Chapter 2
The Case of the Missing Copula: The Interpretation of Zeroes in African-American English

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2.1 The General Problem of Cognitive Science: Extending Direct Perception by Inference

Most scientific work begins with the close observation of sense experience. But it is not long before every field develops inferences about invisible, inaudible, and intangible elements. Atoms, particles, chemical bonds, microbes, and longitudes may eventually become "visible" to us through new instruments of observation that extend our senses, but these objects were originally the abstract creations of inferential reasoning. More than any other field, cognitive science is involved with this process of inference, which is itself one of the main objects of study. We therefore find ourselves from the outset making inferences about inferences.

The observation of language provides one of the most concrete inputs to cognitive science, since what people say and write is audible and visible. But very quickly we discover that the essential cues to an understanding of language structure involve what is not said rather than what is said. No part of cognitive science illustrates the problem of abstract inference better than the interpretation of *linguistic zeroes*: the absence of the very behavior that we have come to observe.

This chapter will concern the interpretation of such linguistic zeroes. It will engage a particular problem that has been the center of much linguistic research: the absence of the verb *to be* in African-American Vernacular English and the search for the underlying grammar that produces this result. But before confronting this nonstandard variety of English, we need to consider how zeroes are identified in the analysis of the general English grammar.

2.1.1 The Surface of Language and What Lies Underneath

Linguistic zeroes are not immediately obvious to inspection: they are not features of the surface structure of language. When we use language in the normal unreflecting sense and are not engaged in the scientific examination of language, our omnipresent reality remains the everyday world of things seen and heard. That everyday language consists primarily of two things: the sounds and the words. These form the "surface structure" of language, which is directly accessible to sense experience: In every society that we know of, people are concerned with the sounds and words of their language; they give a great deal of attention to distinguishing between "proper" and "improper" uses, polite and impolite ways of saying things, and "correct" conformity to older uses as opposed to "incorrect" yielding to newer trends.

However, speakers of a language are not at all concerned with the cognitive processes that underlie these surface forms. Most people think of a language as a collection of words. If one does not understand a sentence, the answer is to be found by looking up the meanings of the words in a dictionary. Early efforts at mechanical translation from one language to another followed that strategy; engineers built computational dictionaries that would locate the corresponding words in each language. The near-total failure of such massively funded programs was one of the most striking results of computational linguistics in the 1960s. In one way this failure was a positive result, since it illustrated the validity of the fundamental principle of linguistics:

(1) A sentence cannot be understood as a linear combination of individual words.

To put it another way, sentences have structure. The nature of that structure, its complexity and its underlying simplicity, is the focus of Howard Lasnik's chapter, "The Forms of Sentences," in this volume. Readers are strongly recommended to follow his exposition for a systematic understanding of the development and motivation of syntactic theory. Here we will explore sentential structure as it relates directly to the problem of understanding the absence of the copula in AAVE.

The first step in understanding a sentence is to combine words into small groups, or phrases, and to combine the meanings of words in these phrases to arrive at a meaning of the phrase. This process continues in the combination of small phrases into larger phrases, erecting a hierarchical tree structure for the whole sentence.

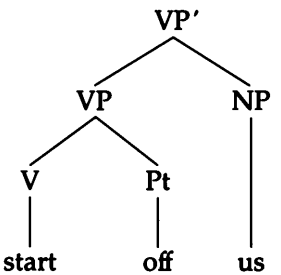
One reason for the failure to understand sentences by linking the semantic features of individual words is that most words have many meanings, so that a combination of twenty words, each with three or four

meanings, can produce a bewilderingly large number of possible interpretations. But as words combine in phrases, they limit and select the possible meanings of other members of the phrase. Consider this sentence:

(2) She is the first one who started us off.

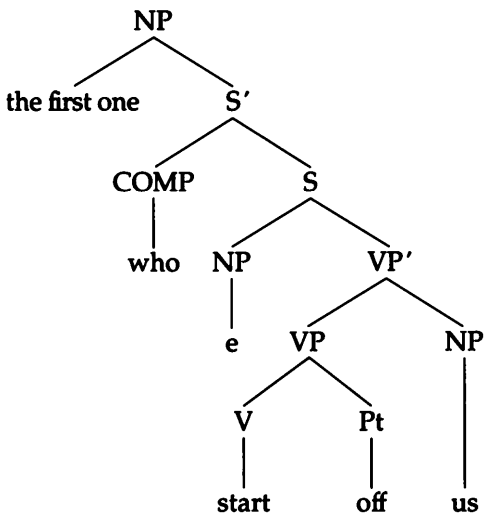
One cannot understand this sentence by simply linking together the meanings of the words that refer to objects and events in the real world: *she, first, one, start, us, off*. The meaning of *first* or *one* does not combine with *us*, nor does *us* combine with *off* in any meaningful way. Instead, we must begin with our knowledge that *start* and *off*, though separated on the surface, go together to form the verbal phrase *start off*, and that *us* is the object of this phrase within the larger verb phrase as a whole.

(2a)



We now notice that there is no subject preceding this verb phrase: it is an empty position. We can record this observation by entering for the subject NP a node in the tree that terminates with the symbol "e" in (2b).

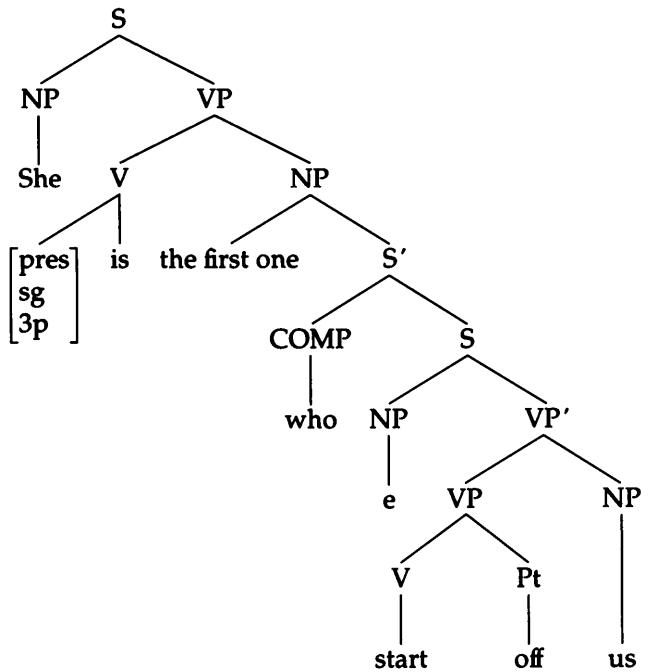
(2b)



The major problem of interpreting this sentence, of knowing who did the starting off, is then equivalent to identifying the "e." The sentence doesn't do that directly, but inserts the relative pronoun *who* into the position of the complementizer of the lower sentence S' in (2b), which informs us that the small tree of (2a) is to be understood as a restrictive modifier of the immediately preceding noun phrase, *the first one*. This is an indefinite phrase: the indefinite word *one* lets us know that lots of people might have done the work of "starting us off," and we then realize that the sentence is about the *first* of these.

Finally, we understand that the main message of the sentence is to identify *she* as the person described by (2b): she is the *first* of this indefinite group of "people who started us off," through the connection of the copula verb, *is*, which links everything together:

(2c)



This is only a superficial account of the grammatical knowledge required to understand sentence (2). But this one example, which we will return to again, shows us two things about the work of interpreting sentences:

1. The interpretation of sentences relies on an understanding of small bits of sound that are often hard to hear. In many languages these are inflectional endings: single sounds or syllables attached to

the content words. In English the grammatical signals are most likely small unstressed words: *is, one, the.* For a nonnative speaker, they are just as hard to hear as the endings of German or Russian words are for an English speaker; in fast speech they all but disappear.

2. A good proportion of the problems of linguistic analysis depends upon the interpretation of *zeroes*: the complete absence of linguistic material in a place where we normally expect to hear something. In (2), the problematic zero is just before the verb *start.* The problem that still baffles computer programs for speech understanding (or mechanical translation) is to locate such a missing subject. Since this information is not given by any signal in the speech wave itself, it must be implicit in the order of words and the inferred relationships among them that we see in (2a–c).

2.1.2 A Sociolinguistic Approach to Linguistic Zeroes

The interpretation of linguistic zeroes is, therefore, a major interest of linguists. But, as we suggested above, it is not within the range of features that speakers of the language can normally focus on. Studies of language within the speech community show that almost everyone has a keen interest in the words and the sounds of the language that they speak and in the small differences among speakers and dialects. It is rare to find any social concern with grammatical particles, with relations between words, or with linguistic zeroes. The kinds of mental processing that allow people to interpret sentences like (2)—their linguistic intuitions—are summoned up swiftly and automatically, and they are not easily available for introspection. A great deal of linguistic analysis proceeds by asking speakers whether they might be able to say this or that sentence, or what the sentence means, but it is not useful to ask them why they can't say it or how they know what it means. People usually cannot be drawn into the study of abstract grammatical questions until they study a foreign language; there they unfortunately have no intuitions at all about whether the rules are right or wrong.

We can sometimes get more insight into the problem of figuring out the grammatical structure of a language when we consider differences among dialects. The standard English of the classroom is a well-known dialect; most of its grammatical structures have been intensively discussed for some time. The speech community also has a number of different dialects that we seem to understand fairly well. We seem to know what all the words mean—at least the content words—but as we learn more about these dialects we often discover that we have understood less than we thought. Closer attention to the sentences of these other dialects often shows sentence structures that can't be interpreted easily in terms of

well-known grammatical rules. We are in the peculiar position of thinking that we understand what people are saying, but we don't know the system that they use to say it. This makes the study of nonstandard grammar particularly interesting for developing the general theory of language and the cognitive processing involved in the understanding of sentences.

This chapter will consider the interpretation of zeroes in the verbal auxiliary of the nonstandard vernacular of African-American Vernacular English (AAVE). The data will be taken from spontaneous speech recorded from members of the African-American communities in South Harlem, Philadelphia, East Palo Alto, and elsewhere. Because research over the past three decades has given us a great deal of information on how people actually speak this dialect of English, we can make a direct comparison between how speakers think they speak and what they actually say. We may also gain insights into the important question of when people can report reliably on their language and when they cannot.

2.2 The Case of the Missing Copula

The first problem in the interpretation of zeroes in AAVE arose with sentences like (3). It was spoken by Dolly R., a thirty-five-year-old black woman who had just returned from South Carolina to New York, as part of a long telephone conversation with her cousin about family affairs.

(3) She the first one started us off.

It differs from the example sentence (2) by two additional zeroes: there is no subject relative pronoun *who*, so the complementizer position is a zero, and the copula *is* that links *she* to the rest of the sentence is absent. The zero subject relative is not uncommon in AAVE, but rare in standard English and other dialects.[1] A high frequency of zero subject relatives produces quite a few problems of interpretation and analysis, but the focus of this article will be on the first zero: the absence of the copula, which is one of the most common features of AAVE. It was the first problem of the interpretation of zeroes that was extensively investigated in the quantitative study of linguistic variation and change. In trying to interpret this zero, we will have to decide what it represents: a reduction to zero of the phonetic form of the word *is*, the absence of any concrete grammatical form for the copula in this position, the absence of the category of the copula in the grammar, and/or the absence of the semantic information that is carried by the copula.

1. In fact, an extensive treatment of the cognitive processing involved in relative pronouns by Bever and Langendoen (1973) asserted that the subject relative pronoun cannot be deleted in English, and for a long time this judgment was accepted.

The extremely common absence of the copula can be observed freely in any body of AAVE speech. Most of the following quotations are taken from one of the first studies of this subject: the recorded speech of boys in South Central Harlem age 10 to 17. The central speakers of AAVE were members of organized groups, or "clubs": the Jets, South Harlem, the Cobras, the Thunder-Birds—and their use is characteristic—but I have also included sentences taken from studies done in other parts of the country, from youth and adults, females and males. The grammar of AAVE described here is used throughout the United States in very much the same way by black people of all ages when dealing with other speakers of the same vernacular. We often observe a zero where the finite form of *to be* (*is, am, are, was,* or *were*) would be used as a main verb in other dialects.

(4) He fast in everything he do.

[M, 16, Jets]

(5) Michael Washington out here sellin' his rocks.

[F, 14, East Palo Alto]

The absence of the verb *to be* is not confined to the main verb, which is usually indicated by the term *copula*, but is also absent where other dialects use *to be* as an auxiliary in the progressive.

(6) Boot always comin' over my house to eat, to ax for food.

[M, 10, T-Birds, South Harlem]

(7) He just feel like he gettin' cripple up from arthritis.

[F, 48, North Carolina]

(8) Y'all got her started now, she fixin' to give y'all a lecture!

[F, 14, East Palo Alto]

2.2.1 Inherent Variation of the Copula

In reading through these examples, one might get the impression that AAVE simply does not use the linking verb *is*. This would not pose a difficult problem for analysis, since many languages of the world show that pattern, such as Herbrew, Hungarian, Russian, and many creole languages of the Caribbean. Jamaican Creole English (Bailey 1966) shows no copula before predicate adjectives.

(9) im sik bad She is very sick.

(10) di tiicha gud The teacher is good.

Furthermore, the sentences used generally by children learning English from 18 to 24 months show no copula, and there seems to be little basis for constructing one in the underlying phrase structure (Bloom 1970).

(11) That a lamb.

(12) That a bear book.

(13) Tiny balls in there.

(14) Mommy busy.

The suggestion that AAVE has no copula or auxiliary *be* is therefore plausible in that this is a very common pattern. In this analysis AAVE would differ from standard English in a high-level rule of grammar; however, a little more attention to the pattern of speech shows that the situation is not so simple. We find that the absence of the copula varies with its presence, in both full and contracted form.

(15) We send Kenneth, 'cause Kenneth is tough.
[M, 12, T-Birds, South Harlem]

(16) Now a girl will get out there Q I mean, she's not particularly tryin' to hurt you, but she'll put a hurtin' on you.
[M, 25, New York City]

(17) I know it's the root of all evil, but I will fight over it.
[M, 15, Cobras, South Harlem]

(18) I told you, I don't believe there's no God.
[M, 16, Jets, South Harlem]

(19) About two is in jail, now.
[M, 29, New York City]

(20) It ain't that much—you know—people out in Long Island you be around with than it is in New York.
[M, 13, Jets, South Harlem]

2.2.2 Variable Copula in Sounding

Extensive variation of this kind is always a problem for linguists—indeed, the aim of most linguistic analysis is to eliminate variation and give the rules for when and where each type of utterance is used. When this variation of the copula in AAVE was first pointed out, some linguists argued that it was due to a mixture of grammars: that whenever speakers used *is* or *'s*, they were borrowing these forms from standard English, and only the zero represented the true AAVE grammar. This would be particularly persuasive if *is* or *'s* were used whenever members of the black speech community were talking to outsiders, or speaking formally.

At this point the concept of the vernacular becomes important in the

argument. The vernacular is defined as the form of speech that is learned early in life, that is used when the least attention is paid to speech, in close interaction with friends and family. It is the form of language that we know best, the most consistent form of the grammar, which is used with perfect linguistic security and shows no interference from the teacher's instructions about what is correct or incorrect. The main goal of sociolinguistic methods is to obtain access to this vernacular. By one means or another, the various field projects referred to above produced many spontaneous recordings of the vernacular: in loud and uncontrolled gatherings of adolescent youth in Harlem, or among core groups of young adults in Philadelphia, or among adults in California who rarely dealt with speakers of other dialects. In these recordings we find extensive variation of the full, contracted, and zero forms of *to be*. Typical examples of this inherent variation come from the observation of ritual insults: the speech event known as "sounding" in the New York City of the 1960s, but known under many other names as well—*signifying, cutting, joining, screaming, chopping, woofing, snapping, bus(t)ing*. Here the speakers of the language are engaged in intense interaction with each other, using their basic vernacular, and we observe the rapid alternation of zero, contracted, and full forms of the copula:

(21) Your mama's a weight-lifter.

(22) Your mother a applejack-eater.

(23) Your mother is a Phil D. Basket.

(24) Your mother's a diesel.

(25) Your mother a ass, period.

(26) Your mother IS a lizard.

(28) Your mother a fleabag.

(29) Your mother so white, she hafta use Mighty White.

(30) Your mother's so skinny she could split through a needle's eye.

(31) Your mother's so skinny, about that skinny, she can get in a Cheerioat and say, "Hula hoop! hula hoop!"

(32) Because he old, he's old, that's why!

2.2.3 Searching for an Explanation

The inherent variation of the copula in the African-American vernacular shows that it cannot be explained as the result of dialect mixture. There

remain, however, three other options to account for what is happening. (In the discussion to follow, *copula* will be used as shorthand for "main verb copula and finite auxiliary *be*.")

a. The grammatical category of the copula *to be* may be optional in AAVE.
b. The copula may have three alternate forms: *is*, *'s* and zero.
c. The copula *is* may be present regularly in the grammar, just as in other dialects, but be reduced by the contraction rules of casual speech to *'s* and then to zero.

What difference does it make which of these solutions we pick? Solution a. has some rather serious semantic implications. The finite form of the verb *to be* is more than a connecting link in English: as (2c) showed, it also carries information on tense (past versus present) and number (singular versus plural) and person (first, second, third). Information on the second and third categories is usually found in the form of the subject, but the finite verb is the main way of signaling tense. If the entire grammatical category is optional, it is possible that tense information is also missing. This would mean that sentence (2) is a statement about the present, but that (3) might apply to past or present; and that (21, 23, 24, 26, 30, 31, 32) are statements about what the person's mother is like now, but that (22, 25, 28) are not tied to the present but refer equally well to the past.

On the other hand, if we adopt solution b. or c., we assume that the underlying grammatical category, with its semantic information, is present in the speaker's mind but simply not expressed in many cases.

At this point we must begin to examine the distribution of the copula more closely. Is it true that zero can be used freely in any sentence where we would expect the copula? It turns out that this is far from the case. First, let us consider cases of the copula that do not show *is* or *are*.

The past. In the past, *was* appears regularly:

(33) I was small; I was sump'm about one years o'baby.
[M, 12, Aces, South Harlem]

(34) She was likin' me ... she was likin' George too.
[M, 18, Oscar Brothers, South Harlem]

The negative. The negative form of the present tense copula, *ain't*, appears regularly where other dialects have *isn't* or *ain't*.

(35) It ain't no cat can't get in no coop.
[M, 15, Cobras, South Harlem]

(36) My sons, they ain't but so big.
[M, 26, New York City]

We do occasionally find negative forms with a simple negative *not*, but these are relatively rare.

The first person. Whenever the subject is *I*, we regularly find the contracted form *I'm*.

(37) I'm tired, Jeannette.

[M, 48, New York City]

(38) I'm not no strong drinker.

[M, 15, New York City]

Pronouns ending in /t/. For the three pronouns that end in /t/, *it*, *that*, and *lot*, we find the contracted forms *i's*, *tha's*, and *what's* in the great majority of cases.

(39) I's a real light yellow color.

[M, 15, Cobras, South Harlem]

(40) Tha's my daily routine: women.

[M, 14, Cobras, South Harlem]

(41) Wha's a virgin?

[M, 12, Jets, South Harlem]

Occasionally, the simple subjects *it*, *that*, *what* are found, but these are relatively rare. The predominance of *i's*, *tha's* and *wha's* will be an important factor in the ultimate explanation of what is happening here.

The nonfinite be. Without exception, we find the form *be* wherever the standard English copula would follow a modal or appear in the infinitive form.

(42) You got to be good, Rednall!

[M, 15, Jets, South Harlem]

(43) His wife is supposa be gettin money for this child.

[F, 48, North Carolina]

The imperative. The same situation prevails with imperatives:

(44) Be cool, brothers!

[M, 15, Jets, South Harlem]

(45) Don't be messin' with my old lady!

[M, 16, Jets, South Harlem]

Emphasis. We now turn to environments where the forms *is* and *are* appear regularly in AAVE. Under emphasis we find:

(46) Allah *is* god.

[M, 16, Cobras, South Harlem]

(47) He *is* a expert.

[M, 12, T-Birds, South Harlem]

Yes-no questions. The finite forms of *be* also appear in yes-no questions.

(48) Is he dead? is he dead? Count the bullet holds in his motherfucking head.

[M, 16, Jets, South Harlem]

(49) Are you gon' give us some pussy?

[M, 13, Jets, South Harlem]

Tag questions. Tag questions are used to request confirmation from the listener; here we always find the finite forms of *be.*

(50) Is that a shock? or is it not?

[M, 13, Cobras, South Harlem]

Elliptical responses. The most interesting examples, from a syntactic point of view, are those in which we find *is* and *are* in clause-final position as the result of ellipsis, the removal of predictable material. In confirming or denying what someone else has said, we leave off all but the subject and the first member of the auxiliary:

(51) (You ain't the best sounder, Eddie!) I ain't! He is!

[M, 12, Cobras, South Harlem]

After ellipsis in comparative constructions. Within a single sentence *is* or *are* will occur in final position in a comparative clause.

(52) He is better than the girls is, now.

[M, 35, South Carolina]

(53) It always somebody tougher than you are.

[M, 25, Florida]

In (53), *is* occurs in clause-final position because we do not repeat the predicate *tough,* even though repetition would represent the meaning fairly well.

(53') *It always somebody tougher than you are tough.

In embedded clauses with wh- heads. Finally, we find a good number of complex constructions where the object of a verb is a clause headed by a *wh-* word, which has moved to the front of its clause leaving *is* or *are* at the end:

(54) That's what he is: a brother.

[M, 14, Cobras, South Harlem]

(55) I don't care what you are.

[M, 16, Jets, South Harlem]

(56) Do you see where that person is?

[M, 15, New York City]

2.2.4 A Solution to the Problem

We now have a long list of special environments where forms of the copula are always present in spite of the fact that, in most environments, speakers of AAVE can dispense with it. The problem for linguistic analysis is to find something in common among these environments:

(57) a. The past *was*.

b. The negative *ain't*.

c. The first person *I'm*.

d. Pronouns *i's*, *tha's*, *wha's*.

e. Nonfinite *to be*.

f. The imperative *be*.

g. Emphasis *He* is *there*.

h. Yes-no questions: *Is he there?*

i. Tag questions: ..., *is he?*

j. Elliptical responses: *He is!*

k. Comparative ellipsis: ... *than he is*.

l. Embedded wh- clauses: ... *what he is*.

This list of twelve undeletable environments of the copula appears to be rather miscellaneous. What can these various forms of undeletable copula have in common? At first glance, nothing. But, like many problems, this can best be attacked by a "divide and conquer" strategy. Let us consider a group of cases that strongly suggest the influence of the phonetic environment.

2.2.5 Evidence of Phonetic Conditioning

a. *Is* and *are* are deleted, but *'m* is not. It seems likely that there are phonetic processes that operate upon [z] and [r] but not upon [m].
b. *Ain't* and *be* are different from *is* and *are* in that they contain long vowels [e:] and [i:], while *is* and *are* have short, unstressed vowels, like the reduced first syllable of *about* (=[ə] or "shwa"). Many

reduction processes of English operate to reduce and eliminate the short vowels but not the long ones.

c. *Was* and *were* differ phonetically from *is* and *are* in that they begin with a consonantal [w] instead of a vowel.

d. The forms *i's*, *tha's*, *wha's* are all connected with the fact that the contracted *'s* follows a [t], which seems to have disappeared here due to some low-level assimilation. If there is a phonetic condition that protects *'s* after /t/, and then the /t/ disappears later on, this would help explain why the *'s* is preserved.

What kind of phonetic processes might be applying here? The most likely candidate is something akin to the regular rule for the contraction of the auxiliary in English, which takes the full form *is* and converts it to *'s*. To follow through on this suggestion, we have to characterize in more detail the process of auxiliary contraction in English. (It is the same rule for the main verbs *be* and *have*; they will be included implicitly in the discussion of "auxiliary contraction" below.)

The rule of auxiliary contraction operates upon a grammatical particle that is the first member of the auxiliary, which has the form VC. The vowel V must be a completely unstressed, reduced vowel.

(58) is → [əz] → [z]
are → [ər] → [r]

If the auxiliary begins with a consonant, another reduction rule must remove the consonant first:

(59) has → [həz] → [əz] → [z]

The single consonant is then attached to the preceding word, usually the subject of the sentence in the form of a pronoun.

(60) He is → He's = [hiz]
You are → You're = [yʊr]
He has → He's = [hiz]

Contraction is therefore a rule that removes shwa from an auxiliary verb where four conditions are satisfied:

(61) a. The auxiliary must be the first member of the verb phrase. This is the position containing the inflection that signals the information on tense: whether the sentence refers to past or present. In most dialects, contraction can't apply when this tense marker is not present (for example, it can't remove the reduced vowel of *as* in *like as not*).

b. The auxiliary must begin with a vowel. It can't apply to a word that begins with a full consonant, like *could*.

c. The auxiliary must have only one consonant; contraction will not apply to words with more consonants, like *hasn't* or *won't*.

d. The auxiliary must be a "weak word," a word whose only vowel is shwa, in a completely unstressed form.

Environments for nondeletability of the copula (59a–f) show violations of the first three conditions given above. To understand environments (g–l), we need only consider the fourth condition: that the auxiliary must be completely unstressed. Each of these environments assigns more than the minimal stress to the auxiliary. In the case of emphasis this is obvious. For yes-no questions, and tag questions, we observe that the inversion assigns at least secondary stress to the first element, the inverted auxiliary. In the last three cases the auxiliary winds up in "exposed" position, the last stressable element in the clause. In this case the normal nuclear stress rule of English assigns the primary stress to this last word.

All of the foregoing leads us to the general inference (62), which holds the key to the problem of the AAVE copula.

(62) Where other English dialects do not permit contraction of the auxiliary, AAVE does not permit deletion.
Where other English dialects do permit contraction of the copula, AAVE permits deletion.

The following examples illustrate the parallel in the general prohibitions against contraction and the AAVE prohibitions against deletion. The * symbol is usually used to indicate intuitive reactions of unacceptability: here it refers to patterns of production that are so clear that they support predictions of what is possible or not possible.

	Other English dialects	*AAVE*
(63)	*He's as nice as he says he's.	*He's as nice as he says he.
(64)	*How beautiful you're!	*How beautiful you!
(65)	Are you going? *I'm.	Are you going? *I.
(66)	*Here I'm.	*Here I.

We might conclude from (63–66) that contraction is simply prohibited in final position, but the following show that there is more to the matter than this.

	Other English dialects	*AAVE*
(67)	*Who's it?	*Who it?
(68)	Who's IT? [in a game]	*Who IT?
(69)	*What's it?	*What it?

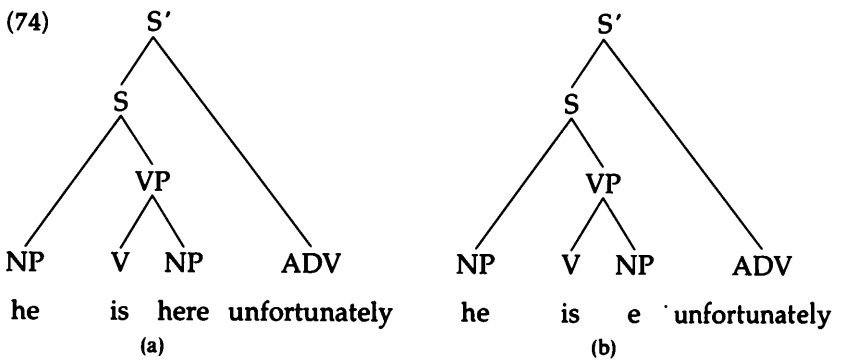
(70) What's it for? What it for? Wha's it for?

We can't say (67) with the dummy *it*, since dummy *it* is not stressable and the stress must be placed on the copula; but we can say (68) with lexical IT which accepts stress. We can't say (69), with dummy *it*, since again the copula has to take that stress; but we can say (70), when the word *for* follows to take the main nuclear stress. It seems then that a stressed syllable must follow the *is* or *are* if it is to be contracted or deleted. Yet (71–73) show that the situation is more complex:

	Other English dialects	*AAVE*
(71)	*He's now.	*He now.
(72)	*He's unfortunately.	*He unfortunately.
(73)	He's unfortunately here.	He unfortunately here.

In both (71) and (72), there are stressed forms following the copula, but we can't delete or contract. In (73), after the addition of *here*, we can contract and delete. It is evident at this point that the grammatical relations between *is* and *are* and the following elements are important to the rule. This involves the same type of phrase structure that we found to be important in interpreting sentence (2). The tree structure in (74) shows that *here* is in a close grammatical relation to *is*, so that a nuclear stress rule operating on the lower tree at left will assign the main stress to *here*. On the right, where a rule of ellipsis has removed *here*, the nuclear stress for the lower tree must stay on *is*. The sentence adverb *unfortunately* may receive primary or secondary stress, but since *is* is not in construction with *unfortunately*, the stress on this element will not act to eliminate the stress on *is*. These considerations of phrase structure apply no matter where *unfortunately* is placed. A late rule may move it into the position of (73), but this will not affect the stress pattern drastically and so does not change the possibilities of contraction and deletion.

(74)



All these considerations reinforce our confidence in the general observation (62). Given these parallels between contraction and deletion, we are led to the conclusion that the absence of the copula in AAVE is due to a rule that is parallel and similar to the general auxiliary contraction rule of other dialects of English. This means that the speakers of AAVE have an unconscious knowledge that an underlying copula is present in sentences (3–32), where it is frequently absent, as well as where it is consistently present in sentences (33–56). If this is the case, it will help explain the fact that in tag questions, yes-no questions, and elliptical responses (50–53) we always get the expected form of the copula, *is* or *are*. Tag questions, for example, are formed by a regular rule that takes the auxiliary of the main verb and repeats it at the end along with the subject. The polarity is inverted, so that positive is replaced by negative, and negative by positive; thus we have the pattern:

	Other English dialects	*AAVE*
(75)	He's my man, is he not?	He my man, is he not?

Here the underlying form *is* will surface to give the right result, even when it is deleted in the main clause. If it were not intact in the main clause, we would find irregular tag questions with *do*. This is exactly what we do find when a verb is no longer analyzed as containing *is*, as in

(76) He posta do it, don't he?

In this case, *is supposed to* is heard as a single fixed form *posta*, and the presence of an underlying *is* is no longer available to form the tag question *isn't he?*

2.3 Quantitative Confirmation

The qualitative arguments of section 2.2.3 are strong, and convincing to most linguists; yet, with enough ingenuity, one can always produce alternative arguments.[2] Evidence from the quantitative analysis of speech production will allow us to test the validity of the arguments given so far and to obtain even stronger confirmation. In order to test the idea that deletion is parallel to contraction, we can examine some of the independent variables that affect contraction, noting to what extent they affect deletion.

2. For example, those who did not want to believe that AAVE has an underlying copula argued that the occurrence of *is* and *are* in tag questions could be seen as parallel to *do*-support with other verbs. In other words, we do not maintain that there is an underlying *do* because of sentences like *He works hard, doesn't he?* So we need not argue that there is an underlying *is* in sentences like *He is tired, isn't he?* Sentences without verbs would produce tag questions with *is*, and sentences with verbs would produce tag questions with *do*. Equally ingenious responses can be produced to explain many of the twelve environments where *is* and *are* occur regularly.

Table 2.1
Percent of full, contracted, and deleted forms of copula by subject form for two South Harlem groups.

	Full *NP*	Pronoun	Full *NP*	Pronoun
Single interviews				
Full	56	04	67	00
Contracted	26	29	15	39
Deleted	18	67	18	61
N:	35	106	145	189
Subjects	9		15	
Group sessions				
Full	45	00	54	00
Contracted	19	23	19	42
Deleted	36	77	27	58
N:	85	30	113	75
Subjects	9		11	

One of the strongest such effects is whether the subject is a full noun phrase or a pronoun. Contraction is strongly favored when the subject is a pronoun. Table 2.1 shows the percentages of full, contracted, and deleted copula for the Cobras and the Jets in South Harlem, in two conditions: single interviews with individual members, and group sessions. The results for the two groups and the two styles are similar. In each case more full forms are shown with full noun phrase subjects and fewer with pronouns; in each case more deleted forms are shown with pronoun subjects and fewer with full noun phrase subjects. Group sessions show fewer full forms and more deletion.

But what about contraction? The expected parallel between contraction and deletion does not always appear here. For the Cobras, there is very little difference between contraction with full noun phrase and pronominal subjects. This is the result of the fact that we are treating deletion as if it had nothing to do with contraction—that it was an independent phenomenon. But the logic of the argument up until now is that deletion is a further extension of contraction: that deletion is not simply the absence of the copula, but rather the removal of a consonant that is the result of the contraction process. That is, we extend (58) to

(58′) is → [əz] → [z] → 0
are → [ər] → [r] → 0

The parallels in the permissible environments for contraction and deletion may be the result of a general resemblance between the two processes:

both involve phonological reduction. But the argument can be made much tighter, and the intricate parallels between the two sets of environments be made more understandable, if we say that deletion is *dependent* on contraction. In other words, AAVE does not drop whole words; as in most phonological processes, contraction and deletion proceed one step at a time. Contraction removes a vowel from the VC form, and then deletion removes the remaining consonant C. The set of four conditions (61) for contraction need not be repeated for deletion separately, since they follow from the simple dependence of deletion on contraction. Given this view, we then see that the true total for contraction is not the totals shown in table 2.1, but rather the total of contraction and deletion, since all deleted forms have by definition gone through contraction first. We then calculate the rate of the contraction and deletion processes by the following formulas, where F = full forms, C = contracted forms, D = deleted forms.

(77) $$Contraction = \frac{C + D}{F + C + D}$$

(78) $$Deletion = \frac{D}{C + D}$$

Using these definitions, we have the result shown in figure 2.1 (a–d). Here the lowest portion of each diagram shows the deleted forms, D. On top of this, we see the area representing the contracted forms, C, which were not deleted. The middle line shows the percent of forms that are first contracted and then deleted. The upper part of the diagrams shows the full forms, F, which were neither contracted nor deleted. All four diagrams show clearly the parallel between contraction and deletion processes in that both apply more frequently with pronominal subjects than with full noun subjects. Studies of older adolescent groups and adults show the same pattern.

2.3.1 The Opposing Effects of the Phonetic Environment

In many ways contraction and deletion are parallel in AAVE: in their dependence on stress reduction, on a particular phonological shape, on the preceding grammatical environment, and on the following grammatical environment.[3] But in one respect, contraction and deletion are quite

3. Though we will not be considering the following grammatical environment here, it has been one of the major centers of interest in the study of the historical origins of AAVE as well as the relations between contraction and deletion. Many studies have replicated the finding that both contraction and deletion have their lowest value when a noun phrase follows (*He is my brother*); next are predicate adjectives and locatives (*He is tired, He is out there*); next are progressive verbs (*He is working on it*); and finally the future with *gonna* (*He is gonna do it*).

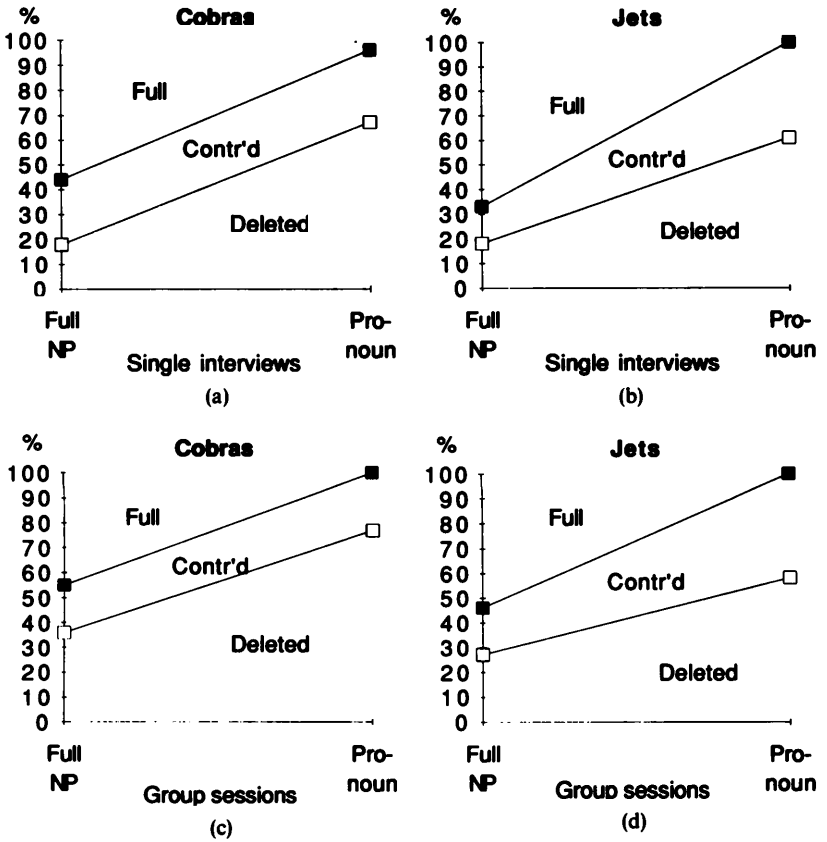


Figure 2.1
Effect of full noun phrase subject versus pronominal subject on contraction and deletion of the copula for two South Harlem groups in single interviews and group sessions. *D* = percent contracted and then deleted; *C* = percent contracted; *F* = percent full forms.

different: contraction is the removal of a vowel, whereas deletion is the removal of a consonant. The following considerations lead us to believe that they will show opposing effects of the preceding phonetic environment.

The most favored syllable form in English, and in most other languages, is the open syllable CV—a single consonant followed by a single vowel. English does not favor CV-CV- as much as Italian or Japanese does, and it is rare to find long English sequences without closed syllables (CVC). Yet, when push comes to shove, the result of a reduction process will usually be a CV syllable. This sequence is easiest to pronounce, especially when speaking very fast, as in *Lemme have a piece o' pizza right away*. Next most favored is the CVC syllable type, in sequences like CVC-CVC-CVC, as in

Tom gave Matt more time. Syllables with several final consonants, CVCC and CVCCC, are on the whole disfavored. This is not because words like *first* or *hand* are hard to pronounce in isolation, but they can produce long sequences of consonants in combinations like *fist clenching* or *hand play,* with strings of four consonants in a row.[4] At the other extreme, English does not at all favor sequences of vowels, though other languages do (compare the typical Hawaiian place name *Aiea*).

Let us consider the consequences of these facts for auxiliary contraction and deletion. The result of contraction is that a single consonant is attached to the preceding words, as the spelling indicates, so that the shape of the preceding word will have the strongest effect on contraction and deletion. Some contractions will have the effect of creating CVC syllables and others will create CV syllables:

(79) $\underset{CV}{Ray}\ \underset{VC}{is}\ \underset{VC}{out} \xrightarrow{\textit{Contraction}} \underset{CVC}{Ray's}\ \underset{VC}{out} \xrightarrow{\textit{Deletion}} \underset{CV}{Ray}\ \underset{VC}{out}$

(80) $\underset{CVC}{Ron}\ \underset{VC}{is}\ \underset{VC}{out} \xrightarrow{\textit{Contraction}} \underset{CVC}{Ron}\ \underset{C}{'s}\ \underset{VC}{out} \xrightarrow{\textit{Deletion}} \underset{CVC}{Ron}\ \underset{VC}{out}$

These examples show that the effect of contraction on syllable structure is the opposite of the effect of deletion. In (79) the subject *Ray* ends in a vowel, and contraction reduces the disfavored CV-VC form to the more favored form CVC. In (80) the subject *Ron* ends in a consonant, and contraction converts the favored CVC-VC sequence to CVCC. On the other hand, deletion in (79) changes the favored CVC-VC to the unfavored form CV-VC, while deletion in (80) resolves the cluster CVCC-VC to CVC-VC. We can infer, all other things being equal, that contraction will be favored over deletion when the subject ends in a vowel, but the reverse will be the case when the subject ends in a consonant.

Table 2.2 shows the effect of subject form on rates of contraction and deletion for the Jets and the Cobras, calculating these rates as we did in figure 2.1, and combining the data from single interviews and group interviews. Only full noun phrases are considered, since almost all pronouns, except *it, that* and *what,* end in a vowel. The reversal of the two effects is striking. For both the Jets and the Cobras, contraction is strongly favored when the subject ends in a vowel, and deletion is strongly favored over contraction when the subject ends in a consonant. This reversal of the phonetic conditioning of contraction and deletion further supports the proposal that the absence of the copula in AAVE is the result of a phonological deletion process that extends the effect of contraction one more

4. English has some words with unusually long final consonant sequences, like *sixths,* VCCCC, but most people do not pronounce all of these in natural speech. In AAVE, such combinations are almost impossible to realize.

Table 2.2
Rates of deletion and contraction by phonetic form of subject noun phrases for two South Harlem groups in single and group styles combined.

Subject ends in	Rate of contraction	N	Rate of deletion	N
Cobras				
_C	.41	46	.80	20
_V	.90	32	.41	29
Jets				
_C	.32	93	.70	30
_V	.90	32	.41	29

step, and we can be even more confident that the copula is present in the underlying structure of the grammar.

One consequence of this conclusion is that we can infer that the semantic information included in the underlying copula is preserved, since a low-level phonetic process removes phonetic information only, not semantic. This means that sentences like (3–5) and the other zero-copula sentences given above will be interpreted as statements about the present. Thus (3) *She the first one started us off* should be interpreted as referring to conditions that are true now and in general—that is, the "general present." Sentences like (5) *Michael Washington out here sellin' his rocks* will be interpreted as referring to the immediate present. None of these sentences will be heard as referring to the past, as equivalent to "She was the first one (who) started us off" or "Michael Washington was out here selling his rocks."

2.4 Experimental Approaches to the Cognitive Status of the Copula

The conclusions arrived at so far are based on inferences from the observation of speech production. We can test the conclusion that the copula is present in the underlying grammar, and is an object of cognition, by a number of experimental approaches. One such approach involves *memory tests*. It was found that many speakers of AAVE had great difficulty in repeating back certain sentence types of standard English that were outside of the AAVE grammar. These memory tests involved a betting game with real money, in which the subject won a nickel each time he repeated a sentence correctly, word for word; the members of the T-Birds, Jets, and Cobras were strongly motivated to do their best.

One of the most extreme examples involved double negatives, which are normal in AAVE. Sentences like (81a) were typically repeated back as (81b), even on the second and third try.

(81a) He never sat at any of those desks.

(81b) He never sat at none of those desses.

In AAVE the agreement of the negative that converts *any* to *none* is practically obligatory, and the difficulty in repeating back *any* was extreme.[5] A similar difficulty was found in repeating back sentences with the standard form of embedded questions, so that (82a) was automatically converted to (82b) by many subjects:

(82a) I asked Alvin if Boot knew how to play basketball.

(82b) I asked Alvin did Boot know how to play basketball.

But no sentence involving the use of the copula, no matter how complicated, posed any difficulty for repetition. The word *is* was never omitted in sentences like these:

(83) What Alvin is, he is smart.

(84) Boot is as good at playing basketball as he is smart in school.

In the year following the work with the T-Birds, Jets, and Cobras in South Harlem, Jane Torrey carried out a series of experiments in a second grade class in a local school. First, she recorded spontaneous speech from the thirty-odd members of the class. Next, she tested them for their knowledge of a series of standard English *-s* particles and inflections: the possessive *-s*, the plural *-s*, the third singular *-s*, and the contracted copula *'s*. Then she tested the children for their ability to make semantic distinctions based on the presence or absence of these inflections, using a method similar to the *wugs* test of Jean Berko Gleason. For the plural, children were shown pictures of one animal or two and asked to point to one or the other according to whether they were named with an *-s* or not. For the possessive, the children were shown two pictures: one of a duck in a hospital bed, with a nurse nearby; the other of a woman in a bed, with a duck dressed as a nurse standing by the bed. The subjects then heard one of two phrases —*the duck nurse* or *the duck's nurse*—and were asked to point to the right picture. For the third singular *-s*, children were given two tests. Pictures of one or two cats splashing in a puddle were to be identified by either *The cats splash* or *The cat splashes*. Pictures of a man with a stick about to hit a dog or of a dog running away from a man were to be distinguished by *The man hit the dog* or *The man hits the dog*. Knowledge of the copula was tested by similar sentences, such as *The boy hit* or *The boy's hit*, with pictures showing the boy as agent or patient of the action.

After the first series of tests Torrey exposed each child to a training program that specifically taught the meanings of the four *-s* inflections,

5. It was almost as extreme as the difficulty in pronouncing the *-sks* cluster in *desks*; as noted in footnote 4, this is simplified 100 percent of the time in AAVE.

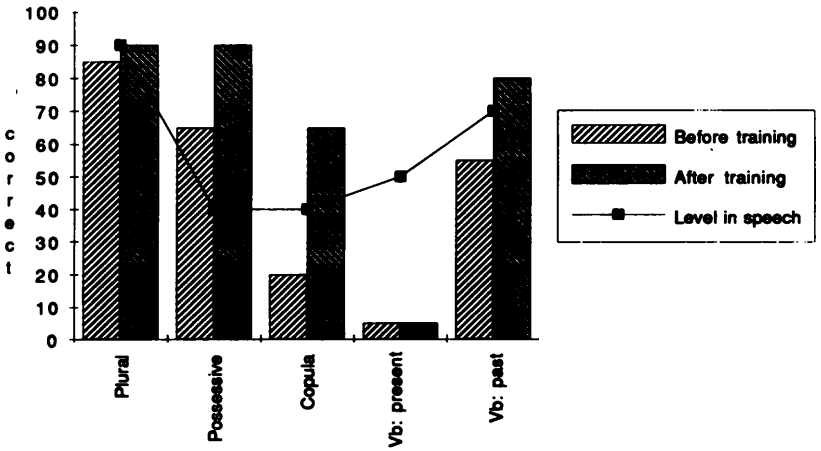


Figure 2.2
Percent correct in the use of *-s* inflections to obtain semantic information before and after training for second-grade children in Harlem. Points connected by the line represent the percent use of the inflection in spontaneous speech. From Torrey 1970.

and then retested the children. Figure 2.2 shows the results. The points connected by a solid line show the mean level of presence of the inflection in the spontaneous speech of the children. The bars show the percent of correct answers before and after testing. We observe that the copula was present less than 50 percent of the time. While the children had little difficulty with the plural or the possessive, they showed only 20 percent success with the copula before testing. After training, though, success with the copula increased significantly to about 65 percent correct. In contrast, there was no improvement at all in the children's ability to use the verbal third singular *-s* to distinguish one cat from two in *The cat splashes*. We conclude that the copula has a cognitive basis in the grammar of the children, allowing them to use it to obtain semantic information, but that the third person singular *-s* of the verb does not. At the same time we recognize that the knowledge of the copula among young children is not as secure as their knowledge of the plural. And, indeed, we find that some of the crucial evidence for the underlying presence of the copula is missing with preadolescents. They show no difference in the effect of a preceding consonant or vowel on contraction and deletion.

2.5 A Deep Difference: The Case of Stressed *Been*

So far, our results indicate that the differences between AAVE and other English dialects are rather superficial, the result of low-level phonetic

processes that contract and delete material present in the underlying mental representation. This seems to be the case for the copula, at least for adolescents and adults, and indicates that the cognitive bases of the all English grammars are similar in this respect. Our view of the AAVE auxiliary would be misleading, though, if we left it at that. Consider sentence (85), spoken by a member of the black community in West Philadelphia:

(85) She *been* married.

The word *been* is italicized here because it is spoken with considerable emphasis on a low pitch. Approaching this sentence with the same logic that we apply to the copula, we would infer that it is the result of the contraction and deletion of *has*, as in (85′).[6]

(85′) She has been married → She 'as been married →
She's been married → She been married.

This is indeed the conclusion that most speakers of other dialects come to when they hear this sentence. Rickford (1973) tested the semantic interpretation of this stressed *been* by a wide range of black and white subjects. He presented them with (85) and asked, did they think that the woman referred to was still married? The great majority of white subjects answered "No." Their conclusion is the result of a peculiar property of the English present perfect *has been*. This grammatical form refers to conditions continuing up to the present whenever there is an indication of duration: *She's been married for three years; she's been married for a long time.* But without any such modification, the present perfect asserts that the condition is completed and done with (though it still has an effect on the present: *She's been married and should know better than to do it again*). This use of *has been* is found in combination with any expression that refers to a state that can be turned on or off again, verb, adjective, or noun: *she's been connected, worried, happy, a member*, and so on.

So much for the white subjects. But the great majority of black subjects gave the opposite answer. In answer to the question "Is she still married?" they said "Yes." This included middle-class black people who had a good knowledge of other dialects, and were not basically vernacular speakers, as well as native speakers of AAVE. If there are no great cognitive differences between black and white speakers, how do we account for this contrast in response? Is there some underlying difference in the way that black and white speakers reason about language?

6. Here there is one more step in the chain: before contraction is applied, the initial /h/ of *has* is deleted, much like the initial /h/ of *him, her* in *Take 'im away* and *Fill 'er up.*

The answer to this question appears when we begin to notice other sentences of AAVE with stressed, low-pitch *been*. I once visited a first grade in West Philadelphia with a psychologist who was doing some experimental work there. He introduced me to a black 6-year-old boy, who then turned to him and said

(86) I *been* know your name.

Eddie, a 15-year-old friend of my son's, was visiting our house in West Philadelphia.

(87) WL: That's a new coat, Eddie?
Eddie: I *been* had that for weeks.

John Baugh reports from his long-term participant-observation in the black community of Los Angeles:

(88) They *been* called the cops, and they're still not here.

(89) I *been* been knowing Russell.

None of these uses of *been* can be interpreted as reduced forms of the English present perfect. *They* been *called the cops* can't be interpreted as a reduced form of *They have been called the cops; I* been *been knowing Russell* can't be derived from *I have been been knowing Russell.* In these uses of *been* the following elements are not past participles, but transitive or intransitive verbs, usually in the past tense form. All these uses have three semantic components:

(90) a. A condition referred to was true in the past.

b. It has been true for a comparatively long time (nonrecent).

c. It is still true.

These three features combine to form a complex of meanings that we may call the *remote present perfect.* It is distinct from the English present perfect both formally and semantically, for the present perfect does not necessarily carry features (b) or (c). Though native speakers of AAVE are not consciously aware of these semantic features, they may focus on them in argumentative discourse. In (91), from Dayton's participant-observation in West Philadelphia, the remote feature (b) of *been* is used to disagree with the "recent" implication of *already*:

(91) a. They *been* left.

b. They left already?

a. They *been* left.

A similar argumentative implication is found in (92), a remark of a 15-year-old member of the Jets in the course of a card game. The implication of the question was that he was still playing; the answer strongly denied this, implying that the observer should have known that he had quit some time ago.

(92) a. You gonna quit?

b. I *been* quit.

It follows that the difference in response between black and white subjects in Rickford's (1973) experiment was due to the fact that the black subjects correctly perceived *been* in *she* been *married* as the AAVE remote present perfect. *If she* been *married*, she is still married. The whites, knowing nothing about this element of AAVE grammar, could only relate it to the English present perfect.

Stressed *been* is only one of many grammatical elements of AAVE that are not found in other dialects and are generally not recognized by speakers of other dialects. These include other members of the auxiliary, such as the resultative *be done* in (92) and the habitual *be* in (93), both from Dayton's observations in West Philadelphia.

(92) If you love your enemy, they be done eat you alive in this society.

(93) When they used to tell us that the nipples be pink on pregnant women, we be laughin'; we were laughin' 'cause it don't be like that.

Of the many aspect markers of AAVE that are never found in other dialects, habitual *be* is the only one that is generally heard and recognized in public discourse. These grammatical markers differ from those found in other dialects in profound ways. Sentences with these markers in the auxiliary do not carry the information on tense that is a part of all other English sentences. They do not invert subject and auxiliary to ask questions or to form tag questions; they do not incorporate *-n't* to form the negative. There is, for example, no AAVE question corresponding to (85), *Been she married*?

It might seem strange that white subjects know so little about these features of African-American English. After all, most of them have heard black people talk since they were children; they see many films and television shows that portray the black family with black actors. They read books in which black characters speak a dialect that is recognized as black and may actually be labeled Black English or African-American English. Yet none of this experience will enable them to recognize and interpret stressed *been* in the way that native speakers of AAVE do.

The reason for this situation is that these "deeper" or "more different" aspects of AAVE are not reproduced on the mass media. Sentences like

(86–89) and (91–93) are not heard in plays or television programs. Black actors, in their efforts to reproduce the black vernacular, unconsciously avoid the use of *been* and the other members of the AAVE auxiliary mentioned above. But they do reflect more or less faithfully the variation in the use of the copula that we have studied here. The African-American English of the media is a familiar idiom, a part of the joint world that is shared by black and white citizens of the United States. The demonstration that the absence of the copula in AAVE is an extension of familiar rules of language is consistent with the more general finding that standard and nonstandard dialects share a common cognitive base: most often, their differences are primarily adjustments in the output rules of the grammar.

Suggestions for Further Reading

Baugh, J. (1983). *Black street speech: Its history, structure and survival.* Austin: Unversity of Texas Press.

Labov, W. (1972). *Language in the inner city.* Philadelphia: University of Pennsylvania Press.

Mufwene, S., J. Baugh, G. Bailey, and W. Walter Edwards. *The structure of African-American English.*

Rickford, J. (1973). Carrying the new wave into syntax: The case of Black English *bin.* In R. Fasold and R. Shuy, eds., *Analyzing variation in language,* 162–183. Washington, DC: Georgetown University Press.

Problems

The contraction of the auxiliary that we have been discussing so far is only one of the two types of contraction that operate in the English verb phrase. The other is called "*not*-contraction." It is similar to auxiliary contraction in that it involves removal of a reduced vowel of (the vowel of unstressed *not*) and the attachment of the result to the preceding word.

2.1 What is the relation between these two forms of contraction? Do they compete, combine, or complement each other? Enter the possible contracted forms below for the past and present tense of the verb *to be.* For example, the first person plural in the present can be *we aren't* or *we're not.*

	PRESENT		PAST	
	Singular	*Plural*	*Singular*	*Plural*
1st person				
2nd person				
3rd person				

Are there any holes in the pattern? If so, what causes them?

2.2 Tag questions are formed by moving the first member of the auxiliary to the end of the sentence, adding contracted *not* (for positive sentences), and then adding the appropriate pronominal subject: *He's tired, isn't he?* Work out the same pattern as above, and see if there are any holes in it.

2.3 How does *not*-contraction affect the contraction and deletion of the copula in AAVE? If speakers of AAVE were to shift toward a more standard English, would they be more likely to use *not*-contraction or auxiliary contraction?

Exercise

Construct an experimental technique for measuring the degree of awareness of the grammatical structures discussed here on the part of black and white members of the speech community you are in contact with. Given a particular linguistic form, you will want to find out whether the subject can (a) recognize it as a form of English, (b) say who is likely to use this form in the speech community, (c) identify the meaning in context and/or out of context, and (d) predict the acceptability of new uses. Your experiment may test all or some of these degrees of cognitive awareness.

The framework. The experiment need not be carried out in a laboratory setting and may be more effective if you approach people outside the university. As a general setting for the experiment, you could define the task and motivate subjects by relating it to the problem of identifying native speakers of English. Immigration officials often use linguistic criteria to decide if someone was actually born in the United States: some speech forms are produced only by nonnative speakers. Such a test could be made more reliable by enlarging and refining our knowledge of the range of grammatical forms used by native speakers.

The stimuli. For test (a), you may draw on any of the examples given in this chapter, though you will want to mix them with dummy forms that are never used by native speakers. For test (b), a subset of the same items may be used. For test (c), the examples showing *been* will be more useful than those dealing with the copula; sentences parallel to (85) will be particularly useful. You may want to test the conclusion of section 2.2.4 that sentences with deleted copula cannot be heard as referring to the past. For test (d) you may want to use the nonacceptable examples of copula deletion implied in (53–56) and marked with asterisks in (63–73).

The rating scales and categories. For test (a), the scale of acceptability may have anywhere from 4 to 7 points. A 4-point scale might be labeled: "I would use it myself; some people say it; I never heard it, but some people might say it; not English at all." A 7-point scale might be simply labeled "Perfectly natural English" on one end and "No native speaker would say it" at the other. For test (b), you may want to use several different categories to elicit judgments on status: correct, colloquial, slang, nonstandard, foreign; or perhaps general English, Black English, Hispanic, Creole English; or elicit free answers. Test (d) can use the same rating scales as test (a).

The subjects. To achieve any kind of reliable result, you will probably want to have at least ten native speakers from the white community and ten from the black community. For a more refined sample, it will be helpful to categorize speakers according to their degree of familiarity with the other ethnic group; the percent of the other ethnic group in the subject's high school is a good measure. Number of close friends of the other ethnic group is another possible measure. Be sure to record the subject's age, sex, occupation, and geographic origin.

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Torrey, J. (1983). Black children's knowledge of standard English. *American Educational Research Journal* 20, 627–643.