what* before any other *wh*-word. On the other hand, *why* shows the highest rate of Non-Inv (Kuczaj & Brannick 1979) and the greatest amount of question errors, including ØAux (Erreich 1984; W Labov and T Labov 1978). Non-Inv and other errors in MAE occur longer with *why* than with any other *wh*-word.

This discrepancy has been analyzed from a theoretical perspective. Valian, Lasser, and Mandelbaum (1992) argue that children entertain an optional inversion rule,

which does operate in interrogatives in other languages, such as French (and, as noted in throughout this dissertation, in AAE). Furthermore, some researchers (e.g., deVilliers 1991; Stromswold 1990; Valian, Lasser, and Mandelbaum 1992) have argued that the differences between *what* and *why* lies in an argument~adjunct distinction, where *what* usually is an argument and *why* is usually an adjunct. Specifically, deVilliers argues that MAE-speaking children produce non-inversion with adjuncts *why* and *how* through over-generalizing cases in which non-inversion is grammatical, such as the following examples of grammatical non-inversion in MAE.

95. Why hack at it like that?
96. How come he's going?

(de Villiers 1991: 157; cited in Rowland & Pine 2000: 160)

The question for this study then, is whether looking specifically at *what* vs. *why* in the question production of AAE speakers, ages 5-7, will reveal variation as a function of age that was not apparent in the first study. Thus, we might expect an interaction between Age and *wh*-word, where variation with *why* shows developmental variation, but *what* does not.

Another possibility to be explored is that the universal processing or semantic considerations that causes *why* to resist inversion in MAE acquisition might be mirrored in non-age related patterns in AAE, such that questions with *what* are more likely to be

realized as SAI, and questions with *why* are more likely to be realized as Non-Inv or ØAux. This tendency was present in the second study, when there was one token of six different *wh*-words. The present experiment will only consider *what* and *why*, and will obtain multiple tokens of questions with each *wh*-word.

5.5.2 Procedure

The participants in this experiment included 14 AAE speakers (9 males, 5 females) between ages 5;5 and 7;3 (mean age = 6;5) As in the previous experiment, I had participants direct questions to a dragon puppet using embedded questions (see Appendix G for sample elicitation). On average, I gathered 24 *wh*-questions from each participant. These include 3 tokens of a combination of the grammatical factors: polarity (positive or negative), *wh*-word (*what* or *why*), and auxiliary (*be* or *do*), which were either affirmative or negative, and which contained *what* or *why*, and *be* or *do*.[57]

[57] A limitation of this experiment, in contrast to the previous one, is that the questions were not randomized to control for ordering effects. I address this in the discussion.

Wh-Word	AUX	Polarity	Prompt	Example response (#006, female, 6;6)
what	**BE**	**positive**	Ask her what she's looking for.	What're you looking for?
why	**BE**	**negative**	Ask her why she isn't gonna tell you how old he is.	Why're you're not gonna tell me?
why	**DO**	**positive**	Ask her why she likes to play tag and catch.	Why you like to play tag and catch?
why	**DO**	**negative**	Ask her why she doesn't eat candy.	Why you don't eat candy?

Table 26. Example prompts with *what* and *why*, auxiliary, polarity combinations and sample response.

5.5.3 Results

A total of 287 responses were gathered from the 14 respondents, after eliminating a handful of errors and non-responses. The following table shows the frequency of question types.

	Number	Percentage
SAI	137	48%
NON-INV	71	25%
ØAUX	79	27%
total	287	100%

Table 27. Frequency of question type for all elicited questions

5.5.3.1 Predictors of question variation

This section presents simple frequency distributions of the response types with each predictor. The independent factors considered were auxiliary (*be* vs. *do*), polarity, *wh*-words (*what* vs. *why*), and age in months. The rationale for selecting the auxiliaries *be* and *do*, and for considering positive vs. negative polarity follows the same logic as discussed in section 7.4.3.1. Table 28 shows the frequency distribution of question type by auxiliary. All three forms occur with both auxiliaries.

	BE	**DO**	**total**
SAI	70 (53%)	67 (43%)	137
NON-INV	25 (19%)	46 (30%)	71
ØAUX	38 (28%)	41 (27%)	79
total	133	154	287

Table 28. Auxiliary and question type

Table 29 gives the frequency distribution of each question type by polarity. The table highlights the rarity of the Non-Inv with positive polarity. There are just 2 instances of positive Non-Inv out of the 69 total examples of Non-Inv. Recall that Non-Inv is grammatical with auxiliary *be*. On the other hand, the percentage of negative ØAux is just 13%.

	positive	negative	total
SAI	90(59%)	47(35%)	137
NON-INV	2(.01%)	69(52%)	69
ØAUX	61(40%)	18(13%)	81
total	153	134	287

Table 29. Polarity and question type

Table 30 shows the distribution of question type by the *wh*-words *what* and *why*. There is no obvious discrepancy between the question types according to the *wh*-words, but a multivariate regression analysis will indicate whether there is any statistically significant difference.

	what	***why***	**total**
SAI	75(49%)	62(47%)	137
NON-INV	43(28%)	28(21%)	71
ØAUX	36(23%)	43(32%)	79
total	154	133	287

Table 30. *Wh*-word and question type

5.5.3.2 The multivariate analysis

The same type of mixed-effects binary logistic regression analyses were run in this experiment as were run in the second experiment, also using Rbrul (Johnson 2009) in the open-source software environment R (R Development Core Team, 2010). I performed separate binary analyses on the same dataset for each of the three possible

outcomes. I combined the independent factors as fixed factors (*wh*-word, Age in months, & polarity), and paired them in all possible combinations to test for interactions. Age was coded as a continuous factor, whereas *wh*-word and polarity was coded as a categorical factor. The speaker code was included as a random effect to account for individual bias towards one or the other forms.

As in the previous experiment, there is a significant interaction between auxiliary and polarity in both Non-Inv ($p < 0.01$) and ØAux ($p < .00001$), because auxiliary *do* categorically prohibits positive Non-Inv and negative ØAux, whereas both occur with auxiliary *be* (see Table 31). I divided the dataset according to auxiliary, as in the previous experiment. There were therefore six models: a model for each response variable (i.e., SAI, Non-Inv, and ØAux) with *be*, and a model for each response variable with *do*.

	DO			**BE**		
	positive	**negative**	**total**	**positive**	**negative**	**total**
SAI	46	21	67	44	26	70
NON-INV	0	46	46	2	23	25
ØAUX	41	0	41	20	18	38
total	87	67	154	66	67	133

Table 31. Polarity and question type for each auxiliary

DO. Variation among the three forms with auxiliary *do* is sensitive to polarity with all three models. ØAux only occurs with positive polarity, and Non-Inv only occurs with negative polarity (see Table 32). SAI can occur with both positive and negative

polarity, but the odds ratios is 2.42 with positive polarity. That is, SAI is 2.42 times as likely to occur with positive polarity as it is with negative polarity.

The question types were not sensitive to the choice of *what* vs. *why*. There was no significant main effect of *wh*-word for SAI ($p = 0.329$), Non-Inv ($p = 0.547$), or ØAux ($p = 0.412$). Nor was there a significant main effect for Age in months for SAI ($p = 0.916$), Non-Inv ($p = 0.952$), or ØAux ($p = 0.917$). Finally, there was no significant interaction between *wh*-word and Age for SAI ($p = 0.889$), Non-Inv ($p = 0.959$), or ØAux ($p = 0.565$).

BE. Variation with auxiliary *be* is sensitive to polarity with all three models. All three forms can occur with both positive and negative polarity. For Non-Inv, the odds ratio is 4.44 with negative polarity ($p < .0001$). For ØAux, the odds ratio is 1.14 with positive polarity ($p < .0001$). For SAI, the odds ratio is 2.90 with positive polarity (logodds = 1.066, $p < .0001$).

SAI and Non-Inv were not sensitive to the choice of *what* vs. *why*. There was no significant main effect of *wh*-word for SAI ($p = 0.235$) or Non-Inv ($p = 0.215$). Nor was there a significant main effect for Age in months for SAI ($p = 0.665$), Non-Inv ($p = 0.446$), or ØAux ($p = 0.436$. There was no significant interaction between *wh*-word and Age for SAI ($p = 0.783$), Non-Inv ($p = 0.843$), or ØAux ($p = 0.793$).

For ØAux, we do find significant main effects for *wh*-word and for polarity, and a significant interaction between *wh*-word and polarity. ØAux is more likely to occur with *why* vs. *what* and with positive polarity vs. negative polarity. Furthermore, ØAux is more likely to occur with *what* if it occurs in a positive sentence than a negative sentence, and

ØAux is more likely to occur with *why* if it is negative than if it is positive (see Figure 17).

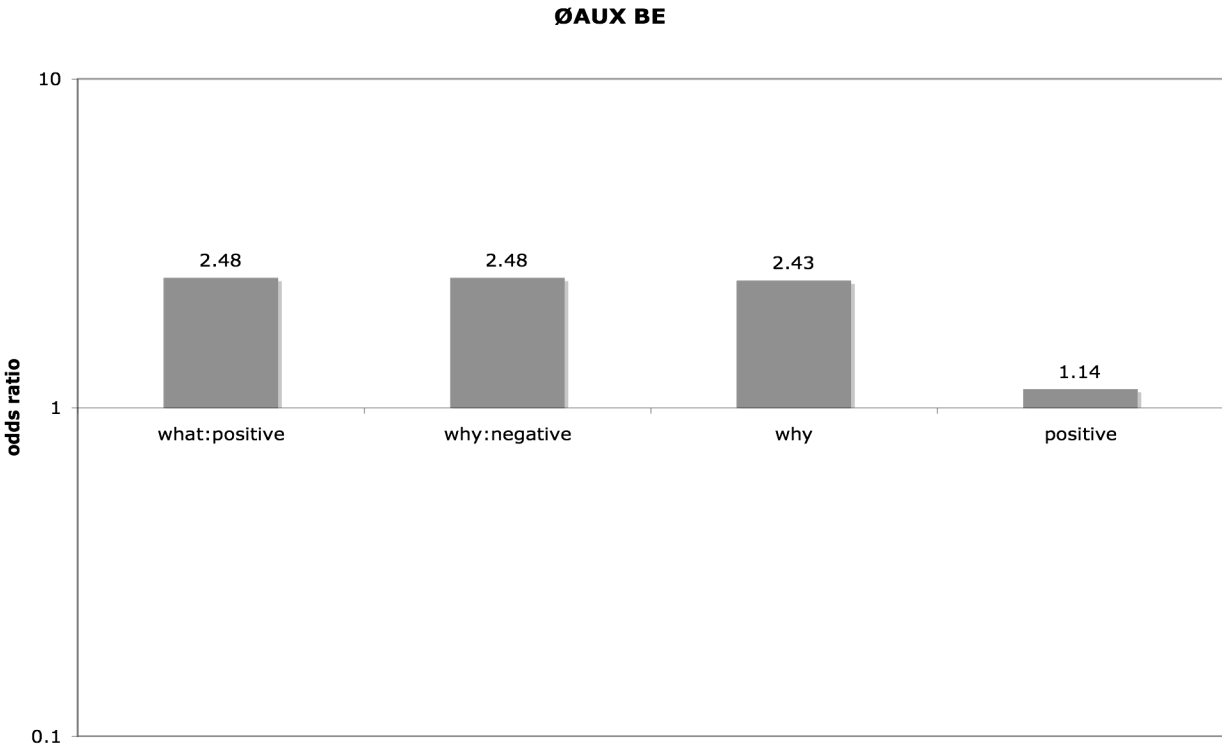

Figure 17. Odds ratios for positive polarity, *why*, and *wh*-word:polarity interactions in ØAux *be* constructions. Label shows numerical odds for each *why* ($p <$ .0001) and positive polarity ($p <$ .0001), *what*:positive polarity ($p <$ .01) , and *why*:negative polarity ($p <$ .01).

5.5.4 Discussion

To summarize, the analysis yields the following findings:

- There was no significant effect of Age on variation among the three forms with either auxiliary *do* or *be*, nor was there a significant interaction between Age and *wh*-word on variation among the three forms with either auxiliary.
- There was no significant effect of *wh*-word on variation among the three forms with *do*, but ØAux was significantly more likely to occur with *why* than with *what* in auxiliary *be* questions.
- Polarity had a categorical effect on auxiliary *do* questions. Negative questions only vary between SAI and Non-Inv, whereas positive questions only vary between SAI and ØAux. Polarity's effect on auxiliary *be* questions was not categorical, but preferential. Non-Inv was significantly more likely to occur with negative polarity, whereas SAI and ØAux were both significantly more likely to occur with positive polarity.

These results provide further support for the claim that variation among SAI, Non-Inv, and ØAux question types is not developmental among 5-7 year old AAE speakers. Even when reducing the *wh*-words to just two forms—the very two which show the greatest developmental disparity in question type in MAE acquisition—there is no significant effect of Age or interaction of age with the *wh*-word on variation. The effect of the *wh*-word *why* on ØAux with auxiliary *be* is consistent with the previous

experiment. So too are the effects of polarity on the question types. Non-Inv is significantly more likely with negative polarity, whereas ØAux is significantly more likely with positive polarity.

Thus, we do not find evidence of developmental variation in child AAE that mirrors developmental variation in child MAE with regard to *what* vs. *why*. The related possibility that processing issues in acquisition would be mirrored in dialectal variation does not receive a great deal of support here. Specifically, the notion that the *what*/*why* disparity in child MAE acquisition would be mirrored in the dialectal frequencies in non-developmental variation in AAE is not born out here. In these data it is not the case that SAI usually occurs with *what* while Non-Inv usually occurs with *why*.

5.6 SUMMARY OF FINDINGS

Here let us summarize the findings for the three experiments. Experiment 1 demonstrated that variation among question types is qualitatively different between AAE and MAE from at least as early as 5 years old. Variation in questions in child AAE is present through acquisition and post-acquisition. There is no interim during which a canonical form is used 100% of the time, and syntactic variation in the input does not protract the period of acquisition of grammatical forms. Experiments 1 and 3 showed that variation among the three question types is not developmental among 5-7 year old speakers. Experiment 2 showed that variation among the three question types in AAE at this point does not appear to be socially or stylistically governed, but motivated by

grammatical factors, such as polarity, auxiliary, and *wh*-word, which have been documented in adult AAE, and which I argued in earlier chapters are typologically and functionally motivated.

A limitation of these experiments is the lack of data from the child speakers' caretakers. Studies on child AAE by Washington and Craig (2002) have shown that the frequencies associated with variable forms tend to be shared between children and their caretakers. Henry (2002) has also shown this to be the case for child speakers of Belfast English. Inter-individual variation among the child speakers analyzed in these experiments was high, but I hypothesize that the frequencies associated with question types from child to child would correspond with frequencies used by their caretakers, at least among the younger speakers. Among the older speakers, exposure to teachers and other students would likely influence the probabilities. Future studies will need to test this hypothesis and further cast light on the factors conditioning possibilities associated with variation.

In the following chapter I conclude by drawing together the theoretical discussion on the syntax of questions and variation in adult AAE from chapters 3, 4, and 5, along with the empirical research on questions and variation in child AAE from this chapter.

Chapter 6: Conclusion

6.1 FINDINGS

Chapters 2 and 3 provided an analysis of questions and question variation in adolescent and adult AAE. Chapter 2 demonstrated that traditional analyses of question syntax in MAE must be filled out to account for the distributional patterns in AAE questions. Although traditional analyses of subject auxiliary inversion account for SAI question types in AAE, previous analyses of auxiliary-less questions and non-inverted questions did not account for the full array of contexts in which ØAux and Non-Inv question types can occur in AAE.

In chapter 3, I showed that within-speaker question variation in AAE is tightly constrained by the grammatical factors of tense, polarity, and auxiliary type. I also showed that Non-Inv and ØAux are structurally identical; they are morphologically distinct realizations of the same syntactic phenomenon. That is, both are I-*in situ* forms that contrast with the I-in-C movement entailed by SAI forms. Typically, Non-Inv and ØAux are in complementary distribution, depending on polarity, tense, and semantics. As a result, questions generally only vary between two forms, SAI or one of the *in situ* forms. An exception to this rule is present tense copula and auxiliary *be*, which can occur overtly in SAI and Non-Inv forms, or covertly as a ØAux form, in positive and negative constructions. Finally, question variation is further constrained by prosody in *yes/no* questions.

In chapters 2 and 3 I also argued, based on distributional patterns, that question variation in AAE is true syntactic variation and part of the core grammar of AAE. That is, no one of the three question variants is canonical in the sense that SAI is the canonical question form in MAE. This analysis of inherent variation in AAE question syntax predicts that children acquire all three forms as part of the core syntax, rather than acquiring a single canonical form from which they deviate later in life.

Chapter 4 contextualized the importance of studying child variation in AAE for cross-linguistic studies of acquisition and for studies of language variation among younger populations more generally. I argued that research in cross-dialectal acquisition can shed light on comparative micro-syntax and move intra-typological cross-linguistic acquisition research further. I also discussed how and why research conducted within communication sciences and disorders on child language variation in AAE can have broader implications for how variation is acquired cross-linguistically and how variation can be modeled theoretically.

The experiments in chapter 5 addressed a number of questions. Experiments 1 and 3 suggested that question variation among 5-7 year old AAE speakers is not developmental, insofar as children do not produce what would be considered errors relative to adult AAE, nor was there a statistically significant effect of age in months on variation.

Experiment 1 also compared the questions produced in AAE and MAE, and revealed a number of things. First, whereas SAI was confirmed to be the canonical form for child MAE speakers, the same cannot be said for the AAE speakers. Experiment 2

further supported the non-canonicality of SAI for child AAE speakers, because on average children produced Non-Inv and ØAux as frequently as they produced SAI. These empirical results combined with my syntactic analysis of question variation in AAE in chapter 3 provide further support for the notion that question variation in AAE, but not MAE, is a type of true syntactic variation and part of the core question syntax of AAE.

Experiment 1 also suggested that the two dialects do not seem to influence each other with respect to question production between grades k-2. Craig & Washington (2006) argue that AAE speakers' use of AAE features drops from kindergarten to 1st grade and drops again, although somewhat less, from 1st to 2nd grade. With respect to questions, the lack of an age by dialect interaction shows that AAE and MAE speakers steadily maintain distinctions in the question syntax of each variety across the three grades.

Experiment 2 analyzed the grammatical factors of polarity, auxiliary-type (in this case, just 2nd person singular past tense for *do* and present tense for *be*), and *wh*-word on question production in child AAE. I found that the grammatical factors constraining variation in child AAE mirrored those attested for adult AAE.

In experiment 2 I also compared the elicited question data with a much smaller data set of spontaneous questions. Both data sets showed ample representation of all three question forms, in similar proportions, suggesting the discourse contexts did not skew children's choice in question type. I further interpreted this as evidence that there is no sociolinguistic difference attached to the different forms for children at this age. For these children, the forms are strictly constrained by grammatical factors, and variants are all

part of the question system of AAE. They do not appear to index different social or stylistic values. This conclusion is necessarily preliminary until a larger-scale study can be conducted.

One question I have regularly received when presenting the child data at conferences is whether there is a correlation between children using more "vernacular" AAE forms and using more Non-Inv and ØAux question types. Although I have yet to do a quantitative study to test this question, I have two reasons to suppose this is not the case. First, all of the children classified as AAE speakers in the study showed patterns of AAE. Second, I observed a number of children who were linguistically precocious insofar as they used more sophisticated patterns associated with AAE tense and aspect earlier and more frequently than other participants and who also only used SAI question types in both spontaneous and elicited speech. For example, one female participant (#002) used a number of syntactic and semantic patterns that are hallmarks of AAE (see Appendix C for sample of her spontaneous speech), such as aspectual *be*, and yet she produced SAI 100% of the time, in both elicited and spontaneous production. Her spontaneous questions are shown here from the end of kindergarten:

97. What's her name?

98. Why did you put my name on there?

99. What's his name?

Here are further spontaneous questions from the beginning of 2nd grade:

100. Are you gonna, like, have a princess in it?

101. How did you get to Texas?

102. Do you have more?

103. Why can't you come with me and Teresa?

104. When do you think I should do it?

What is important to note is that she did not use Non-Inv or ØAux questions, which one might expect given her high use of hallmark features associated with AAE. In the speech data I collected, she shows a preference for SAI in spontaneous and elicited speech. These patterns contribute further evidence that there is nothing more "vernacular" about Non-Inv or ØAux than SAI for these children. That is, SAI does not appear to represent the MAE end of an AAE~MAE continuum with Non-Inv and ØAux at the AAE end.

The fact that child AAE speakers in these experiments have all acquired the grammatical patterns of adult AAE questions suggests that variation in the input does not prolong acquisition past age 5. Moreover, the presence of variation in the syntax of questions among 5-7 year old AAE speakers, combined with the variation documented in younger AAE speakers (Green 2011), shows that question variation continues uninterrupted from early acquisition into early elementary school aged language. This pattern of acquisition challenges Kroch's (1994) notion that children acquire only a single syntactic form, and that variants are acquired later as part of sociolinguistic variation.

Finally, this dissertation lays to rest the claim made by Martin and Wolfram (1998:27) that AAE is "fundamentally identical to other English varieties in its formation of interrogative sentences." I have shown that the question syntax of AAE and MAE in both adult and child language are overlapping but ultimately distinct systems. My analysis of the child AAE data and the question variation therein also counters Martin and Wolfram's (1998: 30) argument that "[non-inversion is] not a particularly productive pattern in the variety at this stage of its development.... [It is] restricted both structurally and socially, suggesting that [it] may exist as a vestigial retention form an earlier period...." Clearly Non-Inv is still a productive pattern. Furthermore, the contemporary child data combined with Labov et al.'s (1968) research, Green's (2002) discussion of questions in contemporary AAE, and Van Herk's (2000) historical analysis all attest to the long period of stable syntactic variation in question types in AAE.

6.2 LIMITATIONS AND FUTURE RESEARCH

Although I have shown that variation among different question forms in AAE is constrained mainly by grammatical factors, there is nothing about question variation that would preclude it from being subject to sociolinguistic or stylistic variation. Indeed, Warner (2005) shows that variation in the use of *do*-support with negative declaratives and negative questions was subject to stylistic variation in the mid-16th and 17th centuries. There was a grammatically led trend that was initiated in previous centuries (see Kroch 1989), but the use of *do*-support in certain registers saw a dramatic reversal,

such that *do*-support in negation lagged behind questions until the 19th century. I have shown that variation in AAE question syntax is highly restricted by grammatical factors. However, syntactic alternates are available to speakers, and future work may consider if there is any evidence that speakers prefer certain forms in certain contexts or if variation is specific to regional dialects of AAE. This study provides a description of the grammatical constraints on question variation, which provides a scaffolding from which to conduct sociolinguistic investigations. As Rickford and McNair-Knox (1994) observe, grammatical constraints should be known prior to studying social factors, lest researchers ascribe social indices to variants that are completely accidental.

It is also evident from the analyses in this dissertation that more research on prosody in AAE is needed, especially given the evidence (Foreman 1999; Green 2002, 2011; & Thomas 2007) that prosody has a semantic role in AAE sentences that is different from other varieties of English.

A limitation of the child studies is that the auxiliaries were always in the second person, a function of the elicitation design. For this reason, they shed more light on the effects of 2nd person auxiliary *be* and *do* than the conditioning effects of auxiliaries overall. This is important because studies on copula and auxiliary *be* in AAE have long shown that person and number constrain variability (e.g., first person singular *be* cannot be omitted). One remedy in child studies would be to direct children to pose questions to the puppet that are about a third person/group of people. Kretschmar (pc) and others have also recommended corpora studies as a solution to this limitation. However, as I noted, questions do not occur frequently in sociolinguistic interviews, which are often the main

source of data for non-mainstream dialect corpora. This conundrum highlights the necessity of devising new methods for gathering questions, especially from adult speakers.

Another limitation of the child studies is that no data were gathered from the caregivers of the children. As Henry (2002) has shown for varieties of British and Hiberno-English, and as Craig and Washington (2003) have shown for AAE, probabilities associated with variable forms are transmitted to children in some way. This area of research holds great promise for understanding the nature of syntactic variation and the architecture of grammar and answering questions such as: Are probabilities associated with variants part of the speaker's core grammar, or does a separate and more general cognitive faculty determine probabilities? How does this play out in acquisition and childhood? Future studies of questions in child AAE must examine the effects of adult patterns in caregiver input on acquisition and the effects of the language of teachers and peers on patterns in children in elementary school.

Appendices

APPENDIX A: RECRUITMENT LETTER TO PARENTS OF STUDENTS

Jessica White
Department of Linguistics
The University of Texas at Austin
1 University Station, B5100
Austin, TX 78712

February 8, 2008

Dear Parent or Guardian,

My name is Jessica White and I am an instructor and graduate student at the University of Texas at Austin. I am from New Orleans, and I am working on a project to document language use among children of diverse backgrounds from New Orleans. Currently I'm studying the way that children ask questions as they get older. This subject has been studied before, but never with African American or White children in New Orleans.

In order to complete my study, I would like permission to spend 20-30 minutes with your child once or twice during the school year. We will meet in the hall outside of your child's classroom. I have a large dragon puppet, and the children get to talk and ask the dragon questions. I will record these interactions, and these recordings will be confidential. Only I will have access to them. If you would like to grant permission for your child to participate in this study, please see the form attached. It contains answers to questions you might have and my contact information. Please feel free to contact me with any questions you have.

Sincerely,

Jessica White
jessicawhite@mail.utexas.edu

APPENDIX B: FEATURES ASSOCIATED WITH CHILD AAE

Here are some of the features associated with AAE and child AAE that I used to classify speakers as AAE speakers. In the right column are examples from the data set.

Feature	**Example**
negative concord	Y'all do*n't* see *nothing*? (#019; male; 6;6)
zero copula and auxiliary *be*	Because he __ gonna be a vampire. (#012; male; 6;6)
zero *have*	I *been* going there like three months. (#002; female; 6)
zero genitive marker	my grandma_ house (001; male; 5;8)
habitual *be*	He *be* going to that class (#017; male; 6;6)
preterite *had*	
remote past *BIN*	
zero third person singular verbal marker	Because he like_ it. (# 017; male; 6;7)
completive *done*	I *done* keep telling her that I wanna go inside. (# 004; male; 6;1)
ain't for *be+not*	That's why I said they *ain't* playin. (#009; male; 5;3)
existential *it has/have*	"and den you turn on a green house were ***it has*** a silver car and...that's my house.' (#015; male; 7; 2)
existential *it*, *they*, and *dey*	'Cuz *it's* gonna be a bike race.(#020; male; 6;8)

APPENDIX C: SAMPLE OF SPONTANEOUS SPEECH

Below is a sample of spontaneous speech recorded during an interaction between the interviewer (JWS) and child.

Speaker Code- 002; Ethnicity- AA; Dialect- AAE; Gender- female; Age- 6

002: And she now have a blackberry.
JWS: What does she do with it?
002:She come- while she's working at her job, her job is closer to our house too. While she's working at her job, she get to use it. If she not working there no more, she don't have- she can't use it anymore.
....
JWS: Wait, she has a holder for what?
002:Her Bible.
JWS: What does she do with it?
002:She put her Bible in it so she can go Bible studies, and she can go to Church in the mo- in Sunday mornings.
JWS: What do you do there?
002:We sing, and we put a- we sing a family song and um, sometimes we um, sometimes people get baptized there and sometimes we go to reunion when God was drinking the wine, and we go there for bible studies and Bible studies be really good.
JWS: Why?
002:Cause we pray and we talk and we talk about Bibles and Jesus and stuff.
JWS: Do you know what it's called? What?
002:It called, reunion.
JWS: Not communion?
002: No, reunion. We used to go to the church Household of Faith. Uh, she wanna ___ go right around the corner cause they have a church right around the corner.
JWS: Talk this way.
002:Sometime my cousins come over and um we go to church right around the corner, my aunty´ and my uncle and my- and my little- and my little puppy-
JWS: Does your puppy sing?
002:Yes. He be like, root root!
JWS: He what?
002:He be like, root root, root root! Every time he sees something he be climbin' up and he be jumpin' on me and I be holdin' him.
JWS: How long have you been going there?
002: I been going there like the- three months. I mean two months, I been going two months.

APPENDIX D: SAMPLE ELICITATION TRANSCRIPT FOR EXPERIMENT 1

Below are two sample elicitations recorded during an interaction between the interviewer (JWS) and child. The first represents a session with an AAE speaker and the second represents a session with a MAE speaker.

Speaker Code- 009; Ethnicity- AA; Dialect- AAE; Gender- male; Age- 5;3

009: This is my second time on-do the math on the computer. My name got wrote down for being good.
009: This costume place, it has a lot of costumes.
JWS: Ask them what they sell.
009: What do y'all sell?
009: Son, do you want a bicycle?
JWS: Ask your son why not.
009: Why not?
JWS: Why what?
009: Why doesn't he want a bicycle?
JWS: What?
009: Why don't you want a bicycle?
009: Want one for your brother?
JWS: Sure.
009: Fine, I'll ask somebody that has bicycles. Do y'all have bicycles?
JWS: We do.
009: Little ones, them little ones with the training wheels-the little training wheels on the back?
JWS: No, we do not. Ask them why?
009: Why?
JWS: Why what?
009: Why don't y'all have them little training wheels on the back of them little, some of them little bikes?
JWS: Ask them who they sold them to.
009: Who did y'all sell them to?
JWS: Ask them when they did that.
009: When did y'all do that?
JWS: Ask them where you can get your son a little bicycle.
009: Where can I get my son a little bicycle?
JWS: Ask them how you get there.
009: How do you get there? I know how to get there, all you gotta do is go to -------, Louisiana and then you go straight and when you see the store, you park somewhere in there and they got bicycles in the very back where the toy direction is. You gotta ask them people where the toy direction is.

Speaker Code- 103; Ethnicity- EA; Dialect- MAE; Gender- female; Age- 5;6

JWS: Ask Walmart what they sell.
103: What do you sell?
JWS: Hold it up to your ear.
103: Could I look at it afterward?
JWS: Can I help you?
103: What does Walmart sell?
JWS: Ask them if they sell bicycles.
103: Do you sell bicycles?
JWS: No, we don't have anymore bicycles.
103: Oh well my brother might like a toy instead so, he don't have a bicycle.
JWS: Ask them why they don't sell bicycles.
103: Why don't you don't- Why don't you sell any bicycles?
JWS: Ask them who they sold to.
103: Who did you sell them to?
JWS: Ask them when they sold them all.
103: But- I got an idea. But my friend is having a party today its her birthday and she likes bikes and I was gonna buy her a bike but I could buy her a bike toy because you don't have any bicycles.
JWS: Ask them when they sold them all.
103: When did you sold them all?
JWS: Ask them where you can get a bicycle.
103: Ok but right after this. How much dollars did it cost?
JWS: Ask them where you can get a bicycle.
103: Where did you get a bicycle?
JWS: What did you wanna know?
103: I wanted to know where I could get a bicycle for my best friend.
JWS: Ask them how you can get a bicycle.
103: I would like- What did you say?
JWS: Ask them how you can get a bicycle.
103: How could I get a bicycle?
JWS: See who sells one.
103: Like- Like in different city stores like Mexico or-? I see.
JWS: Do you need anything else today?
103: Well I might need a little toy for my brother.
JWS: What kind of toy do you want?
103: My brother likes Sesame Street so do you have any Sesame Street stuff? His favorite is Elmo. Do you have a Elmo doll?
JWS: Yeah!
103: Thank you. May I buy it please?
JWS: You were really good at that.

103: Yeah I’m gonna look at the pictures by myself...

APPENDIX E: SAMPLE ELICITATION TRANSCRIPT FOR EXPERIMENT 2

Below is a sample elicitation recorded during an interaction between the interviewer (JWS) and AAE-speaking child using a puppet.

Speaker Code- 034; Ethnicity- AA; Dialect- AAE; Gender- female; Age- 5;7

JWS: So I want you to ask him. Who he's gonna see after school.
034: Who are you gonna see?
[…]
JWS: Ask him who he's not gonna take.
034:: Who are(t) you gonna take?
JWS: Who aren't you gonna take.
[…]
JWS: So I want you to ask him where he learned to fly.
034: Where'd you learn to fly.
JWS: Really loud.
034: Where'd you learn to fly.
[…]
JWS: Ask him when he didn't live in New Orleans.
034: When you didn't live in New Orleans?
JWS: When you didn't live in New Orleans.
[…]
JWS: Now I want you to ask him, what he's gonna do after school.
034:What are you going to do after school?
[…]
JWS: So ask him when he isn't gonna fly.
034:When are you goin- When are you going (to) fly?
034:When are you going to fly?
JWS: No, you gotta ask him when he ISN'T gonna fly.
JWS: When, isn't you gonna fly?
[…]
JWS: So, ask him what he did yesterday.
034: What do you did yesterday?
JWS: What?
034:What (xxdidxx [too quiet to hear]) you did yesterday?
JWS: What did you did yesterday.
[…]
JWS: So I want you to ask him how he learned to fly.
034: How də you learn to fly?
JWS: How did you learn to fly?
[…]
JWS: Okay, now I want you to ask him. Where he's gonna build his castle.

034: Where are you gonna build your castle?
JWS:… really loud.
034: Where are you gonna build your castle?
[…]
JWS: So ask him how he's gonna build his castle.
034: How are you gonna build your castle?
JWS: How are you gonna build your castle.
[…]
JWS: Ask him why he's not gonna live in Texas.
034: Why you're not gonna live in Texas?
JWS: Why you're not gonna live in Texas?
[…]
JWS: So ask him, what he isn't gonna let his friends do.
034: What- What're you not- What are you gonna let your friends do?
JWS: No ask him what he innit gonna let his friends do.
034: What you ain't [xxxx]
JWS: What ain't you gonna let your friends do?
[…]
JWS: Okay, I want you to ask him where he's not gonna fly.
034: Where. are you not going to fly?
[…]
JWS: Will you ask him why he's gonna fly to Mississippi?
034: Why are you going to fly to Mississippi?
JWS: Why are you going to fly to Mississippi?
[…]
JWS: Ask him how he didn't like to travel.
034: How you didn't like to travel?
JWS: How you didn't like to travel?
[…]
JWS: Ask him what he didn't wanna see at the zoo.
034: What didn't you wanna see at the zoo?
[…]
JWS: Ask him why he didn't WANNA go to the zoo.
JWS: Why didn't you WANNA go to the zoo?
JWS: Why you didn't WANNA go to the zoo?
[…]
JWS: Ask him where he didn't wanna go.
034: Where you didn't wanna go?
JWS: Where you didn't wanna go.
[…]
JWS: Ask him when he learned to fly.
034: When are you gonna learn to fly?
JWS: No… so ask him WHEN he learned to fly.

JWS: When. (di) you learn to fly?
JWS: When you learn to fly?
[…]
JWS: Ask him who he didn't wanna see.
034: Who you didn't want to see?
JWS: Who you didn't wanna see?
[…]
JWS: So I want you to ask him how he isn't gonna fall.
034: How you [xxxinnitxxx] gonna fall?
JWS: Ask him how he isn't gonna fall when he flies.
034: How you [xxx n't] gonna fall when you fly?
JWS: How you ain't gonna fall when you fly?
[…]
JWS: Now I want you to ask him, when he's gonna learn to breathe fire.
034: When you gonna breathe [xxx] learn t' fire?
JWS: When you gonna learn to breathe fire?
[…]
JWS: Ask him why he came to your school.
034: Why you came to my school?
JWS: Why you came to my school?
[…]
JWS: Now ask him who he played with yesterday.
034: Who you play with—Who you played with yesterday?
JWS: Who you played with yesterday?

APPENDIX F: SAMPLE OF SPONTANEOUS QUESTIONS

Below are sample spontaneous questions produced by an AAE speaker and recorded during an interaction between the interviewer and child.

Speaker Code- 029; Ethnicity- AA; Dialect- AAE; Gender- male; Age- 7;5

Q: What that green thing is?
Q: What is that?
Q: What you mean, who?
Q: Who he gonna go see?
Q: But what if I forget what to ask him?
Q: What you mean?
Q: What's his name?
Q: How you open his mouth?

APPENDIX G: SAMPLE ELICITATION TRANSCRIPT FOR EXPERIMENT 3

Below is a sample elicitation recorded during an interaction between the interviewer (JWS) and n AAE-speaking child using a puppet.

Speaker Code- 006; Ethnicity- AA; Dialect- AAE; Gender- female; Age- 6;6

JWS: Do you like dragons?
006: Look, bah!
JWS: Do you like dragons?
006: Uh-uh.
JWS: Ask her what's she gonna do after school.
006: What're you gonna do after school?
JWS: Ask her why.
006: Why?
JWS: Why what?
006: Why're you going to the aquarium?
JWS: Ask her what she's looking for.
006: What're you lookin' for?
JWS: Ask her why.
006: Why?
JWS: Why what?
006: Why're you lookin' for a fishin' net?
006: At the aquarium?
JWS: Ask her why she wants to-what she's gonna do with the fish.
006: What're you gonna do with the fish?
JWS: Ask her why.
006: Why?
JWS: Do you like fish? What kind?
006: A lot of kind. All kinds.
JWS: Ask her-ask her what she isn't gonna tell you.
006: Why're you not gonna tell me?
JWS: Ask her *what* she isn't gonna tell you.
006: Why're you not...
JWS: No, what.
006: What are you not gonna tell me?
JWS: Ask her why not.
006: Why not?
JWS: Why not what?
006: You're not gonna tell me how old are you?
JWS: What?
006: How old are you?

JWS: Wait, say the whole thing?
006: How old are you?
JWS: No, ask her why.
006: Why?
JWS: Why what? The whole thing.
006: Why're you not gonna tell me how old are you?
JWS: Ask her what else she isn't gonna tell you.
006: Why not-what else you isn't gonna tell me?
JWS: What?
006: What else are you not gonna tell me?
JWS: Ask her why not?
006: Why not?
JWS: Why not what?
006: You're not gonna tell me where you keep your toys?
JWS: Ask her why she isn't gonna tell you where she keeps her toys.
006: Why?
JWS: Why what? The whole thing.
006: Why're you not gonna tell me where you keep your toys?
JWS: Ask her what else she isn't gonna tell you.
006: What else you not gonna tell me?
006: How many?
JWS: Ask her why not.
006: Why not-you're not gonna tell me how many bicycles you have?
006: That's a lot of bikes. There are 50 states in los estados unidos.
JWS: Ask her what she eats for lunch everyday.
006: Whatchoo eat for lunch everyday?
JWS: Ask her why she eats spinach and broccoli everyday.
006: Why you eat spinach and broccoli everyday?
JWS: Ask her what games she likes to play.
006: What game you like to play?
JWS: Ask her why she likes to play tag and catch.
006: Why you like to play tag and catch?
JWS: Ask her what she watches on TV.
006: Whatchoo watch on TV?
006: I like too. That's my favorite show!
JWS: Ask her why she watches Spongebob.
006: Why you watches Spongebob?
JWS: Do you like Ms. Puff?
006: I like Spongebob characters.
JWS: Ask her what she doesn't eat.
006: What you doesn't eat?
JWS: What?
006: Whatchoo doesn't eat?

JWS: Ask her why not.
006: Why not?
JWS: Why not what?
006: You don't eat candy?
JWS: What?
006: You don't eat candies?
JWS: Ask her why, say why...
006: Why you don't eat candy?
006: You have like four teeths.
JWS: Ask her what scary TV show she doesn't watch.
006: What scary TV show you don't watch?
JWS: Ask her why not.
006: Why not?
JWS: Why not what? Ask her why she doesn't...
006: Why you don't watch that movies?
JWS: Ask her what she doesn't play.
006: What you don't play?
JWS: What?
006: Whachoo doesn't play?
006: Why?
JWS: Ask her why not.
006: Why not?
JWS: Why not what?
006: You don't play video games like the Wii game. 'Cause the Wii game helps you play sports.
006: Wii game is fun.
006: You just put the thing on your bracelet and then you press A when you sees the A button and then you start playin'.

APPENDIX H: DISTRIBUTION OF QUESTIONS TYPES IN LABOV, COHEN, ROBINS, AND LEWIS (1968)

Labov et al's (1968) study was the first study to examine AAE question syntax in a principled way, and it remains the only Variationist study I know of to report and break down figures for all three question types in *wh*-questions.[58] The following table shows the distribution of forms for auxiliary *do* type *wh*-questions in their corpus of adolescent AAE speech.[59] In their corpus of adolescent AAE, Labov et al. counted 42 cases of SAI with *do*, *don't*, *did*, and *didn't*; 9 cases of ØAux but with tense marking on the main verb; 1 case of non-inverted *don't*; 35 cases of ØAux in the present tense (which they interpret as being possibly SAI or Non-Inv because there is no overt agreement morphology to use as a visible diagnostic); 2 cases of ØAux in the past tense with no marking on the main verb, which they interpret as SAI with deletion; and 8 cases of ØAux in the past tense with verbs that are either zero-marked for past tense or have been subject to consonant cluster reduction (i.e., final tense marking deletes as a phonological operation on the final consonant cluster, e.g., 'busted' is realized as 'bust'). The following table summarizes these findings by question type.

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[58] They do not include *yes/no* questions on the grounds that Non-Inv *yes/no* questions might be echo questions, not true questions. A solution to this problem, pursued by Washington and Craig (2002), would be to analyze the discourse to determine whether the questions are echo or true.

[59] Note that these are auxiliary *do* "type" questions because they do not always contain an auxiliary *do*; however, they alternate with question forms that have auxiliary *do* rather than any of the other auxiliaries.

	SAI	**Non-Inv**	**Ambiguous**
+Auxiliary	42	2	N/A
ØAuxiliary	2 (i.e., deletion)	8 (i.e., tense marked on main verb)	43

Table 32. Labov et al's (1968) auxiliary *do* in *wh*-questions

	Past	**Present**	**Total**
SAI	15	5	20
Non-Inv	4	2	6
ØAuxiliary	N/A	10	10

Table 33. Labov et al's (1968) auxiliary *be* in *wh*-questions

As the table shows, of the 43 examples with an auxiliary *do*, all but one (which has negative *don't*) were inverted. This pattern is expected because a non-inverted positive *do* is ungrammatical, for reasons discussed in chapter 3. Of the 54 cases without an auxiliary, just 2 are interpreted as unambiguously auxiliary deletion (i.e., there is no tense-marking for past, though see above for problems with such an assumption), while 9 are unambiguously syntactic (i.e., there was never any auxiliary to begin with). The remaining 43 are ambiguous because the main verbs do not take any sort of agreement or tense marking in the present tense. Labov et al. suggest that SAI is the default underlying form based on the fact that of the 19 cases of *don't*, 17 were inverted (included in the 42 in the table) and only 2 were not inverted (included in the 9 in the table). However, as I argue in chapter 3, this assumption is hasty, and the equivocal cases of ØAux are as likely types of non-inversion as they are SAI. What is certain is that at least some instances of ØAux are syntactically distinct structures from SAI (i.e., not auxiliary deletion), based on

the evidence provided by ØAux *do* question types. Tense-marking on the main verb highlights that the structure is not the product of auxiliary deletion on an SAI construction. The construction never had an overt auxiliary at any point. I now turn to how these structures are derived, and the relationship among SAI, ØAux, and Non-Inv.

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