AN OPTIMALITY THEORETIC APPROACH TO VARIATION IN NEGATIVE INVERSION IN AAVE*

Examples like 'Can't nobody beat 'em.' ('Nobody can beat them.') in African-American Vernacular English (AAVE) have the inverted form of questions but the falling intonation and sentence meaning of (emphatic) declaratives. Labov et al. (1968) concluded that this phenomenon of 'negative inversion' (NI) requires two overlapping but distinct syntactic analyses. Recasting them in current terms, these proposals are Aux-to-Comp movement, as in subject-auxiliary inversion in interrogatives, and a non-movement structure containing a null expletive subject. Two explanatory problems arise with the view that Labov et al. present: (i) why the single phenomenon of NI should find its expression in two distinct structures and (ii) why this inversion phenomenon is restricted to negative sentences.

Using ideas from Optimality Theory, we develop a syntactic account of the NI data that also directly addresses problems (i) and (ii). We show that the relevant aspects of the syntax of AAVE and Standard English (SE) can be accounted for in terms of the different rankings of three relevant constraints. The account is driven in part by consideration of an apparent change since the 1960's in the acceptability of NI examples in embedded clauses.

Some problems which our research raises, but does not fully resolve, include a complete analysis of the function of NI structures, the explanation for the quantitative favoring of inverted over non-inverted structures, and the extent to which negative inversion in AAVE has changed since the 1960's, in particular whether it has become closer to similar structures found in SE.

0. INTRODUCTION

Despite the advances in both generative grammar and sociolinguistics over the past three decades, developments in each subfield have had relatively little impact on the other. Both in content and methodology, syntactic theory and variation theory have been largely isolated from one another with little cross-communication between the two domains of study. In this paper we try to bridge this gap by providing an analysis of variation in the Negative Inversion construction in African American Vernacular English

(hereafter, AAVE) which draws on the introspective judgments as well as the recorded usage of native speakers, and which exploits the mechanisms and ideas of Government-Binding Theory (Chomsky 1981, 1986) and Optimality Theory (Grimshaw 1993, Prince and Smolensky 1993). AAVE is a felicitous variety for an attempt of this type because it has been the object of intensive research within sociolinguistics and variation theory since the 1960's (see Labov et al. 1968); and negative inversion is a relevant research topic because it has been the focus of formal analysis in recent years (Martin, 1992; Sells et al., 1993, Weldon 1993a).[1]

The phenomenon of Negative Inversion (NI) is illustrated in (1), with examples from Labov et al.'s early (1968) discussion, and in (2), with examples recorded more recently by us:[2]

(1)a.   Can't nobody beat 'em. (Cleveland, 11, Labov et al., ex. 367)
   b.   Ain't no white cop gonna put his hands on me. (NYC, Jets, 16, Labov et al., ex. 353)
   c.   Ain't nothin' happenin'. (NYC, Jets, 16, Labov et al., ex. 350)
(2)a.   Can't nobody say nothin' to dem peoples! (EPA, 15, 1989)
   b.   Ain't nobody never told me what to do. (EPA, 16, 1992)
   c.   Wadn't no such thing as: 'Well, I didn't do it.' (Thomasville, Alabama, 43, 1992)

These sentences are uttered with falling, rather than rising, intonation and have the meaning of emphatic declaratives. They begin with a negated auxiliary, almost always followed by a negative existential quantifier. Our main focus in this paper will be on the analysis of their phrase structures, which provides the basis for our discussion of variation and its relation to the formal syntactic account.

Before we proceed to the analysis itself, we should comment on the sources of our data. Like Labov et al., we draw on recordings of spontaneous speech: while theirs are primarily from New York, ours are from East Palo Alto, California; our speakers are four teenagers two individuals in their forties.

However, unlike Labov et al., we also rely on the introspective judgments of consultants and on data from literary sources. These judgments

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[1] A similar inversion phenomenon also exists in some varieties of Southern White Vernacular English. See Feagin (1979) for a description and a preliminary comparison with AAVE.

[2] Each attested example is followed by parenthetical information about its source, including (where available) the speaker's geographical background and age and the year in which we recorded it or (if taken from a published work) the original example/page number. 'EPA' abbreviates East Palo Alto, California, a low income, multi-ethnic community close to Stanford University and Palo Alto, California.

were elicited orally in face-to-face interviews with two EPA teenagers (one male, one female) and one 43-year old man, originally from Thomasville, Alabama. The teenagers were part of an Upward Bound program at Stanford and were selected as consultants because of their evident verbal aptitude. They themselves made a clear distinction between 'talkin' regular' (= AAVE) and 'talkin' proper' (= Standard English (SE)), and we made it clear that we were interested in their judgments regarding the former. For the most part, judgments were elicited by asking, 'Could you say S?' When the answer was 'no', the consultants often volunteered alternative formulations of the sentence; in some cases, when no such alternative was volunteered, one was solicited.

Judgments on crucial sentences were also provided by five linguists who are native AAVE speakers. These were requested and provided in writing (by letter or electronic mail).

Introspective data of course runs the risk of hyper- and hypo-correction which Labov (1972c: 111) alluded to in his Principle of Subordinate Shift: "When speakers of a subordinate dialect are asked direct questions about their language, their answers will shift in an irregular manner toward [or away from] the superordinate dialect." (See Labov 1972a: 287 and Labov 1972b: 213 for alternative statements of this problem.) But this danger was minimized by comparisons with the spontaneous speech data (cf. Rickford 1974: 164–5, 177 and Wolfram 1986: 17) and by the fact that our consultants' judgments, elicited separately, converged on many of the crucial cases. The occasional cases in which there were divided opinions or uncertainties are noted.

In this paper we use the notion of interacting constraints as a way of understanding the nature of NI, adopting ideas now being explored within the framework of Optimality Theory. In the first section, we lay out the basic theoretical intuition that motivates our account, arguing that two syntactic constraints in AAVE effectively conspire to produce sentences lacking surface subjects, giving the hallmark auxiliary-before-NP structure of NI examples. Then, in Section 2, we present a reinterpretation of the transformational analysis of NI proposed in Labov et al. (1968), pointing out two inadequacies in their account that our new proposals can remedy. The first inadequacy is descriptive: given widely accepted constraints on transformational processes, the Labov et al. account cannot cover all of the examples that they discuss. The second inadequacy is conceptual: their account proposes two separate mechanisms for the derivation of NI examples yet offers no suggestion as to why both mechanisms should cooccur. We show that altering the account to cover the problematic examples simultaneously brings the two alternative derivations of Labov

et al. to two variations on the same theme, namely, the VP-Internal Subject Hypothesis.

In Section 3 of the paper we give substance to the more abstract view of the data seen from the perspective of Optimality Theory, developing the ideas laid out in Section 1. This involves more careful ranking of four constraints in total, and we show that variation in the grammar (in the form of alternative outputs) can be captured in terms of the idea of alternative rankings being available to speakers. The discussion of variation is in terms of abstract possibilities in Section 3, but in Section 4 we consider more carefully the data that we have collected in the recent past and discuss a change that seems to be in progress with regard to the major aspects of NI. In the final section we take up again the question of the relation between the syntactic analysis and variation in the data and look at the extent to which negative inversion in AAVE has changed since the 1960s, becoming less divergent in its structural possibilities from SE.

1. AN APPROACH TO NEGATIVE INVERSION

As noted in the introduction, the earliest description of negative inversion in AAVE is that of Labov et al. (1968), who drew attention to examples like those above in (1), which have the inverted form of questions but the falling intonation and sentence meaning of emphatic declaratives. We give two relevant examples here, as (3) and (4):

(3)   Can't nobody beat 'em. (SE 'Nobody can beat them.') (= (1a))
(4)   Ain't nothin' went down. (SE 'Nothing happened.') (NYC, Jets, 18, Labov et al., ex. 359)

Labov et al. concluded that NI examples like these require two overlapping but distinct syntactic analyses. Recasting these proposals in current terms, we can say that (3) involves Aux-to-Comp movement, as in subject-auxiliary inversion in interrogatives, while (4) is treated as a variant of (5a), with a null expletive subject (a 'silent' *it*), as indicated in (5b):[3]

(5)a.   It ain't nothin' (that) went down. (SE 'There is nothing that happened.')
   b.   ∅ ain't nothin' (that) went down. (SE 'There is nothing that happened.' or 'Nothing happened.')

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[3] For the data in Labov et al., the overt expletive is usually *it* (SE *there*). Although some of our consultants expressed a preference for *dey* in some cases, *it* remains the dominant variant used (74% of the time) in a corpus of recorded speech from East Palo Alto examined recently by Estevez et al. (1994).

We will refer to the proposed derivation of (3) as the Auxiliary Inversion (AI) derivation and that of (4) as the Existential derivation.

There are two explanatory problems that arise with the view that Labov et al. present. The first is the problem of why the single phenomenon of Negative Inversion should find its expression in two distinct structures. While the surface outputs of the two types of derivation look superficially similar, it is not at all obvious why both of them should have become available in AAVE, presumably at around the same time.[4]

The second problem is why this inversion phenomenon is restricted to negative sentences: there is no 'Positive Inversion' allowing counterparts of (3) or (4) such as (6):

(6)   *Is somethin' went down. (SE 'Something happened.')

Taking the notion of 'affective' meaning from Klima (1964), where it is introduced as an abstract trigger for various instances of subject-auxiliary inversion, Labov et al. suggest that this same notion is the trigger for (the transformations responsible for) NI. They describe it as follows (p. 288): "Negative inversion with affective value. This is an optional process which gives additional prominence to the negative, and takes different forms in different dialects. It has a strongly affective character wherever it occurs." While many researchers feel that the NI construction has some important functional and pragmatic motivations, and there seems to be evidence that this is so, we do not think that such considerations are sufficient by themselves to explain the necessity of the presence of negation. For instance, it is rather implausible to claim that examples like (3) or (5b) include some aspect of meaning that is systematically absent in such hypothetical examples as (6). If the inversion were driven solely by some emphatic or affective pragmatic effect, it would be expected that (6) should be acceptable, but it is not. Even if the affective meaning were hypothesized to be present only in negative sentences (but see Labov 1994 for the ubiquity with which 'affect' is considered a factor in AAVE constructions), there is still no obvious theoretical link to the fact that it

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[4] While we have no detailed account of the historical status of NI, the following examples from Bailey and Maynor (1989) suggest that both derivations have been available for over 100 years:

(i)   Don' nobody say nothing after that. (Ledbetter, b. 1861; Bailey and Maynor 46, l. 124)

(ii)   Wasn't nobody in there but me an' him. (Isom Moseley, b. 1856; Bailey and Maynor p. 55, l. 14.)

The first example would require the Auxiliary Inversion derivation, and the second looks like a reasonable candidate for the Existential derivation.

must be expressed through inversion structures. Thus, the notion of affect-ive meaning does not seem to us to be a promising direction for the solution to the two problems of why NI crucially involves negation and inversion.

Rather than looking for a communicative function or component of meaning to be the cause of NI, we will explore the idea that the syntax of AAVE includes a constraint on the expression of negation which, in con-junction with other constraints, allows the NI construction to exist. Our account builds on a salient and well-documented feature of the expression of negation in AAVE, namely that the negative quantifiers (such as *nothin'*) cannot express negation themselves but are part of a Negative Concord system (Labov 1972d). This fact about negative quantifiers is of course a characteristic that distinguishes AAVE from SE and so would be a natural place to seek an explanation for the restriction of NI to negative sentences and for the absence of NI in SE. Of course, once the existence of the NI construction is determined by the syntactic properties of the variety, it would be expected to take on whatever functional role the more general aspects of the grammar can accommodate.

Using some key ideas from Optimality Theory (Grimshaw, 1993; Prince and Smolensky, 1993), we develop a syntactic account of the NI data that is designed to address directly the problems just outlined. Viewing the grammar as a set of ranked constraints, we will show that the relevant aspects of the syntax of AAVE can be accounted for in terms of the different rankings of two constraints, given in (7):[5]

(7)(I)   a constraint that requires negative quantifiers in AAVE to be c-commanded by a negative auxiliary, and

(II)   a constraint requiring the presence of overt material in specifier positions (specifically, the canonical subject position, represented below as the specifier of IP (SpecIP)).

In Optimality Theory, not all constraints need to be satisfied simulta-neously for a structure to be well-formed. Lower-ranking constraints may be violated, if higher-ranking constraints are thereby satisfied, while the 'ideal' derivation will of course satisfy all of the relevant constraints.

Looking at the two constraints given above, by ranking (I) over (II) we allow potential violations of (II) if the satisfaction of (I) is at stake, and this is the key to our solution for the problem of why there is no 'Positive Inversion'. The structure of our account is that (II) is violable only in examples which respect (I), and (I) crucially involves well-formedness in

[5] This is a simplification of the actual analysis that we provide in Section 3.

negative sentences. (3) and (5b) respect (I) but violate (II). In positive sentences, (I) is irrelevant, and (II) will apply with full force, not allowing any (declarative) sentences to lack a filled subject position and thereby begin with an auxiliary.[6]

Constraint (I), which is respected by any structure in which a negative auxiliary is higher than a negative quantifier, provides the key to the problem of why there are different derivations for NI. We claim that the fact that the grammar allows two ways of satisfying this constraint is inevitable given options that are independently motivated. That is, movement of auxiliaries into COMP for questions will also allow the derivation of (3), and the possibility of empty subjects in simple existentials like *Ain't no God* will also allow the derivation suggested for (4). These issues are taken up in more detail in Section 3.

It is an important aspect of our account that we do not identify a subset of NI examples as existential structures; we deliberately state the constraint on subject position as requiring that it must be filled, though this is a constraint which can be violated, leaving the subject position actually unfilled in certain examples. This contrasts with the analyses discussed for (3) and (4), in which the subject position is always filled, with either overt or non-overt material (the ∅ subject in (5b) being the current equivalent of 'expletive deletion', discussed below in footnote 7).

In the following section, we will show that many of the Labov et al. examples require an analysis which involves an unfilled subject position. This analysis is analogous to the Existential derivation for (4), even though such examples have no plausible source or alternative expression with an overt expletive subject. The break with the previous popular idea that NI is fundamentally linked to existential structures provides both a descriptive and an explanatory advantage: as just discussed, it allows for inadequacies of coverage in the Labov et al. proposal to be overcome, and it also allows for a statement of the unity of NI constructions.

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[6] There are examples in AAVE like *Is a man* (< *It's a man*), which apparently violate constraint (II) in the absence of negation. However, we believe the correct analysis of such examples is that proposed by Dunlap (1974: 28) and Bailey and Maynor (1987: 453), namely that the phonetic [ɪs] should be correctly represented orthographically as *i*'s, with [ɪ] being the nucleus of the subject *it* and [s] being the coda of the copula. For an alternative analysis in which [ɪs] is taken to represent *it* alone, see Labov (1972a: 116), and for an analysis in which the [ɪs] is taken to represent only the copula, in Caribbean English Creoles but not in AAVE, see Winford (1992: 32).

2. The Properties of Negative Inversion

In this section of the paper, we present the analyses proposed in Labov et al. for the derivation of NI examples; the analyses have been updated to take advantage of the mechanisms of Government-Binding Theory, but this does not alter their basic character.

2.1. *The Two Derivations for NI*

Labov et al. discuss two possible analyses of an NI example like (8). Here we will present more details of the derivations they give and the reasons for having two separate avenues in the grammar for deriving the NI construction:

(8)   Ain't nothin' happenin'.

One analysis, which we term the Auxiliary Inversion (AI) analysis, derives (8) from (9):

(9)   Nothin' ain't happenin'.

Labov et al. (p. 288) relate the rule AI to the SE Stylistic Fronting rule (Klima 1964) which derives structures like (10a) from (10b):

(10)a.   Rarely have I seen such insolence.
      b.   I have rarely seen such insolence.

Part of their motivation for this involves the idea that there is some 'affective' component of meaning, present in (10a), which is also present in the NI examples. As noted above, we are not addressing this part of the meaning, if it indeed exists in NI examples, and we are doubtful of its ability to explain the syntactic structure(s) and restrictions of the NI construction.

Within Government-Binding theory (GB) it has become standard to accept the so-called 'Extended X'-Theory', with INFL and COMP also treated as X^0 categories in the X' system (I and C respectively) in (11). The overall structure of the clause is shown in the tree below:

(11)

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                CP
              /    \
          Spec      C'
                  /    \
                 C      IP
                      /    \
                  Spec      I'
                          /    \
                         I      VP
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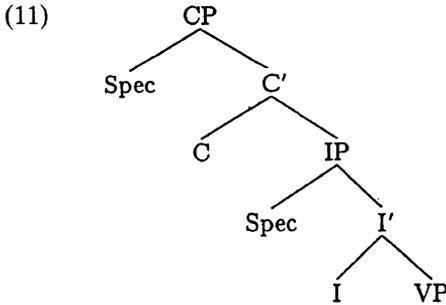
Here IP corresponds to the traditional S, and CP to S'. The subject NP position is the specifier position of IP, and the position in CP to which *wh*-phrases and the like move (also, *rarely* in (10a)) is the specifier of CP. The operation of Move-α always moves a phrase to specifier position, either SpecIP or SpecCP, in the major cases.

Head categories, such as auxiliaries, may also be subject to Move-α in this system (cf. Koopman, 1984), by 'head-to-head movement': for example, according to Chomsky (1986), an example like *Who did John see?* is derived by moving *who* from object position to SpecCP and moving the verb *did*, which morphologically supports the features of INFL, into COMP, the head of CP:

(12)

```
                  CP
                /    \
            Spec      C'
             |      /    \
          who_i   C      IP
                  |     /    \
              did_v  Spec     I'
                      |     /    \
                   John    I      VP
                           |     /  \
                          -t_v  V    NP
                                |    |
                               see   t_i
```
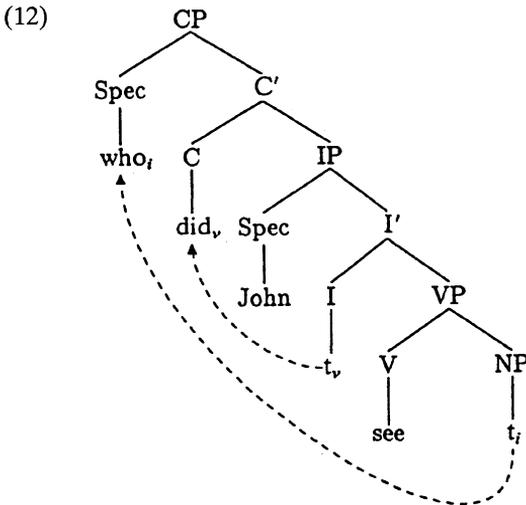
In the terms that we have adopted here, the derivation of (8) from (9) would involve head movement of a negative auxiliary from INFL, the head

of IP, to COMP, the head of CP. Thus the structural analysis of (8) is that shown in (13):

(13)   CP   (Auxiliary Inversion)
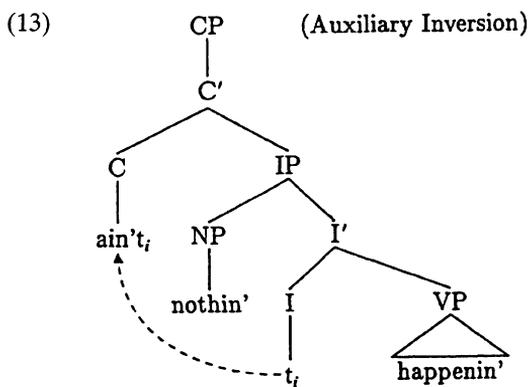
Note that this derivation respects both of the abstract constraints discussed above in (7): SpecIP is filled, and the negative auxiliary c-commands the negative quantifier.

The other possible analysis of (8) (Labov et al., p. 284) involves treating *nothin' happenin'* as the predicate in an existential construction with a deleted expletive subject. A contemporary rendition of the derivation which they give is shown in (14), and it treats *happenin'* as a reduced relative clause modifying *nothin'*.[7] We refer to this as the Existential analysis:

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[7] Their actual analysis involves obligatory extraposition of a sentential subject:

a.
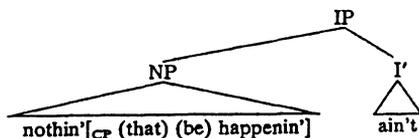
b.   extraposition → [IP it ain't [NP nothin' [CP (that) (be) happenin']]] (it = SE there)
c.   it-deletion → (8)

We do not wish to evaluate the correctness of the existential insertion plus extraposition step from (a) to (b) in this derivation, and so for the purposes of this paper we will assume that the underlying structure is that shown in (14).

(14)

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                    IP
            _____|_____
           NP                I'
           |          _____|_____
          (it)       I               NP
           |      ___|___      _____|_____
         ain't            NP              CP
                          |           ____|____
                       nothin'  (that)        IP
                                          ____|____
                                        (be)       VP
                                                  /\
                                              happenin'
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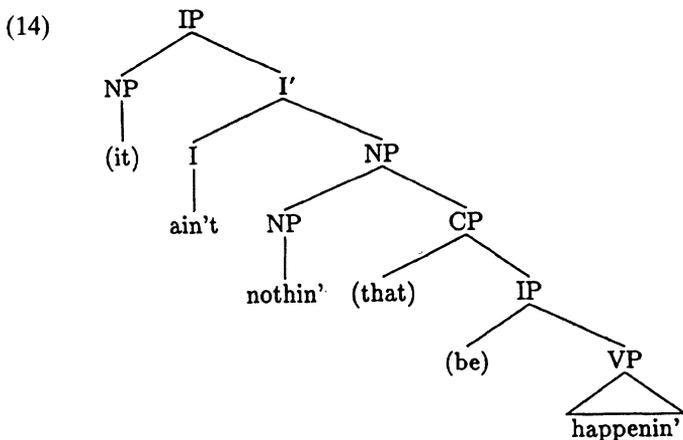
In a nutshell, the two analyses differ as to whether the auxiliary itself moves and also as to whether the non-auxiliary part of the predicate (i.e., *happenin'* in (8)) is a main clause predicate (in a monoclausal structure, as in (13)) or a predicate in a reduced relative clause (in a biclausal structure, (14), which contains two IPs). This distinction becomes important when we try to find examples that can be analyzed only by one or other of the given derivations. The various types of these crucial examples are presented in the next subsection.

2.2. The Need for Two Analyses

While many NI examples are 'ambiguous' between the two derivations given above, Labov et al. note that examples such as (15) and (16) point exclusively to the AI analysis:

(15)   Can't nobody tag you then. (Chicago, 12, Labov et al., ex. 366)

(16)   Didn't nobody see it. (NYC, 46, Labov et al., ex. 271)

In these examples there is no form of the verb *be*, and thus there is no option for an analysis in terms of an existential structure (i.e., (14)). As the examples are acceptable, the only other way to derive them is via AI.

There are other factors which Labov et al. count against the Existential analysis, and correspondingly for AI. For instance, independent of the problem just noted, there is no complex source (under their assumptions) for examples like (16). The presence of *do* to support the tense indicates

that the base form *see* and the auxiliary *didn't* are in the same clause, which is possible only under the AI analysis.

Despite these observations showing the need for AI, Labov et al. also note that examples such as (17) and (18) require the Existential analysis:

(17)   Ain't nothin' went down. (NYC, Jets, 18, Labov et al., ex. 359)

(18)   Ain't nobody ever thought 'bout pickin' up nothin'. (Florida, 25, Labov et al., ex. 360)

Example (17) cannot be derived by Auxiliary Inversion as the source **Nothin' ain't went down* is ungrammatical, due to the presence of two separate verbs marked for tense: *ain't* and *went*.[8] Labov et al. also argue that (18) requires a biclausal structure, in that *ain't* and *thought* cannot normally co-occur in the same clause. The Existential analysis has two separate clauses in it, and so only it can account for these examples. Notice that an analysis of these examples as existential entails treating *went down* in (17), for instance, as a relative clause modifying *nothin'*, with a deleted relative pronoun. Such deletion of a relative pronoun that is the subject of its clause is generally quite restricted in SE (though see Adamson 1992 and Guy and Bayley 1995 for discussion of some of the conditions under which it is possible). Such deletion is generally available in AAVE, as seen in the examples (19)–(21):[9]

(19)   Miss Rushkin the one ∅ help me get into this program. (EPA, 14, 1989)

(20)   What's the worst thing ∅ can happen? (SoS, p. 181)

(21)   I don't know what the old woman's name ∅ done the, the cooking. (Laura Smalley, b. mid. 19th c., Texas; Bailey and Maynor (1989), p. 63, l. 93)

Additionally, there are examples where the post-auxiliary NP is not the underlying subject, such as those in (22)–(23). These are incompatible with the AI analysis, which places the auxiliary immediately before the

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[8] We have encountered speakers who accept *Nothin' ain't went down*; for them, presumably, *went* functions as the perfective participle form of *go*. For such speakers, an AI derivation of (17) would be possible. Some speakers also accept *Nothin' ain't go down*, with a slightly different interpretation from the *went* version (the *went* version appears to pick out just a single moment in the past), though this too is a complicated matter, as some AAVE speakers use *ain't* where *don't* might be expected. Cf. *I ain't want some more* (Labov et al., ex. 334).

[9] SoS' (as in (20)) indicates an example taken from *The Song of Solomon*, a novel by Toni Morrison, New York, Penguin, 1987 (copyright 1977). The exact date of birth of the speaker of (21) is unavailable to us.

subject – the sources for AI would have to be structures such as *Nothin' ain't you can do for 'em, which are completely ungrammatical.

(22)   Ain't nothin' you can do for 'em. (South Carolina, 56, Labov et al., ex. 358)

(23)   Ain't no way in the world you can miss it. (SoS, p. 269)

Still another argument against deriving all NI examples via AI is provided by (24).

(24)   Won't be no Moon in this room tomorrow. (SoS, p. 119)

The presence of the nonfinite be to the left of the subject is what one would expect on the Existential analysis; an AI derivation, on the other hand, could handle only the preposing of the finite auxiliary won't, giving Won't no Moon be in this room tomorrow.

From this evidence, we follow Labov et al. in concluding that it must be the case that both the Auxiliary Inversion and Existential analyses are simultaneously available in AAVE. However, we will introduce below an alternative way of thinking about the derivations outlined here, which accounts for all the data discussed so far on the basis of a single assumption about the syntax of AAVE and provides a unifying motivation for the two types of derivation.

2.3. A Reinterpretation

Before turning to this more unified account, however, we note that the account of AI as given in (13) cannot be correct, under the theoretical assumptions we have made. This is because examples of the AI type can occur in embedded clauses which themselves are introduced by a complementizer, as in (25)–(26):

(25)   I know a way that [can't nobody start a fight]. (Chicago, 12, Labov et al., ex. 370)

(26)   Pilate they remembered as a pretty woods-wild girl "that [couldn't nobody put shoes on]." (SoS, p. 234)

Examples (25)–(26) should involve AI, as there is no verb be to license an existential, yet, as is clear from the structure shown in (13), there is no place for the complementizer that if the negative auxiliary is the head of CP. In other words, since that is in COMP, the bracketed part of (25)–(26) must be an IP – yet that is not compatible with what is given in (13), which requires the auxiliary to move up out of IP.

The significance of the acceptability of (25)–(26) is that it shows that

the negative auxiliary cannot move, as there is nowhere for it to move to. Instead, we suggest here that the intuitive 'inverted' structures are analogous to the underlying forms of existential sentences, and in this way we can unify the two analyses presented above. In recent years, it has come to be assumed that existential structures are derived from structures with no underlying subject. In (27) we show the schematic clausal structure, with the surface subject initially generated internal to the predicative XP as NP_i. The question of the exact category of XP will be taken up shortly; whatever it is, it is a complement to INFL, and the eventual surface subject is generated within XP:

(27)
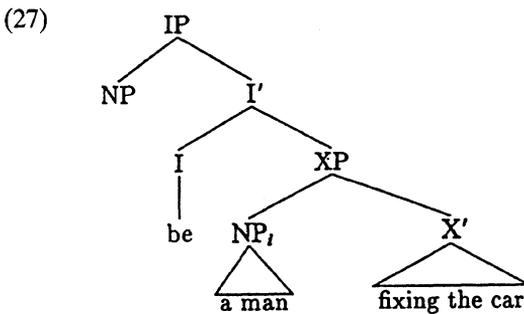
Under this view, the underlying structure for both (28b) (*There is a man fixing the car*) and (28c) (*A man is fixing the car*) is (28a) which is (27) presented as a labelled bracketed string. When the verb is *be*, the predicative XP can be a projection of any lexical category (except N); here it is actually VP, as its head is the verbal participle *fixing*:

(28) a. [IP [ ] be [XP [NP a man]i [X' fixing the car]]]
     b. [IP there] be [XP [NP a man]i [X' fixing the car]]]
         (*There is a man fixing the car*)
         (by inserting *there* into the empty subject position)
     c. [IP [a man]i be [XP [NP ti] [X' fixing the car]]]
         (*A man is fixing the car*)
         (by moving the NP*i* *a man* in (27) into the empty subject position)

With this conception of the derivational possibilities, we can view (29) as a more or less direct manifestation of the structure in (27) (the actual structures that we propose are shown below in (31)–(32)):

(29)   Ain't nothin' happenin'.

Now, let us make two assumptions about AAVE. First, we assume that

(29) does not involve a deleted or null expletive subject, but, rather, is generated with nothing at all in the surface subject position (Spec$_{IP}$). This is motivated by the fact that not all NI examples have an existential interpretation, and so linking NI to the presence of an existential subject, be it overt or non-overt, cannot be a general solution. Taking Spec$_{IP}$ to be unfilled requires us to link the existential interpretation not to the expletive subject, but rather to the presence of some form of the auxiliary/verb *be* (usually realized as *ain't* in negative constructions); this does not appear to have any major consequences as far as existentials are concerned.[10] AAVE will differ from SE in allowing SpecIP to go unfilled, under certain conditions, as we describe below in Section 3.1.

Second, we follow the widely accepted current practice of considering that all surface subjects are generated in some lower underlying position (namely, the VP-internal subject hypothesis – see for example Diesing (1990), Kitagawa (1986), Koopman and Sportiche (1989), Kuroda (1988). In conjunction with the idea that SpecIP may be unfilled, this will allow the base-generation of the inverted order, as we show directly below.

With these assumptions, we can extend the account outlined above for existential examples like (29) to examples such as (30), without postulating any movement of the auxiliary:

(30)   Can't [nobody tag you then]. (Chicago, 12, Labov et al., ex. 366)

Here, the bracketed sequence is simply the underlying VP (the XP in (27)). Assuming the possibility of leaving SpecIP unfilled, we can now account for the full range of data discussed above, including the previously problematic examples (25)–(26).

This analysis, like the earlier one, assigns two distinct structures to (29), namely (31) and (32). The first structure corresponds to the AI analysis and is the only one available for the sentences that Labov et al. treated as unambiguously inverted, though it involves no actual inversion under this new proposal. We refer to this as the Internal Subject analysis, with the subject generated in SpecVP, and with any auxiliary (in principle)

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[10] There is some argument about whether AAVE *ain't* in copula type sentences should be analyzed as a form of *be* + *not* or treated as an unanalyzed negative form, but the former view is the more common one (Labov 1972a: 70; Weldon 1993b; Blake 1994). *Be* is sometimes phonetically null in positive sentences as well (Labov 1969; Rickford et al. 1991; Winford 1992), but this has no direct bearing on our analysis.

allowable in INFL.[11] The second structure corresponds to the Existential analysis and is the only one available for sentences that Labov et al. treated as unambiguously existential. Under this account, however, neither structure involves any movement; rather, the sentences are direct reflections of the D-structures, both of which can be licensed by independently necessary mechanisms (which are discussed in the following section):

(31)

```
                    IP              (Internal Subject)
                  /    \
                NP      I'
                       /  \
                      I    VP
                      |   /   \
                      | NP     V'
                      |  |    /__\
                   ain't nothin'  happenin'
                  (can't) (nobody) (tag you then)
```

(32)

```
                    IP              (Existential)
                  /    \
                NP      I'
                       /  \
                   I(be)   NP
                     |    /   \
                     |  NP     CP
                     |   |      |
                     |   |     IP
                     |   |    /__\
                  ain't nothin' happenin'
                  (ain't) (nothin') (you can do)
```
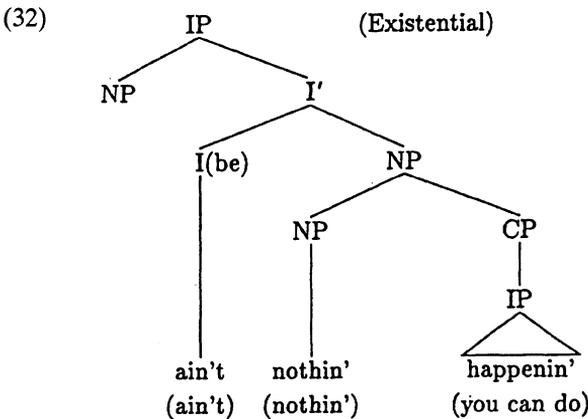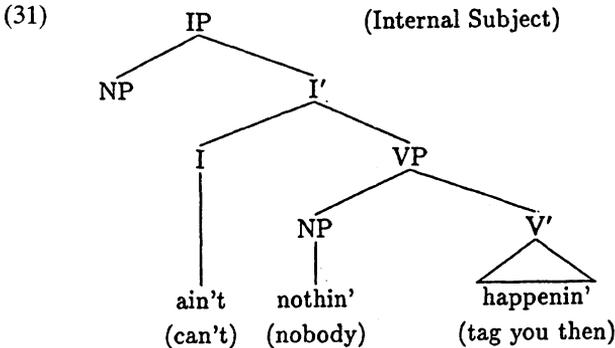
In (31), the negative quantifier is the specifier of the VP that is complement to INFL. In (32), the negative quantifier is the head of the NP complement to INFL – the CP in construction with it is a relative clause modifier. This distinction in the status of the negative quantifier will become particularly

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[11] The V' in this structure can be complex itself, containing other (non-tensed) auxiliaries, for example as in *Ain't nobody be done ate (when I get there)* ('Nobody has usually already eaten (when I get there).').

important in Section 4.2, where the fact that the NP *nothin'* in (31) but not (32) can raise to SpecIP will become a crucial step in our analysis.

If the existential structure in AAVE requires some form of the verb be (as it does in SE), then we correctly predict that examples like those in (33) will be unacceptable in AAVE:

(33) a. *Can't nothin' [you do].
    (cf. Ain't nothin' you can do.)
 b. *Don't/didn't nobody [went home].
    (cf. Ain't nobody went home.)

The bracketed part of the examples here cannot be a main clause V'; in (33a), that part includes the subject and therefore must be at least a VP, and in (33b), *didn't* and *went* have tense specifications that could not exist in the same clause (i.e., *Nobody didn't went home* is ungrammatical). Yet it is the V' status that the Internal Subject structure (31) requires, and so the examples in (33) could not have that structure but only the one in (32). Since that structure is acceptable only with the verb *be* in INFL, as an existential construction, it cannot be correct for the examples in (33).

In summary, it seems that a uniform account of all the NI data can be given if we assume that the underlying structures never have SpecIP filled, whether in existential or non-existential examples. Given such an assumption, the phenomenon of NI reduces to the fact that in AAVE it is possible for underlying structures to become surface structures without any movements taking place, in contrast with the situation in SE. Thus, the proposal here, founded on the VP-internal subject hypothesis, can account for all of the examples discussed by Labov et al., with no appeal to Auxiliary Inversion.[12] On this analysis, the relevant difference between AAVE and SE is that AAVE allows SpecIP to be empty, allowing the existence of both structures (31) and (32); the empty SpecIP can appear with *be* in (32) or with any negative auxiliary in (31). In SE, SpecIP must always be filled; structures like (32) are available with *there* in SpecIP, while structures like (31) are not allowed.

Although our account of the two structures that NI can have is inspired by the derivation of existential sentences, it does not require the identification of a subset of NI examples as existential constructions. SpecIP can be left unfilled just in case no relevant constraints are violated. Essentially,

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[12] Such an analysis is consistent with the position argued for by Martin (1992), who argues on the basis of facts of negative polarity licensing that Negative Inversion examples do not involve I-to-C movement (that is, AI).

the crucial factor is the propositional well-formedness of the utterance (i.e., having a structure that can have a coherent interpretation), and the VP-internal subject hypothesis guarantees such interpretability as it generates all of the arguments of the predicate within the VP. For instance, (34) has an empty expletive subject, and even though the auxiliary is a form of *be*, the example does not have an existential interpretation. The expletive subject here is the one that is part of the extraposition construction (appearing as *it* in SE):[13]

(34)   If I should take a notion
        To jump into the ocean
        Ain't nobody's business if I do . . .

Here the phrase *if I do* can be thought of as the extraposed copular subject of the predicate *nobody's business*, and while an expletive subject (*it*) is syntactically possible, it is not necessary in a variety like AAVE in which SpecIP can be unfilled.

Although we have shown that the two analyses of Labov et al. can be reinterpreted on the basis of the fact that AAVE allows SpecIP to be empty, we have not really ruled out Auxiliary Inversion as an alternative. It is only the embedded examples such as (25)–(26) which actually require the Internal Subject analysis rather than AI. For comparison, under the assumptions just laid out, the AI analysis would have the derivation shown in (35):
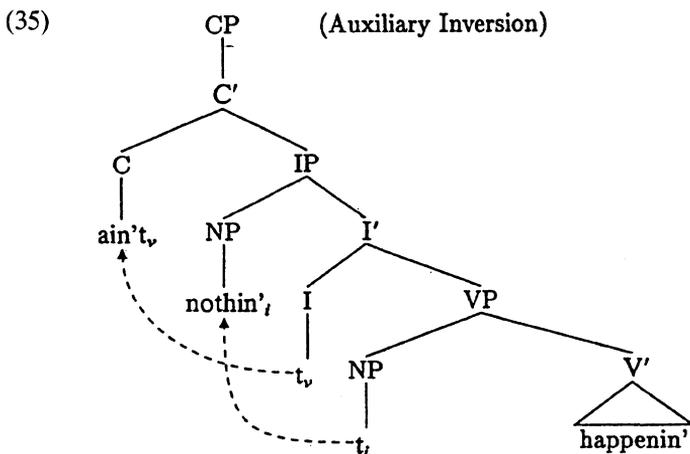
(35)   CP   (Auxiliary Inversion)

The question is now: does AAVE in fact allow such analyses as that shown in (35)? The answer to this is not simple and involves considerations of variation and change, as we will detail in the following two sections. Hence, for now, we will not rule out (35) as a possibility. However, by generating both (31)–(32) by means of predicate-internal subjects and empty SpecIPs, we have taken a major step towards providing a unified analysis of NI.

3. A FRAMEWORK FOR VARIATION IN SYNTAX

Our discussion so far has been presented in the broad idiom of Government-Binding theory. We will now be more specific about the role that the central ideas from Optimality Theory (OT) play. In this section we will show how the perspective offered by OT provides a frame of reference for the more particular syntactic analyses we discuss subsequently and how OT plays a crucial role in allowing us to rule in or rule out alternative potential derivations.

Within OT, there is a system of potentially violable constraints, where violations are ranked with respect to each other. In Section 1, we focussed on only two constraints. To address the question of the place of AI derivations like (35) in AAVE, we will shortly need to bring a third constraint into the picture. However, first, we review the earlier constraints, as these provide the key to why Negative Inversion should exist.

3.1. Why Inversion is Restricted to Negative Contexts

Constraint (7II) says that SpecIP must be filled (possibly by an empty category of some kind). Let us call this constraint **FillSpec**. **FillSpec** may be regarded as an OT reformulation of Chomsky's (1982) Extended Projection Principle; hence, it is violable if higher-ranking constraints lead to its violation. Although **FillSpec** is largely inviolable in SE, on our analysis, (36) shows that it may be violated in AAVE:[14]

(36)   Ain't no black Santa Claus. (EPA judgments, 1992)

The next natural question to ask is what higher-ranking constraint in AAVE sanctions the violation of **FillSpec**. We propose that this next constraint is the one described informally in (7I), which we will call **NegFirst**. As the name implies, it involves the expression of negation in AAVE and,

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[14] We will explain in Section 4.2 how an auxiliary inversion analysis of (36) is ruled out.

in particular, the surface requirements on negative quantifiers such as *nobody*, *nowhere*, etc., which we will refer to as NQS.[15]

The analysis of such NQS was a dominant part of the research on the syntax of AAVE in the transformational era (stemming from the work of Labov 1972d), and the existence of widespread Negative Concord in AAVE is uncontroversial. At the simplest level, while NQS in SE express sentential negation themselves, NQS in AAVE are negative polarity items, that is, quantifiers which must be licensed by the presence of 'true' negation (a negative auxiliary). Thus, while the meaning expressed by the SE sentence (37a) is expressed in AAVE by sentence (37b), the latter example requires the same syntactic analysis as the SE sentence (37c):

(37) a.   I did nothing. (SE)
      b.   I didn't do nothin'. (AAVE)
      c.   I didn't do anything. (SE)

The sensitivity to negative polarity is shown by the unacceptability of SE (38a) and matched by the unacceptability of (38b) in AAVE:[16]

(38) a.   *I did anything. (SE)
      b.   *I did nothing. (AAVE)

Recently, a typology of negative systems has been presented by Ladusaw (1992), who discusses the licensing conditions for NQS in languages that have negative concord of the type illustrated in (37b). He shows that such NQS have a distribution similar to, but more restricted than, negative polarity items such as SE *any*. Following Ladusaw's ideas, we can say that if the negative quantifiers that appear in the NI construction are negative polarity sensitive, they must appear within the c-command domain of a true negative operator, which will be the negated auxiliary itself (see also Martin 1992). In terms of OT, this means that **NegFirst** says that each negative quantifier must be licensed by a c-commanding negative operator (auxiliary).[17] In order to respect the constraint **NegFirst** that enforces this,

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[15] In SE, **NegFirst** must be ranked lower than **FillSpec** (or be absent altogether), as there is no inversion in SE in non-interrogative examples.

[16] Example (38a) is acceptable on an irrelevant 'free choice' reading for *any* (as in 'I eat anything'). Some AAVE speakers we have consulted accept (38b), but this may involve switching into a variety closer to SE.

[17] There are some apparent counterexamples to our claim that only negative quantifiers (i.e., elements for which **NegFirst** is relevant) are involved in NI, as in the example *Don't many of them live around here* (Labov et al., Cleveland, 12, ex. 350). This example is acceptable to our contemporary AAVE consultants, though **Don't few of them live around here* is not. We do not know what the precise characterization of the quantifiers that participate in the NI construction is.

a NQ must be structurally lower than its licensing auxiliary. As AAVE, like SE, is a predominantly right-branching language, this will mean of course that the auxiliary precedes the NQ in the string.[18]

Summarizing, we have so far posited two constraints, **FillSpec**, which requires SpecIP to be filled, and **NegFirst**, which requires that NQs be c-commanded by a negative operator. In order to allow for optional outputs, we will treat the grammar not just as one ranking of constraints but as a set of rankings. This new dimension will provide us with a way to address questions of variation.[19]

As it stands, the proposal for AAVE (**NegFirst** ranked above **FillSpec**) leaves examples like (39) unaccounted for. Here the NQ is higher than the auxiliary, and the structure violates **NegFirst** as the NQ is not c-commanded by the auxiliary:

(39)   Nobody ain't said that.

The key factor in our approach to NI is the interaction of the two constraints in AAVE that we have now identified. In order to respect **NegFirst**, the negative auxiliary must be higher than any NQ, and, to respect **FillSpec**, the NQ should be in SpecIP. To allow different potential outputs, we must allow the constraints to be ranked differently, and for (39), we assume that **FillSpec** outranks **NegFirst**. Thus, while (39) violates **NegFirst**, if **FillSpec** were a higher constraint, then (39) would be a possible output.[20]

3.2. Sanctioning the Auxiliary Inversion Analysis

We will now introduce the third constraint, called **MinProj**. To illustrate the motivation for it, we will discuss what assumptions would be necessary

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[18] We have not investigated whether it is necessary for the NQ to directly follow the auxiliary, though this seems to be the general pattern (example (24) differs).

[19] The possibilities given by alternative rankings are also explored in Nagy and Reynolds (1994) (and earlier work), in their 'Floating Constraints'.

[20] Even though (39) is generated, an example like *No black Santa Class ain't* with no post-auxiliary material is not, due to an additional constraint which we term **PredIntact**: A predicate nominal phrase, or its head NP, cannot be moved. The interaction of this constraint with the others is discussed in more detail in Section 4.2.

The violability of **NegFirst** raises the question of the status of *Nobody said that*, which is unacceptable in AAVE on an interpretation in which *nobody* is an NQ which must be licensed by an appropriate true negation, as there is no such licenser. To explain its unacceptability, we could either propose a lower ranking syntactic constraint to the effect that every NQ in AAVE must have a clause-mate true negation, even if that negation does not c-command the NQ, or, we could adopt a semantic filtering approach in which *Nobody said that* is considered syntactically well-formed but uninterpretable, on the assumption that the NQ should be in the scope of a true negation for successful interpretation.

to rule out the AI derivation (35) as a possible derivation in AAVE. AI involves two movements that simply recreate the original structural relationships, namely those of the Internal Subject structure. Hence, to exclude (35), we need a constraint that rules against unnecessary movements. Following the solution to a similar problem in Grimshaw (1993), we assume that the relevant constraint blocks the generation of the CP above the IP in the initial structure, as there are no meaningful elements generated within that CP. This is **MinProj**. If we rank **MinProj** as the highest constraint, any derivation which involves a CP where just an IP would do will violate it and be ruled out. For example, in (35) above, the order of elements auxiliary – negative quantifier is present in the initial structure before movements take place. The CP above the IP has no role in the initial structure as its head is empty and its specifier is not projected. If **MinProj** is ranked high, such an initial structure would be ruled out, in favor of the structure with the minimal projection of structure necessary, namely (31). Given such a ranking, the Internal Subject 'derivation' as in (31) will be preferred to one which gives the same surface string but involves Auxiliary Inversion.

The three constraints as we will consider them are given in (40):[21]

(40) a.   **FillSpec**: SpecIP must be filled.
     b.   **NegFirst**: A negative quantifier (NQ) must be c-commanded by a true negation.
     c.   **MinProj**: CP is not projected if neither its head nor Spec are filled (in the initial structure).

As this paper addresses data in which there is variation, the goal of this section is not to provide a single ranking of the three constraints but rather to illustrate the interactions among them and the predictions that alternate rankings make. To do this, we will consider three potential derivations of relevant examples, shown schematically in (41) for the initial structure *ain't nothin' happenin'* ((31) above). From this structure, there are three potential surface outputs: the first is the Internal Subject output, with no movement; the second has no surface inversion as the subject moves to SpecIP; and the third is the AI option, with two movements, as indicated. Each of these derivations violates (exactly) one of the three constraints given above:

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[21] These are not intended to be the most general statements of the constraints but, rather, descriptions pertinent to the present paper. For instance, **MinProj** is intended by Grimshaw to apply to any phrase, not just CP.

(41)(A) [$_{IP}$ [$_{Spec}$] ain't [$_{VP}$ nothin' happenin']] (*FillSpec)

(B) [$_{IP}$ [$_{Spec}$ nothin'$_i$] ain't [$_{VP}$ t$_i$ happenin']] (*NegFirst)

(C) [$_{CP}$ ain't$_v$ [$_{IP}$ [$_{Spec}$ nothin'$_i$] t$_v$ [$_{VP}$ t$_i$ happenin']]] (*MinProj)

The first option involves no movement, and, in terms of the constraints, SpecIP is left unfilled, in violation of **FillSpec**. The second option has the subject NP moving from SpecVP to SpecIP, thereby satisfying **FillSpec** but violating **NegFirst**. In the third option, the negative auxiliary also moves to COMP, voiding the violation of **NegFirst**, but the structure as a whole violates **MinProj**.

As we have seen from the data above, all three options are at least in principle available in AAVE, and in the following subsection we will discuss how they provide a picture of syntactic variation. Any given ranking of the constraints, which we will refer to as a 'scenario', will lead one of the options in (41) to be the preferred output. For a language with multiple outputs, and variation among them, there will be correspondingly multiple scenarios, and variation in the output will be determined by preferences and weights governing the availability to speakers of those scenarios.

Let us look then at what the ranking of the three constraints must be, to determine each of the options (A)–(C) in (41) as the optimal one, indicated by ☺ , as shown in (42)–(44). Here each scenario shows a different ranking of the constraints, and each one shows which of the options (A)–(C) above is the most highly valued and therefore the output based on that scenario. We will refer to the NI option in (41A) as 'Int-Subj' (for 'Internal Subject') and that in (41C) as 'Aux-Inv' (for 'Auxiliary Inversion'):[22]

(42)		MinProj	FillSpec	NegFirst	
(A)		√	*	√	
(B)	☺	√	√	*	
(C)		*	√	√	

(43)		MinProj	NegFirst	FillSpec	
(A)	☺	√	√	*	(Int-Subj)
(B)		√	*	√	
(C)		*	√	√	

---

[22] Scenario (43) could satisfy **FillSpec** through the insertion of an overt expletive subject, and this would apparently be more highly valued than option (A) as all three constraints would be satisfied. We postpone discussion of overt expletive subjects until Section 3.3.

(44)   **FillSpec**   **NegFirst**   **MinProj**
  (A)   *   √   √
  (B)   √   *   √
  (C) ☺ √   √   *   (Aux-Inv)

Let us consider the scenario (42) first. With this ranking, **MinProj** ranks highest, allowing nothing bigger than IP, and **FillSpec** is ranked higher than **NegFirst**. As it is the opposite ranking of these two latter constraints that gives rise to the inversion that characterizes the NI construction, this scenario will give an output with no inversion, namely, option (B) in (41). As we noted above, this is a possible output in AAVE, though of a kind that is not directly the focus of this paper.

Scenario (43) has **NegFirst** ranked over **FillSpec**, meaning that the output will have the negative auxiliary higher than the NQ. As **MinProj** is the highest constraint, the optimal output here will be option (A), namely (Int-Subj). In scenario (44), **MinProj** and FillSpec are switched from (43). This means that the optimal output will be the one in which SpecIP is filled and the negative auxiliary is higher than the NQ. This is the (Aux-Inv) option, (41C) above.

We see from scenarios (43) and (44) that ranking **NegFirst** above either of the other constraints gives rise to an inverted surface order. (Incidentally, ranking **NegFirst** above either **MinProj** in (43) or **FillSpec** in (44) does not change the output, nor does ranking **FillSpec** highest in (42).) If we wanted to describe a grammar that allowed only (Int-Subj) but not the AI option (Aux-Inv), we would assume that (43) is the only scenario allowed in that grammar, and we could make the opposite assumptions to allow in only option (Aux-Inv) (i.e., only (44)). However, as we noted above, the facts seem to be that AAVE allows all the possible options, and we will assume that variation among them is to be located in variation regarding the prominence or frequency of use of the scenarios in (42)–(44).

To summarize the different scenarios which give the two inverted options (Int-Subj) or (Aux-Inv) and to bring out the salient rankings of the crucial constraints, we have the situations described in (45). There are two factors which determine which inverted option is the optimal one: one, which gives the Negative Inversion in the first place, is that **NegFirst** must outrank some other constraint, and the other is the relative ranking of **MinProj** and **FillSpec**.

(45) a.   To generate option (Int-Subj), the ranking is:
         MinProj > **FillSpec**, and **NegFirst** is higher than **FillSpec**, the lowest constraint.

b.   To generate option (Aux-Inv), the ranking is:
FillSpec > **MinProj**, and **NegFirst** is higher than **MinProj**, the lowest constraint.

Thus, which derivation may be preferred in a given grammar will be determined by how the constraints are ranked – if **MinProj** is the most important constraint, (Int-Subj) will be the preferred analysis, while if **FillSpec** is the most important, (Aux-Inv) will be preferred.

To recapitulate, we have assumed that the grammar of AAVE is broadly similar to that of SE, with two differences: AAVE requires a constraint on NQS and allows SpecIP to be unfilled. Three potential derivations of the examples that the Labov et al. analysis characterizes as unambiguously inverted are possible, and two of these derivations lead to an inverted form on the surface. We also allow one derivation for examples that Labov et al. characterize as unambiguously Existential.[23]

3.3. *Overt Expletive Subjects*

Those NI examples which have an existential meaning (such as (22)– (23)) alternate to some degree with corresponding examples with an overt expletive subject. If we take scenario (43), the only one in which SpecIP is not filled by the NQ, an overt subject would fill the subject position in option (A) with an expletive (as in *It ain't nothin' happenin'*). This overt expletive subject would satisfy **FillSpec**, making the top line of scenario (43) a perfect output by allowing satisfaction of all the constraints:

(46)		**MinProj**	**NegFirst**	**FillSpec**
(A)	☺	√	√	√
(B)		√	*	√
(C)		*	√	√

The fact that (46) allows a perfect output violating no constraints raises the question of why the grammar allows any NI examples as output, for an alternative derivation with an expletive subject would always be more highly valued. A possible answer to this question is that there is a competing constraint to the effect that an overt expletive should be avoided. Such a constraint is motivated by general 'economy' principles and is sometimes

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[23] The discussion so far has ignored the Existential analysis in (32), but its integration is relatively straightforward, as only (43A) is available as an option. This is discussed more fully in Section 4.2.

violated. The scenarios in (48)–(49) illustrate how **FillSpec** and this new constraint, which we will call **AvoidExpl**, interact in AAVE.[24]

(47)   AvoidExpl: Do not use an expletive (subject).

(48)	MinProj	NegFirst	AvoidExpl	FillSpec
ain't nothin' happenin'	☺ √	√	√	*
it ain't nothin' happenin'	√	√	*	√

(49)	MinProj	NegFirst	FillSpec	AvoidExpl
ain't nothin' happenin'	√	√	*	√
it ain't nothin' happenin'	☺ √	√	√	*

It can be seen here that the relative ranking of **FillSpec** and **AvoidExpl** determines whether the auxiliary-initial or expletive-initial examples will emerge.[25]

3.4. *Variation as Alternate Rankings of Constraints*

In summary, in this section we have shown that two different scenarios can give rise to the inverted order characteristic of NI sentences and that each arises by ranking **NegFirst** over one of the other constraints. Structures (31)–(32), the most prevalent for NI in AAVE, are straightforwardly derived if **NegFirst** outranks **FillSpec**, as in scenario (43).

Although examples of the form *Nothin' ain't happenin'* are possible in AAVE,[26] they seem to lack the communicative effect of emphasizing the negation that is associated with NI (unless they are rendered with prosodically-marked emphasis). We conclude, then, that the upward reranking of **NegFirst** was reinforced functionally by the marked and emphatic role that inverted structures can have. Using the Aux-before-NP structure also allows **NegFirst** to be respected, which would be important in a grammar in which NQS are moving from being expressors of true negation to being negative concord elements.

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[24] In SE, **AvoidExpl** can be alternately ordered with a constraint preventing movement to give the optional outputs *Nothing is happening* and *There is nothing happening*. In AAVE, this constraint against movement is not a relevant factor in the analysis as neither of the examples in (48)–(49) involve movement.

[25] Benji Wald pointed out to us examples like *They ain't none of them leaving*, in which both SpecIP and SpecVP are apparently filled by referential (non-expletive) NPs. If this is the correct structural analysis, it would represent another way of satisfying all the constraints; however, some speakers feel that the phrase *none of them* has a more adverbial type of usage. We have not explored the relationship between such examples and the NI examples we focus on in this paper.

[26] See, for examples, Labov et al. (1968: 275).

Looking now at the Aux-before-NP structures, and assuming that **MinProj** is to be ranked highly, this eliminates all but the scenario in (43). This scenario is also the only one that can generate such simple examples as (36), *Ain't no black Santa Claus*; scenario (44) is not a possibility here, as such simple clauses do not allow the NP to move (see Section 4.2) and consequently do not allow movement of the auxiliary to COMP. Thus, if the grammar of AAVE includes scenario (43), it can generate all the examples of subjectless and inverted sentences, such as those discussed above in Section 2.3. Scenario (42), which is effectively the only possibility in SE, can also be seen as being present to some degree in AAVE.

In summary, we have introduced four constraints in this section, of which three (**NegFirst**, **FillSpec**, and **MinProj**) are crucial to our basic analysis of NI. Alternate rankings of these constraints will select one of the options in (41) as the output of the grammar. We also introduced the constraint **AvoidExpl** to account for examples with an overt expletive subject and showed that this constraint can be alternatively ranked as well.

4. VARIATION IN NEGATIVE INVERSION

In this section, we will suggest that AAVE is moving in the direction of using scenario (44) to the exclusion of scenario (43). This move preserves the emphasis on the negative associated with the inverted structure, while also respecting **FillSpec**. In other words, if **FillSpec** is taken to be a stronger constraint than **MinProj**, we get scenario (44), as summarized in (45b). This idea of varying strengths (expressed through rerankings) of the constraints seems to be quite prevalent in syntax, where it has been uncontroversial for many years that different outputs are possible from the same underlying structure (for example, the case in SE mentioned in footnote 24). As OT by its nature will only allow one optimal output, multiple outputs must be accounted for by alternative rankings of (at least some) constraints.

The leading idea that emerged in Section 2 above is that all NI examples can have one of the structures in (31) or (32), providing a more unified view of the Labov et al. data and allowing us some understanding about why two apparently different derivations can be available in AAVE for NI, as outlined in Sections 1 and 2. However, our own elicitation and consultant work yielded rather different results from the attested sentences in Labov et al. In this section we present our data and then discuss what the

contemporary grammar of AAVE might look like, with respect to the generation of NI examples.[27]

4.1. *Judgements in Contemporary AAVE*

As we showed in Section 2.3, examples such as (50) are crucial motivation for structure (31):

(50)   I know a way that can't nobody start a fight. (Chicago, 12, Labov et al., ex. 370)

The presence of the complementizer *that* rules out the possibility of *can't* being in COMP, as the Auxiliary Inversion analysis requires; therefore acceptable examples like (51) should be generated with the auxiliary in INFL. However, such examples (which Labov et al. termed 'unusual') were judged to be unacceptable by our consultants.

On the other hand, if the complementizer is absent, our consultants accepted the corresponding examples.[28] Thus, (51a), essentially the same as (50), was judged unacceptable, while (51b) is fine:

(51)a. *I know a way that won't nobody fight. (EPA judgments, 1992)
    b.   It's a reason didn't nobody help him. (EPA judgments, 1992)

This pattern is exactly what the AI account predicts: either the complementizer or the auxiliary can be present, but not both. Thus, our consultants' judgments suggest analyzing at least some NI sentences as involving movement of the auxiliary from INFL to COMP. A similar conclusion emerges from the examples in (52):

(52)a. *I believe that ain't nobody leavin'. (EPA judgments, 1992)
    b.   Everybody knows ain't no black Santa Claus. (EPA judgments, 1992)

The following example also demonstrates an acceptable example with NI in an embedded clause, on the assumption that *where* is in SpecCP (cf. (11)) and that *won't* is in COMP:

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[27] As the data we present here has been checked by various native speaker linguists from all over the country, we do not think that it is likely that the changes in judgments we report in this section reflect changes in AAVE in just one part of the U.S. but rather reflect general changes in the variety.

[28] McCloskey (1991) reports that in Hiberno-English it is possible to find inversion in embedded interrogatives, so long as no complementizer is present. Similar facts clearly hold in AAVE. Labov et al. report (p. 297) such examples as *You ask him could you play* (NYC, 12, ex. 407) and *He should decide . . . is he able* (NYC, 15, ex. 408).

(53)   Got to where won't nobody sell her a raffle ticket.
        (SE 'It's got to the point where nobody will sell her a raffle
        ticket.') (SoS, p. 45)

To test the interaction of NI with an overt complementizer, we asked various native speaker linguists in 1993 about the acceptability of the following minimally contrasting examples:

(54) a.   I believe ain't nobody leavin'.
     b.   *I believe that ain't nobody leavin'.
     c.   *I believe that it ain't nobody leavin'.

Some of the AAVE speakers we consulted with accept (54a), while others feel it is awkward with *believe* or *think*; there seems to be a broader consensus that such a construction is fine with *know* or *suspect*. Significantly, all agree that (54b) is out, and most feel that if (54c) is good, it represents a switch to a variety closer to SE.

An anonymous reviewer points out that support for our claim that AI is a part of the grammar of AAVE can be found in examples that do not involve negation. An embedded question can be introduced by a complementizer as in (55a–b) or by a fronted auxiliary, as in (55c) but not both, as in (55d). Here the fronted auxiliary is stressed DO, with an aspectual *be* also present in the sentence.[29]

(55) a.   I wonder if they be workin' too hard.
           (SE 'I wonder if they are usually working too hard.')
     b.   I wonder if they DO be workin' too hard.
     c.   I wonder DO they be workin' too hard.
     d.   *I wonder if DO they be workin' too hard.

All of these contrasts suggest that the AI derivation is now part of the AAVE grammar, to the virtual exclusion of the Internal Subject derivation.

Despite this, there are some examples which have no source unless we allow an existential analysis. This is seen quite simply in examples like that in (36), repeated here:

(56)   Ain't no black Santa Claus. (EPA judgments, 1992)

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[29] We have not fully investigated the aspectual auxiliary system (see Green 1992) in its interaction with NI. A reviewer notes that *It don't nothin' be happenin'* (intended: 'Nothing is usually happening') is ungrammatical, suggesting to us that there is no Spec position between the tensed auxiliary and the aspectual auxiliary. If so, the acceptability of *Don't nothin' be happenin'* would be explicable under an AI analysis, which is in line with the data in (55).

Similarly, examples like (57) and (58) require structure (32), for these have an underlying non-subject following the auxiliary:

(57)   Ain't nothin' you can do. (Labov et al., ex. 358; EPA judments, 1992)

(58)   Ain't no way in the world you can miss it. (SoS, p. 269)

Taken together, these data suggest an analysis very much like that of Labov et al.: Some Negative Inversion sentences involve AI; others are existentials with SpecIP only optionally filled.

The data we collected differed from those of Labov et al. in another way, in that some examples which we expected to be acceptable as reduced relative clauses were not. Even though (59b) is unacceptable for most speakers (cf. footnote 8), (59b) should be fine as a subject relative with a deleted relative pronoun, given that such deletion is possible in AAVE (see examples (19)–(21)):

(59)a. *Ain't nobody went nowhere. (EPA judgments, 1992)
        (SE 'There isn't anyone who went anywhere.')
    b. *Nobody ain't went nowhere. (EPA judgments, 1992)

Although Labov et al. recorded examples similar in structure to (59a) (such as *ain't nothin' went down*, their ex. 359; our (17)), the acceptability of such examples seems to be changing for our consultants. (60a) is another example illustrating this change ('kicks' refers to shoes).

(60)a. ?Before they invented them kicks, ain't nobody could do that (e.g., jump so high). (rejected by some of our 1992 consultants, in favor of (b))
    b. Before they invented them kicks, couldn't nobody do that. (EPA, 16, 1992)

In our data, there is variation on the acceptability of (60a), while (60b) is acceptable to all of our consultants. (60a) requires the Existential analysis with a deleted relative pronoun before *could*, while (60b) must involve AI.

The unacceptability of (60a) could be accommodated into our current conception of AAVE if relative pronouns functioning as the subjects of the relative clauses may be omitted only under very restricted circumstances. This would reflect an area of the grammar where the current AAVE pattern has become closer to that in SE and White Vernacular English. In AAVE, as in SE, non-subject relative pronouns are freely omissible, and so the examples involving the existential containing a non-subject relative (such as (57) and (58)) will be fully acceptable to all AAVE speakers.

4.2. *The Contemporary AAVE Grammar*

The data above suggest that there have been changes in AAVE in the interval between the time of the work of Labov et al. and the present. In particular, it seems that AAVE no longer has the Internal Subject derivation given above in (31). If this is the case, then it raises the question of how we could account for the fact that AAVE still allows existential examples (such as (57) or (58)), given that these were also generated as part of the (Int-Subj) option, which we hypothesize now has a very limited role to play.

It appears that what we must present at this stage is a model of grammar that allows derivation (43A) for existential examples but which requires (44C) to 'win out' over (43A) for the non-existential examples. However, once further properties of the existential examples are considered, we will see that it is in fact possible to account even for them via scenario (44).

Let us again take a very simple existential example like *Ain't no Santa Claus*. This example cannot be generated by an analysis that involves Auxiliary Inversion, as the predicate nominal phrase cannot move from its position as complement to INFL into SpecIP. This is simply a syntactic restriction, observable from other data (for instance, the unacceptability of **A Santa Claus is*). We will assume that this restriction must be a constraint that requires the predicate to remain intact: A predicate nominal phrase cannot move away from the auxiliary *be* that is in construction with it. Let us refer to this constraint as **PredIntact**, understood as in (61):[30]

(61)   **PredIntact**: A predicate nominal phrase, or its head NP, cannot be moved.

The tableau in (62) takes the existing scenario (44) that gives (Aux-Inv) as the output for non-existential NI examples and puts **PredIntact** as the new highest ranking constraint. Now, it is only option (A) that fails to violate **PredIntact**, and so that is the optimal output:

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[30] This constraint more precisely seems to be that a predicate nominal phrase cannot move to SpecIP, a position where Case can be assigned. This suggests that predicative nominal phrases do not need Case (see Chomsky 1981), and perhaps the constraint could be derived from some more general condition of avoiding Case for those phrases which do not need Case.

(62)

	PredIntact	FillSpec	NegFirst	MinProj	
(A)	☺ √	*	√	√	[$_{IP}$ ain't no Santa Claus]
(B)	*	√	*	√	[$_{IP}$ no Santa Claus ain't]
(C)	*	√	√	*	[$_{CP}$ ain't [$_{IP}$ no Santa Claus]]

The addition of **PredIntact** has no other effects regarding the data we have considered. For non-existential examples, **PredIntact** will be irrelevant (as the NP that moves upwards does not constitute the whole or the head of the predicate phrase that is complement to INFL but rather the specifier of that complement). For the variety of AAVE described in Section 2, the addition of **PredIntact** will not affect the preference for (Int-Subj) if scenario (43) is available, as that derivation will be more highly valued than (62A), as can be seen by comparing line (A) of (62) to line (A) of (63), which is scenario (43) with **PredIntact** added in:

(63)

	PredIntact	MinProj	NegFirst	FillSpec	
(A)	☺ √	√	√	*	(Int-Subj)
(B)	*	√	*	√	
(C)	*	*	√	√	

In the variety discussed in Section 2, in which the Internal Subject derivation was permitted, both scenarios (62) and (63) will be available. However, in a grammar in which the original Internal Subject scenario (now revised as (63)) is no longer available, scenario (62) will force Auxiliary Inversion for all examples for which it is possible but still allow the (Int-Subj)-type analysis for existentials with NP predicates – these are the crucial structures in which **PredIntact** takes effect. The loss of (63) also represents a change in the direction of SE – in SE, **FillSpec** appears to be a constraint that is practically inviolable (hence, it must be ranked very high).

To complete the scenario given the data we have addressed in this paper, we should also add in **AvoidExpl**, which may fall on either side of **FillSpec**. As our main focus here has been on examples in which SpecIP is empty, we show in (64) the ranking of all five constraints which allows option (A) to be the optimal output:

(64)

	PredInt	AvExp	FillSpec	NegFirst	MinProj	
(A)	☺ √	√	*	√	√	[$_{IP}$ ain't no Santa Claus]
(B)	*	√	√	*	√	[$_{IP}$ no Santa Claus ain't]
(C)	*	√	√	√	*	[$_{CP}$ ain't [$_{IP}$ no Santa Claus]]

5. Conclusion

In this paper we have argued that the data in Labov et al. are most amenable to an analysis involving a VP-Internal Subject and an empty SpecIP; there is no movement to create inversion under this account. However, our own data collected recently support a view of Negative Inversion much more like the original analyses of Labov et al., involving true auxiliary inversion for some examples and an existential analysis for others. With the addition of what amount to metastatements about the grammar, expressed as constraints in the OT sense, we have provided an explanation of why the Negative Inversion phenomenon should exist at all and showed how to account for the variation in the data we considered. In this brief conclusion, we will emphasize how the ideas from OT provide interconnections between the various aspects of research that we have touched on in this paper.

It is sometimes said that inverted negative structures (*Can't nobody beat 'em*) have an 'affective' or 'emphatic' meaning. In order to develop such an account, and to adhere to the principle of accountability which Labov (1969) established, we would need to establish that uninverted negative structures (e.g., *Nobody can't beat 'em*) lack this affective component. Strictly speaking, since 'affect' or 'emphasis' does not affect truth conditions, we need not modify the criterion of referential equivalence which Weiner and Labov (1983) establish as prerequisite to the analysis of syntactic variation. However, we would then need to specify the status of 'affect' in the grammar and the extent to which it affects the form and frequency of negative inversion and other AAVE phenomena (such as tense-aspect marking) in various styles. Labov (1994), for instance, sees it as a factor in virtually all the distinctive auxiliary features of AAVE (*come, BIN, be done*, and so on),[31] but the very ubiquity of the appeal to this feature may reduce its analytical value. Instead, there may be much more specific aspects of the syntax of AAVE which characterize these features, and with the addition of OT, we may be able to resolve issues about the nature of variation in the syntax of AAVE which have remained problematic for years, as we have tried to show with respect to alternative analyses of Negative Inversion.

However successful our syntactic account of Negative Inversion, though, the question arises of what governs the rankings of the constraints and how much alternative ranking of constraints a truly explanatory account can allow. These are important questions which will have to be answered

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[31] See, for example, Baugh (1983) and Spears (1982).

if OT is to be applied successfully to a significant body of syntactic data, especially as it seems inescapable that that data will contain many instances of alternative outputs of the same competitor set. For example, the phenomenon of different orderings of phrasal constituents in a language that allows scrambling would seem initially to go against the idea from OT that there will be just one optimal output. This conflict can be avoided by allowing different rankings of whatever constraints govern the options for scrambling.

We have also tried to show in this paper how OT can provide a bridge between sociolinguistics/variation theory and current syntactic theorizing and how the variation data helps us to fix on what the constraints are that the syntactic derivations must respect. This should be a very fruitful area for future research. For another attempt to bring the two subfields together, see Rickford et al. (1995).

A methodological issue which this paper raises is the feasibility and importance of drawing on native speaker intuitions as well as recordings of casual speech in the study of syntactic variation (also echoed by Fasold, 1994). Despite the reservations which have been expressed about the intuitions of speakers of 'socially subordinate dialects' (for instance, by Labov, 1972b) we have found that such intuitions show a high degree of interspeaker reliability and are generally convergent with the usage data. They were certainly critical in indicating a possible change in the direction of SE and White vernaculars between the 1960s and the 1990s, insofar as examples like (25)–(26), with a complementizer and a negative inversion structure, seem to be no longer acceptable. Without access to judgments of the unacceptability of such examples, we could neither have made the arguments nor proposed the structural analyses which are central in this paper.

Finally, we should emphasize again that negative inversion itself appears to be relatively old in AAVE, with examples like those in footnote 4 attested in the Library of Congress recordings of ex-slaves born in the nineteenth century, and that the change in question – if it can be documented further – challenges the notion that AAVE is diverging from other English vernaculars and SE, or at least suggests that it is also converging (cf. Labov and Harris, 1986; Fasold et al., 1987; Denning, 1989; Bailey and Maynor, 1989; Butters 1989; Rickford, 1992). As we outlined in Section 3.4, with the introduction of the idea that the grammar is a set of ranked constraints, we appear to be provided with a much clearer framework within which to describe such convergence.

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