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On the Subject of Negative Auxiliary Inversion

FRANCES BLANCHETTE
Pennsylvania State University
fkb1@psu.edu

and

CHRIS COLLINS
New York University
cc116@nyu.edu

Abstract

This article presents a novel analysis of *Negative Auxiliary Inversion* (NAI) constructions such as *didn't many people eat*, in which a negated auxiliary appears in pre-subject position. NAI, found in varieties including Appalachian, African American, and West Texas English, has a word order identical to a yes/no question, but is pronounced and interpreted as a declarative. We propose that NAI subjects are negative DPs, and that the negation raises from the subject DP to adjoin to Fin (a functional head in the left periphery). Three properties of NAI motivate this analysis: (i) scope freezing effects, (ii) the various possible and impossible NAI subject types, and (iii) the incompatibility of NAI constructions with true Double-Negation interpretations. Implications for theories of Negative Concord, Negative Polarity Items, and the representation of negation are discussed.

Keywords: Negative Auxiliary Inversion, English, negated quantifier phrases, quantifier scope freezing, Negative Concord

Résumé

Cet article présente une nouvelle analyse des constructions d'Inversion auxiliaire négatif (NAI) telles que *didn't many people eat* 'beaucoup n'ont pas mangé', dans laquelle un auxiliaire négatif apparaît dans la position pré-sujet. La construction NAI, que l'on trouve dans les variétés d'anglais des Appalaches, des Afro-Américains et de l'ouest du Texas, a un ordre de mots qui est identique à celui d'une question oui/non, mais est prononcée et interprétée comme étant déclarative. Nous proposons que les sujets NAI sont des DP négatifs, et que la

Thanks to Appalachian English speakers Gregory Johnson, Paul Reed, and Tiffany Williams for providing judgments and discussion, and for helping us to recruit participants for our online survey. We are also grateful to Lisa Green for discussion of NAI in her variety of African American English, and to Paul Postal and Christina Tortora for feedback on earlier drafts.

négation monte du sujet DP pour s'adjoindre à Fin (une tête fonctionnelle dans la périphérie gauche). Trois propriétés de la construction NAI motivent cette analyse: (i) les effets de gel de la portée, (ii) les types de sujets NAI possibles et impossibles, et (iii) l'incompatibilité des constructions NAI avec les interprétations de Double négation veritables. Les implications pour les théories de l'accord négatif, pour les items de polarité négative et pour la représentation de la négation sont discutées.

Mots clés: Inversion d'auxiliaire négatif, anglais, phrases de quantificateur négatives, gel de la portée des quantifieurs, accord négatif

1. INTRODUCTION

This paper provides a novel theoretical analysis of *Negative Auxiliary Inversion* (NAI) constructions in varieties of English.[1] NAI is characterized by a clause-initial negated auxiliary immediately preceding the subject, which is usually but not always morphologically negative. The construction is string-equivalent to a yes/no question, yet is pronounced and interpreted as a declarative. Examples are given in (1) and (2):[2]

(1) Ain't nobody done you wrong. (AAPCAppE:DOHP-TS)
'Nobody has done you wrong.'

(2) Didn't many die like they is now, seem like. (AAPCAppE:ALC-WL)
'Not many died like they do now, it seems.'

NAI was first observed by Labov et al. (1968), in a study of a group of New York City English (NYCE) speakers. Since then it has also been observed in White Alabama English (WAE: Feagin 1979), West Texas English (WTE: Foreman 1999, 2001; Matyiku 2017), African American English (AAE: Weldon 1994; Sells et al. 1996; Parrott 2000; Green 2002, 2014), and Appalachian English (AppE: Wolfram and Christian 1976, Montgomery 2004, Montgomery and Hall 2004, Tortora and den Dikken 2010).

NAI has several properties of interest for theories of negation and quantifier scope. Foreman (1999, 2001) observes that despite the presence of two scope-bearing elements, NAI constructions are unambiguous, as distinct from their non-inverted counterparts. Compare (3) and (4), from Foreman 1999: 11:

(3) Everybody didn't go to the party. (Foreman 1999: (30))

[1]We use the following abbreviations: AAPCAppE: Audio-Aligned and Parsed Corpus of Appalachian English; AAE: African American English; ANOVA: Analysis of Variance; AppE: Appalachian English; CP2014: Collins and Postal 2014; DN: Double Negation; NAI: Negative Auxiliary Inversion; NAISC: NAI Subject Condition; NC: Negative Concord; NMP: Negative Merge Phrase; NPI: Negative Polarity Item; NYCE: New York City English; WAE: White Alabama English; and WTE: West Texas English.

[2]These and many other examples in this paper are extracted from *The Audio-Aligned and Parsed Corpus of Appalachian English* (Tortora et al. 2017). A brief description of the corpus is provided below in the main text. A token identifier (AAPCAppE:SubcollectionInitials-SpeakerInitials) is provided with each example.

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a. 'Not everybody went to the party.' (¬ > ∀)

b. 'Nobody went to the party.' (∀ > ¬)

(4) Didn't everybody finish their homework. (Foreman 1999: (29d))

a. 'Not everybody finished their homework.' (¬ > ∀)

b. * 'Nobody finished their homework.' (∀ > ¬)

Both (3) and (4) contain a negation and the universal quantifier subject *everybody*. In (3), the subject is in its canonical position, and two interpretations are possible: Either the *negation* takes wide scope, yielding the meaning in (3a), where it is not the case that everybody went, though some may have, or the *universal quantifier* takes wide scope, yielding the meaning in (3b), and the sentence means that nobody went. However, in the NAI construction in (4), only the wide-scope-negation (4a) reading is possible. This effect, which we henceforth refer to as *scope freezing* (Collins 2016a), suggests that an examination of NAI can shed light on the mechanisms underlying negation and quantifier scope ambiguities at the syntax-semantics interface (see also Matyiku 2017).

Another distinguishing property of NAI pertains to the type of phrase allowed to occur in subject position (Sells et al. 1996; Foreman 1999, 2001; Green 2014; Blanchette 2015; Matyiku 2017). Foreman (1999) notes that in this regard, there is a striking similarity between NAI constructions and sentences beginning with *not*. Observe the following (from Foreman 1999: 11–12, ex. (29),(32)).

(5) a. Didn't many people go to the party.

b. Not many people went to the party.

(6) a. * Ain't Jack seen the baby yet.

b. * Not Jack has seen the baby yet.

The sentences in (5) and (6) show that if a phrase in subject position can be immediately preceded by *not*, then that phrase is also licit as an NAI subject, and conversely, subjects that cannot be preceded by *not* are impossible as NAI subjects.[3] This suggests that an analysis of NAI that captures the restrictions on the phrase type allowed in subject position will have direct implications for more general theories of negation.

The final property of NAI that motivates our analysis also pertains to interpretation, and specifically, to the interpretation of NAI constructions with an overtly negative subject, as in (1) ("Ain't nobody done you wrong"). Because they have two morphological negations, they should offer two possible interpretations: one in

[3]Foreman (2001:47) notes an exception to this generalization: Contrastive *but* phrases create conditions in which definites appear to be acceptable with *not*. His example (109b) is given in (i).

(i) Not Jack, but Bill, will answer this question.

With our own consultants we have found a related exception with contrastive *but*, which we describe below in fn. 10.

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which the syntactic negations contribute a single semantic negation, the so-called *Negative Concord* (NC) reading, and one in which each occurrence of negation contributes a distinct semantic negation, a true *Double Negation* (DN) reading. We have found that the DN interpretation of NAI constructions with overtly negative subjects is either completely unavailable or heavily pragmatically marked. That is, despite the existence of these two possible interpretations, for some speakers, NAI constructions with overtly negative subjects can only be NC. For example, Lisa Green (p.c.), Greg Johnson (p.c.), and Paul Reed (p.c.) report that sentence (7) has only a single negation interpretation (7a), and cannot be interpreted as in (7b):[4,5]

(7) Didn't nobody watch the game.

a. 'Nobody watched the game.' (NC)

b. * 'It is not the case that nobody watched the game.' (DN)

This lack of compatibility of NAI with DN has received little attention in the literature, but we argue that it constitutes a crucial piece of information for our understanding of the construction type.

Our syntactic account of NAI aims to explain these three basic properties. We employ data from four main sources: (i) *The Audio-Aligned and Parsed Corpus of Appalachian English* (AAPCAppE; Tortora et al. 2017), a one-million-word parsed corpus consisting of oral history project recordings conducted in the Eastern United States cultural region of Appalachia in the late 1930s through the 1990s; (ii) observations from the previous literature (Labov et al. 1968; Sells et al. 1996; Foreman 1999, 2001; Parrott 2000; Green 2014; Matyiku 2017, among others); (iii) results from our own gradient acceptability survey, reported below in section 3, and (iv) work with native speakers of NAI varieties of AppE and AAE.

The focus of this paper is on NAI in Appalachian English. However, our data and the data in the literature indicate that NAI in other varieties of English (e.g., WTE and AAE) has the same three basic properties outlined above. Our theory can therefore also be taken as a general theory of NAI for varieties of American English.

Our proposal builds on the account of negation and NPIs in Collins and Postal (2014), and in section 2 we describe the relevant aspects of that theory. In section 3, we present the results of an experiment testing which kinds of DPs are possible

[4]One of our consultants reports that the DN interpretation may be possible under certain circumstances, and if it is possible, it is highly marked (much more so than the DN interpretation of sentences with a negative object). It may be that when (7) has a double negation reading it is a case of *contrastive negation* (see McCawley 1991), which is subject to distinct syntactic and pragmatic constraints. We set this aside as a matter for future work.

[5]In section 8.3 we compare example (7) with (i) (see example (61)):

(i) I didn't see nobody. (AppE)

a. 'I didn't see anybody.' (NC)

b. 'It is not the case that I saw nobody.' (DN)

Unlike NAI constructions like (7), when the object is negative, both an NC and a DN interpretation are available for our consultants.

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as NAI subjects. In section 4, we present the basic assumption of our analysis; namely, that in NAI, the subject is negative. In section 5, we analyze NAI as T-to-C movement. Section 6 discusses scope freezing. Section 7 discusses NPI subjects, and section 8 discusses Negative Concord in NAI. In section 9 we discuss previous work, and section 10 is the conclusion.

2. Background: Collins and Postal (2014)

Collins and Postal (2014) (henceforth CP2014) analyze negative existential quantifiers in the following way:

(8) a. no person = [[NEG <SOME>] person]

In this example, NEG modifies the covert <SOME>, where <…> indicates a covert occurrence. Now consider the sentences in (9).

(9) a. I saw no person.
b. I didn't see any person.

In the framework of CP2014, these sentences have the following representations:

(10) a. I saw [[NEG_1 <SOME>] person]
b. I did NEG_1 see [[<NEG_1> <SOME>] person]

In (10b) *any person* is a negative quantificational DP whose NEG has raised to the post-aux position. CP2014 (p. 26) assume that the position of the raised NEG in (10b) is Spec NMP (NEG Merge Phrase). NMP is the sister of T, and dominates vP.[6]

CP2014 assume that NEG_1 in (10b) is interpreted in its original position (indicated by <NEG_1>) and not the post-aux position. The two sentences in (10) have the same truth conditions because they both involve a negative quantificational DP object.

The analysis in CP2014 requires the following spellout rules for SOME:

(11) SOME/*any* Mapping
a. SOME → *any*, in the context [<NEG> __] (NEG unpronounced)
b. SOME → null, in the context [NEG __] (NEG pronounced)
c. SOME → *some*, otherwise

(11a) means that if NEG raises away from SOME, SOME is spelled out as *any*. (11b) means that if non-raised NEG modifies SOME, SOME is covert.

CP2014 assume that *no* and *not* are two forms of negation governed by the following condition:

(12) NEG Mapping
a. NEG → *no* in the context [$_D$ __ [$_D$ <SOME>]]
b. NEG → *not*, otherwise

[6]For sentences without an NPI, such as "I didn't see him", we assume that NEG is externally merged in Spec NMP dominating vP.

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(12a) means that if NEG modifies SOME, then NEG is realized as *no*. Otherwise, NEG is realized as *not*. We also assume that the clitic form *n't* is a realization of NEG (see section 5).

Following CP2014 (p. 25), we further assume the semantic values in (13) for negation (NEG). (See also Collins 2016a.)

(13) NEG takes X with semantic value $\lambda P_1 \ldots \lambda P_n[\ldots]$
And returns Y with semantic value $\lambda P_1 \ldots \lambda P_n \neg[\ldots]$

Under this definition, NEG modifies predicates, defined as having semantic types ending in t. For example, expressions of the following types count as predicates: <e,t>; <<e,t>,t>; <<e,t>,<<e,t>,t>>, but expressions of type <<e,t>, e> and <e> do not count as predicates.[7]

This definition of the semantics of negation allows negation to directly modify quantifier phrases, as in the following examples:

(14) a. [Not [many people]] were there.

b. [Not everybody] was there.

We assume that negation modifies the DP in subject position, and is interpreted according to the rule in (13). For some background on the distribution of negated quantifier phrases, see Klima (1964), Lasnik (1972) and Postal (1974). Lasnik (1972) in particular argues for a different analysis from the one in (14). He argues that negation is in the left periphery as part of COMP:

(15) a. [not [many people were there]]

b. [not [everybody was there]]

In section 9, where we discuss previous theories of NAI, we give evidence for the analysis in (14) and against that in (15).

3. A SURVEY OF NAI SUBJECT ACCEPTABILITY

We conducted a survey to confirm and provide quantitative support for existing claims about possible and impossible NAI subjects.[8] Our survey investigated the acceptability of NAI subject types within the context of a controlled experimental paradigm, and is the first experimental and quantitative analysis of NAI acceptability. Our results confirm previous reports in Sells et al. (1996), Foreman (1999, 2001), Parrott (2000), Green (2014), and Matyiku (2017) regarding the distribution of NAI subjects.

[7]The restriction to modifying only constituents with semantic types ending in <t> may not be the only constraint on the distribution of negation. For example, negation cannot modify a TP: *Not it is raining.

[8]Recent work by Salmon (2017) suggests that for some speakers of Texas English (including Salmon himself), positive polarity *some* and definite DPs like *the teachers* are acceptable as NAI subjects, contrary to previous reports. Our experiment limited the contexts to a single sentence, whereas Salmon's contexts are more detailed. Further experimental work is needed to see whether the effects observed in our study extend to the contexts like those in Salmon (2017).

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3.1 Methodology

Our survey consisted of NAI sentences with eight different subject types: negatives, *any*- NPIs, *many* X, *every* X, and *few* X quantifiers, positive polarity items of the form *some* X, proper names, and definite DPs. We also included affirmative auxiliary constructions as a control, which are expected to be fully unacceptable (Sells et al. 1996; Foreman 1999; Parrott 2000; Green 2014). All survey items have been included as an appendix.

Participants were asked to judge each sentence on a scale of one to five on the basis of its naturalness. To ensure that they understood the sentences as declarative and not interrogative, we provided a single context sentence prior to each item, and included additional explanation in the instructions. The following examples illustrate two critical items and one control.

(16) Negative subject
The students had only five minutes to eat before leaving for school.
Didn't nobody finish their food at breakfast.

(17) *Many* X subject
Bob and Linda decided to get their shopping done after work yesterday.
Wouldn't many shoppers be at the mall that late.

(18) Affirmative auxiliary (control)
It was a beautiful day and everybody wanted to be outside.
Did many people go to the park on Sunday afternoon.

The overall structure of each item was the same, and included a subject, a negated auxiliary or modal, a transitive verb, a direct object, and an adverbial phrase adjunct. All items were in the past tense. We included three items for each subject condition and the controls, for a total of 27 survey items. We also controlled for potential effects of different auxiliaries and modals by including one *didn't*, one *wouldn't*, and one *couldn't* in each subject condition. After completing the survey, participants answered questions about their language background, including their use of and familiarity with NAI.

The survey was programmed using Qualtrics (2017) and distributed online. Participants were recruited by native Appalachian English speaking colleagues as well as through Facebook postings. A total of 86 people participated. Because our aim was to target NAI users who could provide fine-grained judgments about possible subject types, we excluded everyone whose mean score for the negative subject items (the most frequent NAI type; see Figure 2 below) was below 2.5, and those who reported that they neither used nor had familiarity with the construction. This left us with 23 participants. Of these participants, one reported being from the Appalachian Mountains, and 14 reported being from various parts of Appalachia in the states of Kentucky (n = 4), North Carolina (5), South Carolina (2), and Tennessee (3). The remainder were from different parts of the United States including Iowa, Maryland, Michigan, the Pacific Northwest, and Texas. One participant from Oklahoma and one from Pittsburgh, Pennsylvania reported speaking varieties of AAE. The geographic diversity of our participant group is consistent with the *Yale*

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Grammatical Diversity Project survey results, which demonstrate widespread acceptance of NAI, with a concentration in the southern and Appalachian regions of the United States (Matyiku and McCoy 2015).[9]

3.2 Results

Figure 1 illustrates mean scores for subject type across conditions. As Figure 1 shows, negatives ($M = 3.88$, S.D. = .62) were the highest rated subject type, and, as expected, the controls with an affirmative auxiliary ($M = 1.32$, S.D. = .62) were the lowest. A repeated measures ANOVA comparing the acceptability of the affirmative auxiliary items with *few* X ($M = 1.64$, S.D. = .66), *some* X ($M = 1.54$, *S.D.* = .48), names ($M = 1.52$, S.D. = .76), and definites ($M = 1.52$, S.D. = .91) revealed no significant differences between these conditions (F (1, 22) = 1.04, $p = .32$): All were equivalently unacceptable.[10] A series of paired samples t-tests demonstrated that the remaining conditions, including negative, NPI ($M = 3.37$, *S.D.* = 1.02), *many* ($M = 2.84$, S.D. = .97), and *every* ($M = 2.29$, S.D. = .17) subjects were all significantly different from the unacceptable item types. Averaging the unacceptable conditions, we found these to be significantly less acceptable than negative subjects ($t(22) = -13.68$, $p < .001$), NPIs ($t(22) = -7.69$, $p < .001$), *many* X ($t(22) = -7.12$, $p < .001$) and *every* X subjects ($t(22) = -4.73$, $p < .001$).

Note that not even the negative items, which appear most frequently in spontaneous speech, were at ceiling, and *every*, previously reported possible, had a mean score below 2.5. We believe this was due to a combination of factors. One possible factor is frequency: Though attested in the previous literature, *every* subjects do not even appear in our corpus data, as Figure 2 shows. Their relative infrequency in spontaneous speech may have served to degrade their acceptability in the context of our survey.

Another factor is the effect of lexical choices for the survey items. For example, one of our consultants reports that the form *ever* may be used for *every* in their variety of Appalachian. (See also Montgomery and Hall 2004: 207, and Zanuttini and Bernstein 2014: 149.) Therefore, our use of *every* as opposed to its variant form *ever* in the survey items may have degraded their acceptability. In addition, the written format of the survey also may have decreased overall acceptability. Several

[9]The *Yale Grammatical Diversity Project* surveyed 361 speakers on a single NAI sentence with a negative indefinite subject ('He won't go, and can't nobody make him').

[10]We elicited the following from our consultant (see also Foreman (2001: 12) and Green (2014: 130)):

(i) Didn't but a few people show up.

(ii) Not but a few people showed up.

(iii) Didn't but John show up.

(iv) * Not but John showed up.

The possibility of (i)–(iii) could be related to the historical availability of *not but* phrases (Nevalainen 1999).

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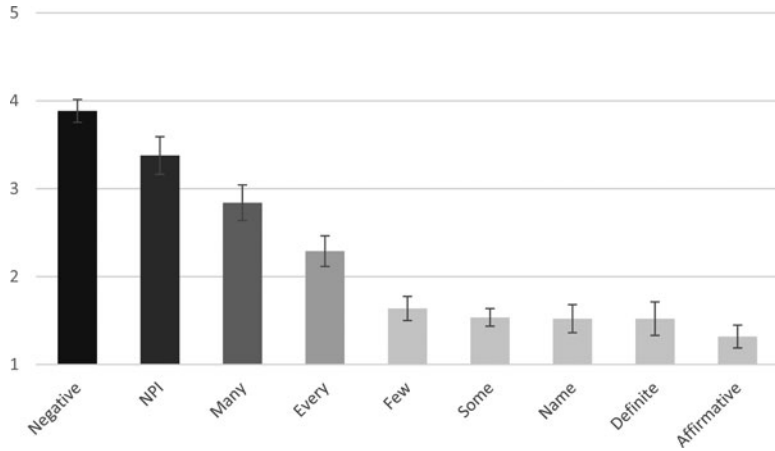

Figure 1: Mean acceptability scores by NAI subject type and affirmative controls

participants reported that although they were familiar with the construction, they found it unusual to see it in written form.[11]

The results from our experiment contribute quantitative support to observations regarding NAI acceptability and the distribution of NAI subject types from the previous literature (e.g., Sells et al. 1996; Foreman 1999, 2001; Parrott 2000; Green 2014; Matyiku 2017). As an addition to this literature, our results provide further negative evidence (that is, sentences judged as unacceptable) to complement the absence of unacceptable sentence types in the spontaneous speech data.

4. A CONDITION ON NAI SUBJECTS

To account for the syntactic and interpretive properties of NAI, we begin by proposing the following condition on NAI subjects:

(19) NAI Subject Condition (NAISC)
In NAI, the subject is negative.

The condition requires the subject of NAI to be of the form [NEG DP] or [[NEG D] NP]. That is, either negation modifies the whole DP (as in the case of *not every student*) or the D (as in the case of *no student*). For brevity's sake, we do not discuss what determines whether NEG modifies D or DP (see Collins 2017 for discussion).

Actually, as shown later on, the NAISC can be derived from other principles and does not have to be stipulated, but we assume it here to get our analysis off the ground.

[11] A consultant rated the following sentence at a 5/5, where *ever* is used as a variant form of *every*:

(i) Didn't ever student show up.
'Not every student showed up.'

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To illustrate, consider the following sentence (Foreman (1999: 7, ex. 14a):

(20) Didn't many people live there then. (WTE)

Under the NAI Subject Condition (NAISC), the subject *many people* in (18) must be underlyingly negative. We propose that NEG is merged with the quantifier phrase forming the following structure:

(21) [NEG [many people]] did live there then.

The negative quantifier phrase [NEG [many people]] will be interpreted according to the general rule of negation interpretation from CP2014 given above in (13), and repeated here:

(22) NEG takes X with semantic value $\lambda P_1 \ldots \lambda P_n[\ldots]$
And returns Y with semantic value $\lambda P_1 \ldots \lambda P_n \neg[\ldots]$

Note that *many people*, which is modified by NEG in (19), is a generalized quantifier of type <<e,t>,t>, hence a predicate which can serve as an argument to NEG.

An immediate consequence of this analysis is that proper names, definite descriptions, pronouns and demonstrative phrases, all of which have been observed in the previous literature to be unacceptable as NAI subjects (Sells et al. 1996; Foreman 1999, 2001; Parrott 2000; Green 2014), are ungrammatical in NAI subject position. To illustrate, consider the following example from our survey, and the proposed structure for its subject:

(23) * Couldn't Ray play in the basketball game on Saturday night.

(24) [NEG Ray] could play in the basketball game on Saturday night.

The semantics in (13) and (22) state that NEG modifies predicates (expressions whose type ends in t), but *Ray* is a proper name of type *e*. As such, it cannot be directly modified by negation, and the structure in (24) is not licit. The same analysis applies to pronominal subjects, which Foreman (1999: 11) also reports to be unacceptable.

5. The syntax of NAI

In this section, we give a detailed derivation for an NAI sentence with [NEG [many people]] as the subject. First, we propose that negation raises and adjoins to Fin, not Force, in the left periphery (on Fin and Force, see Rizzi 1997). The reason for assuming adjunction to Fin (and not Force) is that it is possible to have embedded NAI constructions:

(25) She said that wouldn't no member go with her. (AAE, Green 2014: 135)
'She said that no member would go with her.'

(26) I know for a fact that didn't nobody leave this room. (AAE, Weldon 1994:8)
'I know for a fact that nobody left this room.'

(27) I know a way that can't nobody start a fight. (NYCE, Labov et al. 1968: 286, ex. 370)
'I know a way in which no one can start a fight.'

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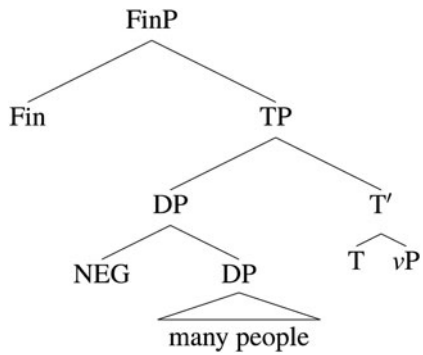
Assuming that *that* occupies Force, it must be the case that the inverted auxiliary is lower than Force. Green (2014: 136–137) draws the same conclusion for embedded NAI. Under her analysis, both the Force and Focus fields are activated in NAI, and she observes that "Force^0 can be occupied by the complementizer *if* (for Interrogative Force […]) or by the complementizer *that* or 0 (for Declarative Force […])" (p. 137). She therefore concludes that in NAI the negated auxiliary occupies a position in the CP domain that is lower than Force.

As discussed above, we further assume that the negation is introduced within the subject DP. We assume that in this case, the negation is adjoined to the DP [$_{DP}$ NEG [$_{DP}$ many people]].[12] The following diagram illustrates the underlying structure (before NEG raising), assuming subject raising to Spec TP (from Spec vP):

(28)



At this point, NEG may raise, or stay in situ. If NEG stays in situ modifying DP, then one gets the negated quantifier phrase construction, which is also acceptable for speakers of the dialects under discussion:[13]

(29) Not many people showed up.

Suppose instead that NEG raises away from the subject DP in (28). In the framework of CP2014, all NEG morphemes can undergo raising in English, so there is nothing special about assuming NEG raising in this case.

There are two possible landing sites: NEG raises and adjoins to Fin, or NEG raises to the specifier of some functional projection between Fin and the subject. We assume that adjunction of NEG to Fin is only possible if negation is a clitic (of the form *n't*). Furthermore, if negation is a clitic, it must raise and adjoin to a host.

First, consider the possibility that NEG raises and adjoins to Fin.

[12]Alternatively, NEG could be in the specifier of a NMP taking the quantifier phrase as a complement: [$_{NMP}$ NEG [$_{NM'}$ NM DP]].

[13]One of our consultants notes that this sounds "standard", and gives it an acceptability rating equivalent to NAI (5/5).

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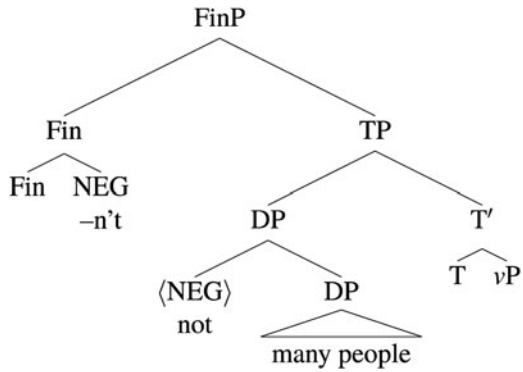
(30)



We note here that the adjunction of NEG to Fin violates the Subject Condition (see Haegeman et al. (2014) for a recent overview), since it involves moving NEG from the subject position. CP2014 (p. 131) suggest that NEG raising is only limited by clausal islands (and hence not by subject DPs). While that suggestion is stipulative, we have nothing further to add about the issue here.

Because in this case NEG is a clitic, it requires a host (defined here as a phonologically non-null verbal head which it adjoins to). We therefore propose that either the NEG attracts the finite auxiliary in T (e.g., *wasn't*), or triggers do-support (i.e., *doesn't*, *don't*, *didn't*), yielding the NAI surface pattern.

Not all English varieties have structures such as (30). We propose that, though all varieties have the same options for NEG raising, including NEG adjunction to Fin, English varieties with and without NAI are distinguished by the following parameter:

(31) a. NAI variety: NEG adjunction to Fin triggers do-support/T-to-C.

b. Non-NAI variety: NEG adjunction to Fin does not trigger do-support/T-to-C.

We use the term T-to-C to mean movement of T to adjoin to a head position in the clausal left periphery, in our case Fin. If NEG adjoins to Fin, it will form the adjunction structure [$_{\text{Fin}}$ Fin NEG]. And if there were no do-support or T-to-C, the cliticized negation would be without a host, which is presumably ungrammatical.

The motivation for (31) is that the presence or absence of T-to-C varies cross-linguistically. Some languages have it (English), and some do not (Ewe). What (31) claims is that the triggers for T-to-C may also vary cross-linguistically, and that NAI varieties have a wider set of triggers than those without NAI.

This claim that T-to-C triggers vary cross-linguistically is supported by the fact that inversion in embedded questions is possible in NAI varieties like Appalachian (Wolfram and Christian 1976) and African American English (Green 2002), as in (32) (from Wolfram and Christian 1976: 129, ex. (17c)):

(32) We stopped by my aunt's house to ask her did she want some cucumbers. (AppE)

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Triggers for T-to-C have also undergone diachronic change (Kroch 1989). Old and Early Middle English negated verbs frequently appeared in the CP domain in declarative sentences (Ingham 2005).[14] Under the hypothesis that Appalachian varieties are grammatically conservative and have retained properties of earlier forms of English (Montgomery 2004), the diachronic facts provide further support for proposing T-to-C as the point of variation between NAI and non-NAI varieties.

We have yet to explore whether the inversion that occurs in NAI correlates (across English varieties) with the inversion in embedded questions exemplified in (32). Our objective here is simply to show that different varieties have different types of T-to-C movement, so there are independent reasons to postulate this as a point of variation.

The syntax we have proposed explains why the non-clitic NEG is not possible in NAI (Parrott 2000: 417–418, ex. (12a–d)):[15]

(33) *Did not many people show up to the game. (AAE; AppE[16])

There are two possible analyses for (33). One is that it has the following structure:

(34) Did [not many people] show up to the game.

In this structure, the phrase *not many people* forms a constituent, but negation does not raise from the subject. Therefore, there is no reason for do-support to take place, since NEG has not raised to Fin. Recall that under our analysis, do-support (or T-to-C movement of the modal or auxiliary) is only triggered by the cliticization of NEG to Fin. Therefore, under our proposal, sentence (33) simply cannot be generated: NEG has not raised, so there is no reason for do-support to occur.

Another possible structure for (33) is that NEG has undergone raising, but not as a clitic. If NEG raises as a non-clitic (i.e., *not*), then from its position adjoined to DP it must raise to the specifier of some other projection. CP2014 claim that when NEG raises, it raises to the specifier of NMP. For example, in (10b) above, NEG raises to Spec NMP dominated by TP (the position of sentential negation in a finite declarative clause). Assuming their theory, we suggest that there is no NMP intervening between Fin and TP in (33).

The fact that there is no NMP between Fin and Spec TP in (33) might be related to the fact that in general, nothing can intervene between an inverted auxiliary and the subject. The examples in (35) and (36) show that, although adverbial phrases can

[14]Below is Ingham's (2005: 174) example (4) (from (*Vices and Virtues* 77,3 (a.1200)). (The translation is Ingham's, and the gloss is ours.)

(i) Ne mai ðe deuel betellen wel ðat tu art gode unhersum.
NEG may the devil maintain well that thou art God disobedient
'The devil may not maintain that thou art disobedient to God.'

[15]As a complement to Parrott's (2000) AAE data, Blanchette (2015:106) observes that while *not* appears in NC with negative objects in the AAPCAppE, it never appears in NAI, or in NC with negative subjects in general. While *not* and *n't* appear interchangeably in the corpus data in NC with negative objects, only *n't* occurs with NAI and with NC constructions where the subject is in canonical position.

[16]An AppE speaking consultant of ours confirms that (33) is unacceptable.

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appear in peripheral positions preceding the subject (35a–b), when inversion takes place in yes/no questions, the adverbials are not licit in pre-subject position (36a–b):

(35) a. Honestly, John is not friendly.
b. At the movies, we didn't see Mary.

(36) a. * Is honestly John not friendly?
b. * Didn't at the movies we see Mary?

Now let us return to the NAISC, repeated below:

(37) NAI Subject Condition:
In NAI, the subject is negative.

We began by stipulating (37) as a starting point for our analysis. However, as it turns out, it is actually not necessary to stipulate this condition. Consider the survey item in (38), which our participants reliably judged unacceptable:

(38) *Did many people go to the park on Sunday afternoon.

Example (38) provides empirical motivation for the NAISC. Recall that under our analysis, NEG raising to Fin provides the trigger for do-support, generating the NAI surface pattern. If the subject is non-negative, as in (38), then there can be no NEG raising, hence no do-support. We therefore derive the NAISC on the basis of data such as (38), which shows that when the subject is non-negative, do-support (or T-to-C) cannot be triggered, since NEG has not cliticized to Fin.

6. Scope freezing

Recall now Foreman's (1999, 2001) observation that despite the presence of two scope bearing elements, NAI sentences are semantically unambiguous, and have only the wide-scope negation reading. (See also Zanuttini and Bernstein 2014: 161 and Matyiku 2017: 74–77.) An AppE-speaking consultant confirms that in (39), the negation must take wide scope over *many* (Foreman 1999: 11, ex. (29a); see Blanchette 2015: 110 for similar judgments from AppE speakers). Our consultant states that the interpretation in (39a) is possible, but the interpretation in (39b) is not, confirming the unavailability of the narrow scope negation reading:

(39) Didn't many people watch the game. (WTE; AppE)
a. Not many people watched (but some did). (¬ > many)
b. * Many people didn't watch (*many > ¬)
(because they were disappointed in the players).

Collins (2016a) observes a similar "scope freezing" phenomenon in sentences like the following (p. 294, ex. (9a)) (see also Foreman 1999: 11):

(40) Not many people are there.

He notes that this sentence has the following two logically possible interpretations (p. 295, (12a–b)):

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(41) It is not the case that many people are there. (¬ > many)
(=Few people are there.)

(42) Many people are not there. (many > ¬)

However, in (40) the only possible interpretation is the one in which the negation takes wide scope (41). We claim that the scope freezing analyzed in Collins (2016a) is the same scope freezing phenomenon that occurs in NAI (see also Matyiku 2017: 75).

The NAISC and our syntax for NAI serve to explain scope freezing. Consider (43a) below, with the structure in (43b):

(43) a. Didn't many people watch the game.

b. [$_{FinP}$ Fin + NEG [$_{TP}$ [<NEG> [many people]$_1$] watch the game]]

In order for *many people* to have scope over negation, it would have to undergo QR to a position c-commanding negation. Two possibilities are given below:

(44) a. [$_{FinP}$ Fin + NEG [$_{TP}$ <[many people]$_1$> [<NEG> DP$_1$] watch the game]]

b. [<[many people]$_1$> [$_{FinP}$ Fin + NEG [$_{TP}$ [<NEG> DP$_1$] watch the game]]]

In (44a), *many people* undergoes QR and adjoins to TP. In (44b), *many people* undergoes QR and adjoins to FinP. In both cases, the lower occurrence DP is interpreted as a variable, of type <e>. Since NEG can only modify constituents ending in type t, neither structure is well formed.

Note that we are not claiming that all traces of movement are of type <e>. Certainly syntactic objects of a predicative type (i.e., <e,t>) can undergo movement and their traces will not be of type <e>. But in the examples of this paper, where a DP denoting a generalized quantifier over individuals undergoes movement, the traces are all of type <e>.

Now, consider an analysis of NAI not involving NEG Raising from DP. Rather, NEG is directly merged with Fin as a clitic, as in (45).

(45) [$_{FinP}$ Fin + NEG [$_{TP}$ [many people] watch the game]]

In this structure, NEG is adjoined to Fin (as in our analysis), but it is not raised from any lower position. If *many people* undergoes QR and adjoins to FinP, the result is the structure in (46).

(46) [$_{FinP}$ <[many people]$_1$> [$_{FinP}$ Fin + NEG [$_{TP}$ DP$_1$ watch the game]]]

Since the DP in scope position c-commands NEG, (46) has the interpretation that many people are such that they did not watch the game. We will suggest that a structure such as (46) is not well-formed for syntactic reasons.

Note that inverse scope with respect to negation is not in general blocked for quantifiers. For example, (47) is ambiguous between the two interpretations NEG > *many* and *many* > NEG.

(47) I didn't see many people.

We assume that the *many* > NEG interpretation has the LF representation in (48).

(48) [[many people]$_1$ [I didn't see DP$_1$]] (many > NEG)

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Given that inverse scope of quantifiers over negation is not in general blocked, nothing blocks the LF representation in (48). We conclude that the representation in (45) is not possible, since (45) would allow inverse scope of negation and *many*. We suggest that the cliticized NEG can only be the head of a movement chain. Since the cliticized NEG in (45) appears in a trivial chain (no movement is involved), it is ungrammatical.

Additional evidence for this claim is that if the representation in (45) were possible, then we would no longer be able to account for restrictions on NAI subjects (e.g., that they cannot be definite DPs), or the impossibility of DN for some speakers. Under the representation in (45), NEG raising to Fin is no longer necessary, so nothing would prohibit the occurrence of a definite phrase in subject position, contrary to previous reports (Sells et al. 1996; Foreman 1999, 2001; Parrott 2000) and to the results of our survey. Furthermore, as we show in section 8.3, if (45) were possible, then DN interpretations should also be generally available for NAI. The fact that the clitic NEG must head a movement chain in NAI is thus crucial to capturing its defining properties.

Consider now positive polarity items (PPIs) with *some*, which our informal survey confirms are impossible as NAI subjects. (We discuss *few* X subjects in section 8.3.) The following is one of our survey items, and a possible structure for its subject (see also Blanchette 2015: 134, ex. (60c–d)):

(49) * Couldn't some teachers get to class on time.

(50) [[<NEG> SOME] teachers]

In (50), the negation is a sister to SOME, and raises away, cliticizing to Fin. Rule (11a) of CP2014's mapping rules states that SOME must be spelled out as *any* when NEG has undergone raising, and that when NEG has raised it is unpronounced in its base position. Since the conditions for rule (11a) are satisfied in (50), the rule must apply. Concurrently, rule (11c), which spells out SOME as *some* in the absence of an immediately preceding occurrence of NEG (either null or overt), cannot apply. This explains the unacceptability of (49).

7. Negative Polarity Item subjects

NAI is possible with subjects that are *Negative Polarity Items* (NPIs), as shown in (51)–(53).

(51) Dudn't anybody seem to understand…[17] (WAE, Feagin 1979: 235, ex. (73))
'Nobody seemed to understand.'

(52) Ain't a damn thing changed. (AAE, Parrott 2000: 417, ex. (9b))
'Not a damn thing has changed.'

(53) Didn't anything stand in that girl's way. (From our survey)
'Nothing stood in that girl's way.'

[17]We maintain Feagin's (1979: 235) original transcription, including the spelling of *didn't* as 'dudn't' in WAE.

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Recall now CP2014's proposal for negative existential quantifiers and the spellout of *any*, and consider (53). The underlying structure, on the theory of CP2014, would be as in (54a).

(54) a. [Fin [[NEG SOME] thing] stand in that girl's way.]

b. [Fin + NEG [[<NEG> SOME] body] stand in that girl's way.]

In (54a), the subject is the negative quantifier DP [[NEG SOME] thing]. NEG raises from the subject to adjoin to Fin. When NEG raises, SOME is realized as *any* according to CP2014's SOME to *any* mapping rules (11a). So the fact that NPIs can be the subject in NAI constructions follows directly from the theory of NPIs in CP2014.

8. Negative Concord

Figure 2 above illustrates subject types for tokens with a negative auxiliary appearing first, and immediately preceding a quantificational subject, in the AAPCAppE (Tortora et al. 2017; see fn. 2).[18,19] It demonstrates that subjects following a negated auxiliary are usually negative indefinites (such as *nobody* or *no student*).[20]

When the subject of NAI is a negative indefinite, it represents a type of NC sentence.[21] In order to account for NAI NC constructions, we therefore also need a theory of NC. We adopt the theory of Blanchette (2015), which extends CP2014 to English NC.

8.1 Blanchette (2015)

Consider the following example from an AppE consultant, which illustrates the most common NC type in which a negated auxiliary appears in concord with a negative DP object (Smith 2001; Anderwald 2002, 2005; Tubau 2016):

(55) I didn't see nobody. (AAE, AppE, NYCE, WAE, WTE)[22]
'I saw nobody.'

[18]Figure 2 also includes "existential" constructions (Labov et al. 1968), exemplified in (i):

(i) Wasn't no raise in the pay till we got our union. (AAPCAppE:DOHP-TS)
'There wasn't any raise in the pay until we got our union.'

[19]We excluded from our counts for Figure 2 the following example of what appears to be an indefinite in an existential construction, which we take to contain an NPI:

(i) Ain't a well one in the family left. (AAPCAppE:ALC-RN)
'Not (a single) well person is left in the family.'

[20]Note that overtly negative indefinite subjects were also the highest rated in our acceptability judgment survey, as shown in Figure 1. This suggests that frequency also plays a role in NAI subject acceptability.

[21]The NC NAI example below from one of our AppE consultants includes the word *nary* modifying *one of them*, with the meaning 'not (a single) one'. We leave investigation of *nary* to further work.

(i) Didn't nary one of them lift a finger. (AppE)
'Not a single one of them lifted a finger.'

[22]These are American English varieties with NAI. See Smith (2001) for a more extensive list of varieties with Object NC.

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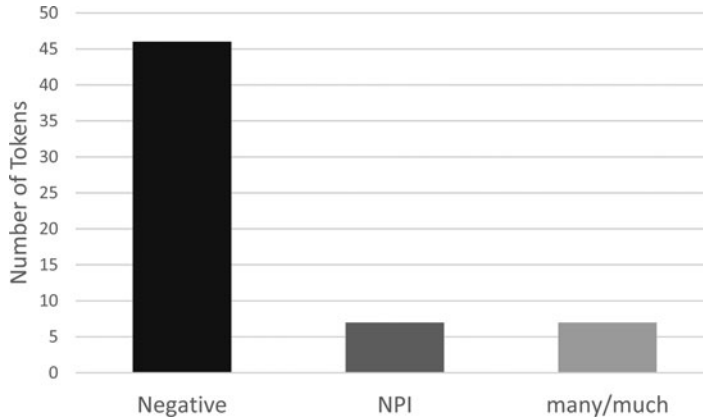

Figure 2: AAPCAppE negative (n = 46), NPI (n = 7), and *many* (n = 7) subject type frequencies in negated auxiliary first constructions

In example (55), negated auxiliary *didn't* and direct object *nothing* represent a single semantic negation. But there is another possible interpretation for this string. Our AppE consultants tell us that in a denial context, it can also receive a true DN interpretation, as in Speaker B's statement here:

(56) Speaker A: She said you didn't see nobody. (NC) (AppE)
Speaker B: I didn't see *nobody*. I did see one person I know. (DN)

In Speaker B's statement, the syntactic negations each contribute a semantic negation, and the sentence means that it is not the case that I saw nobody.

To account for the two interpretations in (55) and (56), Blanchette (2015) proposes to extend the model in CP2014. Under her proposal, these would be analyzed roughly as follows:

(57) NC ('I saw nobody')

I did NEG_1 see [NEG_1 <SOME> body]

(58) DN ('It is not the case that I saw nobody')
I did NEG_2 see [NEG_1 <SOME> body]

In both structures, *nobody* has the negative existential quantifier structure proposed in CP2014. In the NC structure (57), the NEG raises from the quantifier phrase to an auxiliary adjacent position, and the two occurrences of negation represent a single semantic negation. The structure is realized as NC because both occurrences of NEG are spelled out, and the lower negation is a resumptive copy. In accordance with CP2014's SOME/*any* mapping rule (11b), when the lower occurrence of NEG spells out, SOME remains unpronounced. A similar proposal by Collins et al. (2017) accounts for NC constructions in Ewe (see also Collins and Postal (2017) on Serbo-Croatian).

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For the DN structure in (58), each syntactic negation represents a distinct semantic negation (where NEG_2 subsequently undergoes cliticization to the finite T). There is no NEG raising from the negative quantifier DP, hence no reason for a resumptive copy. As with the NC structure, because the object DP NEG is spelled out, SOME is silent and the phrase is realized as *nobody*, as required by CP2014's SOME/*any mapping rule*.

8.2 The Syntax of NAI NC constructions

Consider now the NAI construction in (57) (adapted from Labov et al. 1968: 267, ex. 271).

(59) Didn't nobody watch the game. (AAE, AppE, NYCE, WAE, WTE)
'Nobody watched the game.'

Example (59) is both NAI and NC, in that the two occurrences of negation on the auxiliary and the subject represent a single semantic negation. Following Blanchette (2015), we assume that both negations in (59) are occurrences of a single NEG which has undergone raising, leaving a copy (the NEG in *nobody*). Our analysis for NAI then applies straightforwardly. The negation raises to Fin (leaving a resumptive NEG), and *do*-support occurs, as shown in (60).

(60) $[_{FinP}$ did + NEG_1 $[_{TP}$ [[NEG_1 <SOME>] body] <did> $[_{vP}$…]]]]

Under this analysis, NC NAI constructions and NAI constructions with NPI subjects (see section 7) are syntactically parallel. This is a desirable result, since they also seem to be equivalent semantically. The only difference between the two constructions is that in NC the negation spells out in its base and raised positions, but with NPI subjects the lower negation is silent and SOME maps to *any*.

8.3 The incompatibility of NAI and Double Negation

Recall that sentences with two syntactic negations may have either an NC or a DN interpretation. Our consultants state that (61), repeated from (55–56), has both an NC and a DN interpretation.

(61) I didn't see nobody. (AppE)
a. 'I didn't see anybody.' (NC)
b. 'It is not the case that I saw nobody.' (DN)

In the NC interpretation of (61), the two syntactic negations contribute a single semantic one. Importantly, this sentence also has a DN interpretation in which it is not the case that I saw nobody.

Now compare (61) with the NAI construction in (59), repeated in (62).

(62) Didn't nobody watch the game. (AAE, AppE, NYCE, WAE, WTE)
'Nobody watched the game.'
* 'It is not the case that nobody watched the game.'

Unlike (61), example (62) has only an NC interpretation, and it cannot be interpreted as DN. This is true of NC NAI constructions in general: Unlike NC sentences with

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negative indefinite objects, they are incompatible with DN interpretations (Lisa Green, Greg Johnson, and Paul Reed, p.c.).[23]

Under our NAI syntax, one way for (62) to give rise to a double negation reading would be for *some* to be doubly negated (where NEG_1 then cliticizes to Fin), as in (63).

(63) [[NEG_1 [NEG_2 <SOME>]] NP]

In (63), NEG_2 modifies SOME and NEG_1 modifies [NEG_2 SOME], resulting in the two NEGs cancelling out semantically, and yielding the interpretation that somebody watched the game.

However, (63) is ruled out by Collins' (2016b) *NEG NEG constraint, given in (64).[24] (See De Clercq and Vanden Wyngaerd (2017) for a related constraint.)

(64) If X is any syntactic constituent, then *[NEG1 [NEG2 X]]

This constraint states that a negative constituent of the form [NEG X] cannot be directly modified by a negation. It captures the intuitive notion that two distinct semantic negations should not be able to modify the same phrase. The constraint is used by Collins (2016b) to rule out the sentences in (65b) and (65d).

(65) a. Not everybody was there.

b. * Not not everybody was there.

c. I persuaded John not to like Clinton.

d. * I persuaded John not not to like Clinton.

Examples (65b) and (65d) are ungrammatical because NEG_1 directly modifies an already negated constituent. In (65b) the configuration is [NEG_1 [NEG_2 everybody], and in (65d) it is [NEG_1 [NEG_2 to like Clinton]].

The fact that NAI and DN are incompatible follows straightforwardly from the structure we have proposed for NAI, in which a single negation is introduced by, and raises from, the subject. The two syntactic negations in (62) ("Didn't nobody watch the game") are two occurrences of a single NEG, so unless an additional negation is introduced elsewhere in the sentence, only one negation is available for semantic interpretation.

The unacceptable NAI sentence (66) from our survey is also relevant to the incompatibility of NAI and DN interpretations (see also Sells et al. 1996: 610, fn. 17, and Foreman 2001: 49).

(66) * Couldn't few players block a shot like Jen.

It may be possible to extend the *NEG NEG constraint to account for the following case:

(67) a. Few people were there.

b. * Not few people were there.

[23]We set aside possible cases of contrastive negation; see footnote 3.

[24]Constraint (64) will have to be changed to allow for reversals in the sense of CP2014.

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Suppose that *few* is really a negative quantifier, so that (65a) is paraphrased as in (68).

(68) There is no group g containing more than n (a contextually specified number) people such that for all x in g, x was there.

If *few* is a negative quantifier, as suggested by (68), then (66) and (67b) will also be ruled out by the *NEG NEG constraint.

Another possible structure for NAI constructions like (62) with overtly negative subjects is shown in (69), where NEG is externally merged with Fin (without raising from the subject):

(69) $[_{\text{FinP}}$ Fin + NEG_1 $[_{\text{TP}}$ [[NEG_2 SOME] body] watch the game]]

Such a structure would also give rise to a DN interpretation. However, as explained in section 6, the structure in (69) violates the condition that the cliticized NEG must head a non-trivial chain, because in this structure NEG_1 has not raised from a lower position.

9. Previous work

In this section we compare our approach with previous work. A distinguishing aspect of our approach is the assumption that in NAI, the negation and the subject form a constituent underlyingly (i.e., the NAISC). In contrast, previous work assumes that the negated auxiliary is generated in a functional projection, and may raise to another functional projection. Different landing sites are proposed, including IP or CP in Sells et al.'s (1996) Optimality-Theoretic approach, a NegP for Foreman (1999, 2001) and Matyiku (2017), and a Negative Focus Phrase in Green (2014). Crucially, none of these approaches assumes that the negation and the subject form a constituent at any level of representation. This assumption therefore distinguishes our approach from the others, and as such, we argue that it better captures the interpretive and subject-type restrictions on NAI.

9.1 NegP_2 approaches

Foreman analyses NAI in terms of a clausal functional projection that he calls NegP_2. His approach serves as the basis for Matyiku's (2017) ranked-constraint-based account in line with Bobaljik and Wurmbrand (2012), so our critique of Foreman also extends to Matyiku's work. According to Foreman (1999: 12), NegP_2 is immediately above AgrS-P, whose specifier contains the subject of the clause. An example is given below:

(70) a. Cain't nobody do that.

b. $[_{\text{NEGP2}}$ $[_{\text{NEG}}$ Cain't$_i$] $[_{\text{AGRS-P}}$ nobody $[_{\text{NEGP1}}$ $[_{\text{NEG}}$ t_i] $[_{\text{VP}}$ do that]]]]
(Foreman 1999: 12, ex. (31))

Foreman explains that "Here, the subject, *nobody* has raised out of its VP internal position into the syntactic subject position, Spec, AgrS-P. The Negative Aux has then raised over it into the head of NegP_2" (p. 12).

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Foreman (1999:11) supports this analysis with pairs like the following:

(71) a. Not many people went to the party.
b. Didn't many people go the party.
c. Not everybody finished their homework.
d. Didn't everybody finish their homework.
e. Not more than three people will be allowed in at a time.
f. Won't more than three people be allowed in at a time.

Foreman observes a number of parallels between NAI and sentences like (71a) with an initial negation. For example, in both cases "…the negation must scope over the subject." So there is some reason to think that the structure of NAI and examples like (71a) with a pre-subject NEG have the same structure.

According to Foreman, *not* and the following subject do not form a constituent in (71a) (71c) and (71e), since *not* occupies the head of $NegP_2$. So Foreman argues for the constituent structure in (72a) over the constituent structure in (72b):

(72) a. [not [many people went to the party]]
b. [not [many people]] went to the party

In this way, Foreman's conclusions resemble those of Lasnik (1972), who also argues for the constituent structure in (72a).

However, there is evidence that (72b), not (72a), is the correct constituent structure. Consider the following examples involving negative inversion. First, negated quantifier phrases as adjuncts, like those in (73), are easy to find.

(73) a. Not every day can you get fresh-off-the-tree hazelnuts prepare with bacon and herbs for lunch! <https://www.publicpower.org/blog/wild-oregon-coast>, consulted March 1, 2018)
b. Not every day can you interact with people from around the world; <http://cflcc.org/sports-unite-refugee-youth-and-bishop-moore-students/>, consulted March 1, 2018)
c. Not in a million years will he admit his mistake. (Matyiku 2017: 32)

Second, it is also possible to find negated quantifier phrases as preposed objects, as in (74).

(74) a. The songs are good, but not many of them would I consider "GREAT". <https://www.amazon.com/I-Love-You-Me-Cherokee/dp/B00000I73N>, consulted March 1, 2018)
b. I did develop more friends during my high school years, but not many would I call close. <(https://www.psychforums.com/living-with-mental-illness/topic88143.html>, consulted March 1, 2018)
c. Not many things have I ever just felt, without proof, but this is one. <https://atala.fr/>, consulted March 1, 2018).

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There are also examples with universal quantifier phrases, as in (75).

(75) a. Alas, not all of it have I been able to absorb.
<https://books.google.com/books?isbn=0521098750>, consulted March 1, 2018)

b. Not all of them did I do great in.
<http://forum.worldoftanks.com/index.php?/topic/527631-best-tank-to-seal-club-with/>, consulted March 1, 2018)

All these examples seem acceptable to us. All of them involve preposing a negated quantifier phrase into Spec FocP (see Haegeman 2012 and Collins and Postal 2014). But the condition on negative inversion is that the preposed constituent be negative (see CP2014, Chapter 14 for detailed discussion), strongly supporting a constituent structure where the negation combines with the DP: [not [many people]]. If such a constituent structure is necessary for the examples in (73)–(75), then it should also be possible for Foreman's (1999) examples in (71).

Of course, one could argue that the data in (73) show only that the structure in (72b), where the negation directly modifies DP, is possible, but they do not exclude the possibility that the negation modifies the entire sentence. So the data in (73) are consistent with the possibility that both structures in (72) are generated. However, there is no independent evidence for the structure in (72a), so we propose that only the structure in (72b) is possible.

Foreman (1999: 14) does give the data in (76) and (77).

(76) a. Not everybody was interviewed today.

b. * I interviewed not everybody today.

c. I didn't interview everybody today.

(77) a. Not many people were amused that day.

b. * I amused not many people that day.

c. I didn't amuse many people that day.

This subject/object asymmetry has long been known in the generative literature (see Klima 1964; Lasnik 1972; and Postal 1974). Foreman explains the contrast as follows: "There is not a NegP immediately preceding the surface object position to house the *not* in (36b) and (37b) [(76b) and (77b)]. Therefore, a string such as *not everybody* could not occur in object position."

The problem is that the data in (73) clearly show that [not [many people]] can be a constituent, so it cannot be the case that (76b) and (77b) are bad for constituent structure reasons. Rather, we suggest that there is an independent condition forcing [not DPs] to raise to a position c-commanding T (see Collins 2017). We cannot elaborate on this condition here.

Foreman claims that Neg_2P dominates Agr-SP, and Neg_2 immediately precedes the subject. However, there is much data (again from Collins 2017) that shows that such an analysis is mistaken. For example, as shown in (78), negation can precede the quantifier phrase in appositive relatives (see Postal 1974, who first made this observation).

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(78) a. There are umpteen Hendrix discographies and a thriving literature on his guitars (not many of which survived intact), …
<https://www.the-tls.co.uk/articles/private/architecture-84/>, consulted March 1, 2018)

b. David's interests outside of the office centre around his family and all sporting activities, not many of which he now participates in,
<https://www.rostance.co.uk/about/partners>, consulted March 1, 2018)

In fact, as pointed out by Collins (2017), one can combine negated quantifier phrases. While (79) may be difficult to understand, we find it acceptable.

(79) Those girls, not many of whom not everybody likes, are in the same class.

As Collins (2017) points out, this sentence poses a problem for theories like Foreman's that involve a pre-sentential negation, since in (79) one needs two negations. One would have to say that there is a NegP dominating the appositive relative clause and a separate NegP dominating the embedded clause [everybody likes]. But such a proliferation of clausal NegPs raises the question of which clausal constituents are dominated by NegP. NegP cannot dominate a *that*-clause, or other kinds of clauses, as the examples in (80) show.

(80) a. *I think [not that John left]. (negated that-clause)

b. *I wonder [not if John is home]. (negated if-clause)

c. *I would prefer [not for John to win]. (negated for-clause)

d. *The man [not that John saw] was sitting down. (negated relative clause)

e. *[Not there are many people here]. (matrix declarative clause)

Some of these can be made good as contrastive negation (on contrastive negation see McCawley 1991), as shown in (81).

(81) I think not that John left, but that he stepped out for a minute.

But the examples in (71) (and similar examples involving negated quantifier phrases) are not contrastive negation. For example, they do not require the tell-tale contrastive *but*-phrase.

In our theory, the reason (79) is possible is because each negated quantifier phrase can be modified by negation. So one expects that it is possible to find a negation preceding a quantifier phrase (unless it is in object position, as in (76b) and (77b)).

If negation can directly modify quantifier phrases, then it follows that the examples in (71b), (71d) and (71e) are not to be analyzed in terms of a clausal $NegP_2$. But then there is no independent evidence for Foreman's clausal Neg_2P in NAI.

9.2 Negative focus and strong quantification (Green 2014)

Green (2014) argues that NAI constructions involve focusing of negation. She proposes the structure in (82), in which the negated auxiliary originates in NegP and raises through T to the head of a *Focus Phrase* (FocusP), where it satisfies a negative focus feature *NegFoc* (Green 2014: 126, ex. 18):

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(82) Don't nobody ride that bus.
[$_{\text{FocusP}}$ [$_{\text{Foc}'}$[*NegFoc*]DON'T$_2$]][$_{\text{TP}}$ NOBODY$_1$ [$_{\text{T}'}$ ~~don't$_2$~~]] [$_{\text{NegP}}$ [$_{\text{Neg}'}$ ~~do + n't$_2$~~]][$_{\text{VP}}$ ~~nobody~~$_1$ [$_{\text{V}'}$ ride that bus]]

Note that in the structure in (82), the negation realized as *n't* does not form a constituent with the subject at any level of representation. As such, Green's analysis is subject to some of the same arguments as Foreman (1999, 2001; see 9.1 above).

Green accounts for the subject restrictions on NAI by proposing that NAI subjects must be "strongly quantificational" in the sense of Horn (2001). She proposes that examples like (83) are infelicitous because the subject is only weakly quantificational (Green 2014: 131, ex. 28).

(83) #Didn't some of the students show up.

Note, however, that NAI subjects do not need to be strongly quantificational. Consider (84), from Foreman (1999: 7, ex. (7a–b)).

(84) Didn't many people live there then.

In (84), the subject is *many people*, which is only weakly quantificational (see Green 2014: 130). This means (as noted by Myler 2015: 748, fn. 3; see also Matyiku 2017: 295–296), that Green's appeal to strong quantification does not appear to account for the possibility of *many* X subjects in NAI.

10. Conclusion

In this article we have discussed three properties of the NAI construction found in some varieties of American English: (a) scope freezing, (b) the inability to occur with definite subjects, and (c) the lack of double negation reading with negative indefinite subjects. We have shown how all three of these properties can be accounted for in terms of an analysis where a negated quantifier phrase (e.g., [not [everybody]]) occupies subject position in the NAI construction.

(85) NAI Subject Condition (NAISC, repeated from (19)):
In NAI, the subject is negative.

In NAI, NEG raises from the subject to cliticize to Fin, the head of a left peripheral functional projection.

Our analysis uses several key assumptions of CP2014, and therefore provides indirect support for their theory. Most important, we assume that quantifier phrases can be modified by negation, as in phrases like [$_{\text{DP}}$ not [$_{\text{DP}}$ every student]] (see Collins 2017 for discussion). Our analysis also provides strong support for the CP2014 analysis of one class of NPIs as unary NEG structures of the form [[NEG SOME] NP]. In this way, our results converge with the conclusions drawn by CP2014 on the basis of Horn clauses:

(86) I don't think that ever before have the media played such a major role in a kidnapping.

CP2014 (Chapter 13) note that in examples like (86) the NPI *ever before* triggers Negative Inversion in the embedded clause (an operation distinct from the NAI

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discussed in this paper). CP2014 account for this by analyzing such NPIs as unary NEG structures of the form [[NEG_1 SOME] ever before], where NEG_1 raises to the matrix clause. The structure of (86) is given in (87).

(87) I do NEG_1 think that [[<NEG_1> ever before] have the media played such a major role.

In this structure, NEG_1 raises from the embedded clause to the matrix clause. Since *ever before* is a negated quantifier phrase, it triggers Negative Inversion as other negated quantifier phrases do. Both Horn clauses and NAI show that some NPIs must be analyzed as unary NEG structures.

In addition, under the proposal put forth here, the fact that negative indefinites can be the subject of NAI NC constructions provides support for Blanchette's (2015) analysis of NC in English as involving copy raising of NEG.

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Appendix: Survey Items

Condition 1: Overtly Negative Subjects

Context 1: The students had only five minutes to eat before leaving for school.

Item 1: Didn't nobody finish their food at breakfast.

Context 2: The math homework was hard, and all the boys had trouble.

Item 2: Couldn't no boys finish their homework last night.

Context 3: All the soccer players caught the flu and were sick in bed.

Item 3: Wouldn't no players go to the game that weekend.

Condition 2: NPI Subjects

Context 4: She had some problems, but the little girl finally learned how to ride her new bike.

Item 4: Didn't anything stand in that girl's way.

Context 5: All the men in that city were struggling to find work.

Item 5: Couldn't any man find a job in that city.

Context 6: The teens all wanted to vote, but they were too young.

Item 6: Wouldn't any teens vote in the election on Tuesday.

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Condition 3: Many X Subjects

Context 7: The trendy restaurant was always empty, even on Friday nights.

Item 7: Didn't many people like the food in that restaurant.

Context 8: Marcy had mostly family members at her dinner party on Saturday.

Item 8: Couldn't many friends come to her house that night.

Context 9: Bob and Linda decided to get their shopping done after work yesterday.

Item 9: Wouldn't many shoppers be at the mall that late.

Condition 4: Few X Subjects

Context 10: The famous baseball stadium was around for decades.

Item 10: Didn't few fans watch baseball games at that stadium.

Context 11: Jen thought she was one of the league's best goalkeepers, but she was wrong.

Item 11: Couldn't few goalies block a shot like Jen.

Context 12: The cook made the vegetables taste delicious so the kids would eat them.

Item 12: Wouldn't few kids eat their vegetables at lunch.

Condition 5: Every X Subjects

Context 13: Most people had time to spare, but some arrived late to the airport.

Item 13: Didn't everybody make the flight on time.

Context 14: Last week's math test was hard, and a few students failed.

Item 14: Couldn't every student pass the test on Friday.

Context 15: It was supposed to be too hot for some runners to finish the race.

Item 15: Wouldn't every runner cross the finish line at the end.

Condition 6: Some X Subjects

Context 16: The chefs had to stop cooking in order to put out a grease fire.

Item 16: Didn't some customers get their food on time.

Context 17: A handful of teachers got stuck in a huge traffic jam on the way to school.

Item 17: Couldn't some teachers get to class on time.

Context 18: The student drivers knew they might have to take their test several times.

Item 18: Wouldn't some students pass the test on the first try.

Condition 7: Proper Name Subjects

Context 19: The homework tutor waited all afternoon for Lee to show up.

Item 19: Didn't Lee need help with his homework today.

Context 20: Ray had to stay home instead of traveling with the team last weekend.

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Item 20: Couldn't Ray play in the basketball game on Saturday night.

Context 21: The math problem was hard, and Jon was really struggling.

Item 21: Wouldn't Jon finish his math homework on time.

Condition 8: Definite DP Subjects

Context 22: The soccer players tried hard to win the game, but it ended in a tie.

Item 22: Didn't the team win the game against their rival.

Context 23: The overnight train was noisy and the seats were uncomfortable.

Item 23: Couldn't the passengers sleep on the train overnight.

Context 24: The mine was shutting down in May and people were worried.

Item 24: Wouldn't the miners find work for the summer.

Control Condition: Affirmative Auxiliary

Context 25: It was a beautiful day and everybody wanted to be outside.

Item 25: Did many people go to the park on Sunday afternoon.

Context 26: The kids all wanted dessert after the picnic.

Item 26: Did everybody get an ice cream after lunch.

Context 27: It was hours after quitting time, but the construction job had to be finished.

Item 27: Did some workers stay at the site until dark.

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