On the Subject of Negative Auxiliary Inversion

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Abstract:

This paper 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 receives a declarative interpretation. We propose that NAI subjects are negative DPs, and that the negation raises from the subject DP to cliticize 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 (NPIs) and the representation of negation are discussed.

Keywords: Negative Auxiliary Inversion, negated quantifier phrases, quantifier scope freezing, negative concord, double negation, negative polarity items

1. Introduction

This paper provides a novel theoretical analysis of Negative Auxiliary Inversion (NAI) constructions in varieties of English. 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 receives a declarative interpretation. The following examples illustrate:[1]

(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 were dying like they are now, it seems.'

NAI was first observed in 1968 by Labov and colleagues, in a study of a group of Black and Puerto Rican speakers of New York City English (NYCE). Since then it has also been observed in White Alabama English (WAE; Feagin 1979), West Texas English (WTE; Foreman 1999), African American English (AAE; Sells et al. 1996; Weldon 1994; 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 the following (Foreman 1999:11, exx. (30), (29d) respectively):

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

(3) Everybody didn't go to the party.

a. 'Not everybody went to the party.' ($\neg > \forall$)

b. 'Nobody went to the party.' ($\forall > \neg$)

(4) Didn't everybody finish their homework.

a. 'Not everybody finished their homework.' ($\neg > \forall$)

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 a meaning in which it is not the case that everybody finished (though some may have, see (3a)), or the universal quantifier takes wide scope, and the sentence means that nobody finished. However, in the NAI construction in (4), only the wide scope negation reading is possible. This effect, which we henceforth refer to as "scope freezing" (Collins 2016), suggests that examination of NAI can shed light on the mechanisms underlying negation and quantifier scope ambiguities at the syntax-semantics interface.

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). 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.[2] 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 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. This property pertains to the interpretation of NAI constructions with an overtly negative subject, as in (1). These are also semantically unambiguous, but in a manner distinct from the scope freezing phenomenon illustrated with (4). Because they have two syntactic negations, they should offer two possible interpretations: one in 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. (This is illustrated in examples (52) and (53) in Section 8.1.) 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):[3]

[2] We have found one possible exception to this generalization, which we describe below in fn. 5.

[3] One of our consultants reports that the DN interpretation may be possible under certain circumstances, and if possible it is highly marked. 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.

(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)

Our syntactic account of NAI aims to explain these distinguishing properties of NAI. We employ data from four main sources: (i) *The Audio-Aligned and Parsed Corpus of Appalachian English* (AAPCAppE; Tortora et al., to appear), 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 (e.g., Labov et al. 1968 and Foreman 1990, as cited above); (iii) results from our own informal 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. So our theory should 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 informal survey concerning which kinds of DPs are possible as NAI subjects. In section 4, we present the basic assumption of our analysis: 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. Section 9 is the conclusion.

2. Background: Collins and Postal (2014)

Collins and Postal 2014 (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:

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

The analysis in CP2014 requires the following spell out rules for SOME:

(11) The 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) The NEG Mapping

a. NEG → *no* in the context [$_D$ __ [$_D$ <SOME>]]

b. NEG → *not*, otherwise

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

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

(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, expresssions 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.

3. An Informal Survey of NAI Subject Acceptability

We conducted an informal survey to confirm and provide quantitative support for existing claims about possible and impossible NAI subjects. Participants were recruited by native Appalachian English speaking colleagues as well as through Facebook postings. Our survey consisted of NAI sentences with eight different subject types: negative, NPIs (negative polarity items), *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).

Participants were asked to judge each sentence on a scale of 1 to 5 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 illustrates two critical items and one control.

(14) Negative subject

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

Didn't nobody finish their food at breakfast.

(15) *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.

(16) Affirmative auxiliary (control)

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

Did many people go to the park on Sunday afternoon.

We included three items for each subject condition and the controls, totaling 27 survey items. After completing the survey, participants answered questions about their language background, including their use of and familiarity with NAI.

A total of 86 people participated in our survey. 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 in section 8.2) was below 2.5, and those who reported they neither used nor had familiarity with the construction. This left us with 23 participants. Of these participants, one reported to being from the Appalachian Mountains, and 14 reported to 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 to speaking varieties of AAE. The geographic diversity of our participant group is consistent with the *Yale 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 & McCoy 2015).[4]

Figure 1 illustrates mean scores for subject type across conditions:

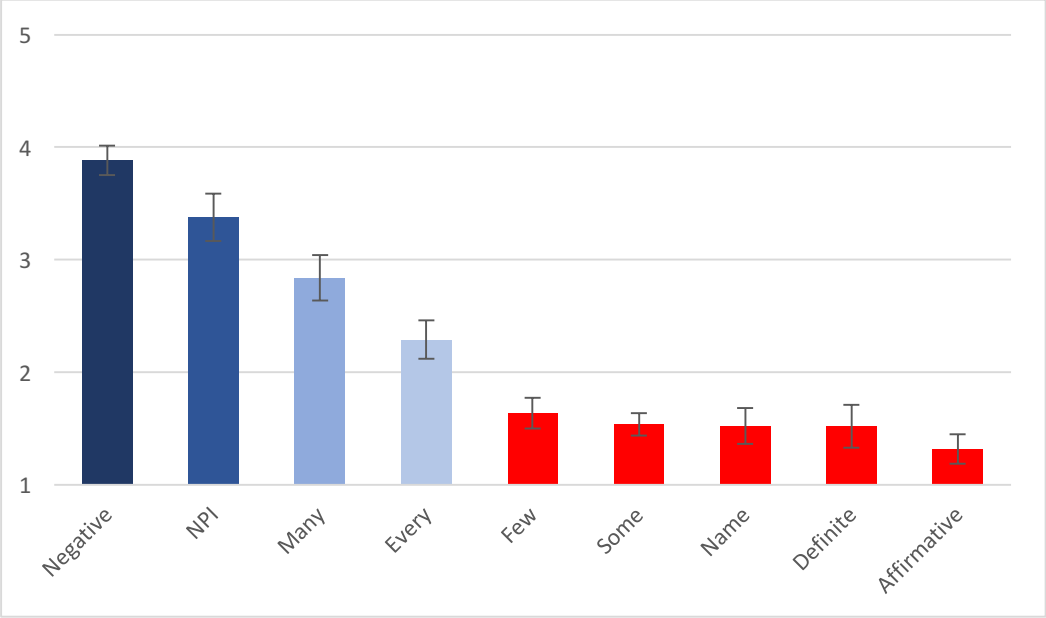


Figure 1. NAI subject type and affirmative control mean acceptability scores

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.[5] A series of paired samples t-tests

[4] 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').

[5] A consultant notes that the following sentence is possible (see also Green 2014: 130):

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.[6] 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 ($t(22) = -4.73$, $p < .001$). These results contribute quantitative support to observations from the previous literature. In addition, they provide negative evidence (that is, sentences judged as unacceptable) to complement the absence of unacceptable sentence types in the corpus data.

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

The same consultant notes that the equivalent with *not* is equally acceptable:

(ii) Not but a few people showed up.

However, the following minimal pair from the same consultant may be problematic for our account:

(iii) Didn't but John show up.
(iv) *Not but John showed up.

Nevalainen (1999) presents evidence indicating that negative exclusive 'not but' was possible in Early and Late Modern English. The possibility of (i), (ii), and (iii) could therefore be related to the historical availability of negative exclusives. However, this does not explain the contrast in (iii) and (iv), which our account does not predict. We set these data and the question of negative exclusives aside as a matter for future research.

[6] 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 both frequency effects (see Figure 2 below) and the effects of lexical choices for the survey items. For example, one of our consultants reports that the form *ever* may be used for *every* in NAI, and rates the following sentence at a 5/5:

(i) Didn't ever student show up.

Therefore, our use of *every* in the survey items may have degraded their acceptability. In addition, the written format of the survey may have decreased overall acceptability. Several participants reported that although they were familiar with the construction, they found it unusual to see it in written form.

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:

(17) 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, (17) 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.

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

(18) 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:

(19) [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). Note that *many people*, which is modified by NEG in (19), is a generalized quantifier of type <<e,t>,t>, hence a predicate.

An immediate consequence of this analysis is that proper names, definite descriptions, pronouns and demonstrative phrases should not appear as NAI subjects. Consider the following example from our survey, and the proposed structure for its subject:[7]

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

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

The semantics in (13) 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 (21) 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 cliticizes to Fin, not Force, in the left periphery. The reason for this is that it is possible to have embedded NAI constructions:

[7] See also Foreman (1999) and Green (2014) on the unacceptability of proper names in NAI subject position.

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

'She said that no member would go with her.'

(23) 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.'

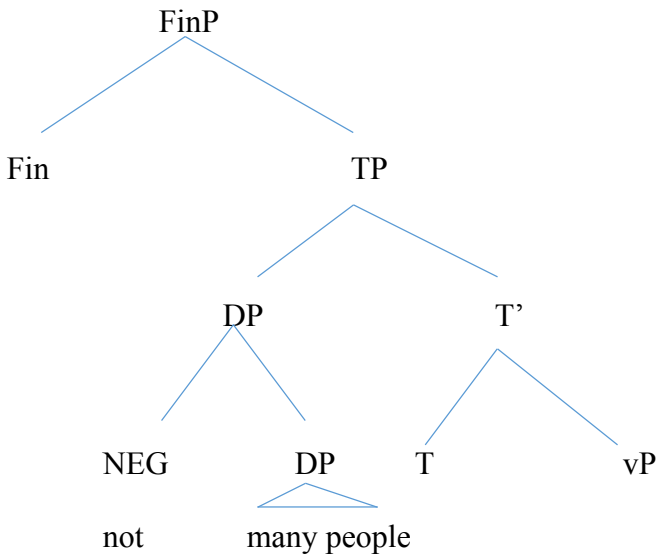
(24) I know a way that can't nobody start a fight. (NYCE, Labov et al. 1968:286, ex. 370)

'I know a way in which no one can start a fight.'

Assuming that *that* occupies Force, it must be the case that the inverted auxiliary is lower than Force. (See Green (2014: 136) a similar conclusion.)

As discussed above, we further assume that the negation is introduced within the subject DP. We assume that in this case that negation is adjoined to the DP [$_{DP}$ not [$_{DP}$ many people]]. The following diagram illustrates the underlying structure (before NEG raising), assuming subject raising to Spec TP (from Spec vP):

(25) Didn't many people watch the game.

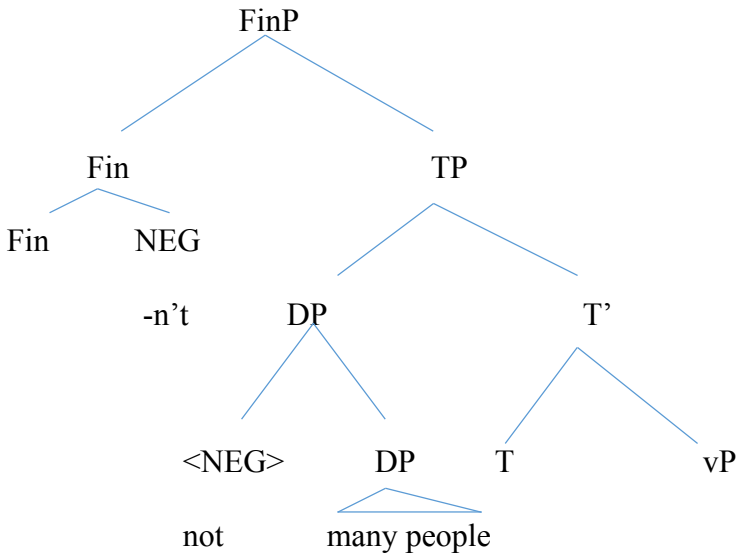


At this point, NEG may raise, or stay in-situ. If NEG stays in-situ modifying DP, then one gets the negated quantifier phrase construction, which is also acceptable for speakers of the dialects under discussion:[8]

(26) Not many people showed up.

Suppose instead that NEG raises away from the subject DP in (25). There are two possible landing sites: NEG cliticizes to Fin, or NEG raises to the specifier of some functional projection between Fin and the subject. First, consider the possibility that NEG cliticizes to Fin.

(27)



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

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 (27). We propose that, though all varieties have the same options for NEG cliticization, including NEG cliticization to Fin, English varieties with and without NAI are distinguished by the following parameter:

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

b. Non-NAI variety: NEG cliticization 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 cliticized to Fin, and there were no do-support or T-to-C, the cliticized negation would be without a host, which is presumably ungrammatical.

The motivation for (28) is that the presence or absence of T-to-C varies cross-linguistically. Some languages have it (English), and some do not (Ewe). What (28) 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 & Christian 1976) and African American English (Green 2002), as in the following example (Wolfram & Christian 1976:129, ex. (17c)):

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

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).[9] 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 (29). 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 (cf. Parrott 2000: 417–418, exx. (12a–d)):[10]

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[9] Below is Ingham's (2005:174) example (4) (from (*Vices & 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.'

[10] As a complement to Parrott's 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. The following examples illustrate:

(i) We are not a-going in there no more. (AAPCAppE: SKCTC-DN)
'We're not going in there anymore.'

(ii) I don't know nothing about that. (AAPCAppE; SKCTC-LP)
'I don't know anything about that.'

(iii) Didn't nobody live in there then. (AAPCAppE: DOHP-ASU-WC)

(30) *Did not many people show up to the game. (AAE; AppE[11])

There are two possible analyses for (30). One is that it has the following structure:

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

In this structure, there is no reason for do-support to take place since NEG has not raised to Fin. Recall that we proposed that T-to-C is triggered by the cliticization of NEG to Fin. So the result is ungrammatical.

Another possible structure of (30) is that NEG has undergone raising, but not as a clitic. Since NEG in (30) is not a clitic, it would have to raise to the specifier of some projection. Collins and Postal 2014 claim that when NEG raises it raises to the specifier of NMP (NEG Merge Phrase). We suggest that there is no NMP intervening between Fin and TP in (30).

The fact that there is no NMP between Fin and Spec TP in (30) might be related to the fact that nothing in general can intervene between an inverted auxiliary and the subject:

'Nobody lived in there then.'

(iv) Nobody didn't touch that but her. (AAPCAppE: SKCTC-FM)
'Nobody touched that except her.'

While *not* and *n't* appear interchangeably in the corpus data in object examples like (i) and (ii), only *n't* occurs with NAI (iii) and Subject NC (iv).

[11] An AppE speaking consultant of ours confirms that (30) is unacceptable.

(32) a. Honestly, John is not friendly.

b. At the movies, we didn't see Mary.

(33) a. *Is honestly John not friendly?

b. *Didn't at the movies we see Mary?

Now let us return to the NAISC, repeated below:

(34) NAI Subject Condition

In NAI, the subject is negative.

As it turns out, there is no reason to stipulate this condition. Consider the following survey item, which our participants reliably judged unacceptable:

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

Under our analysis, the sentence in (35) is ruled out because there is no motivation for do-support in Fin (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. An AppE speaking consultant confirms that in (36), the negation must take wide scope

over *many* (cf. Foreman 1999:11, ex. (29a); see also Blanchette 2015:110 for similar judgments from AppE speakers):[12]

(36) Didn't many people watch the game. (WTE; AppE)

'Not many people watched the game.' (¬ > many) (*many > ¬)

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

(37) Not many people are there.

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

(38) It is not the case that many people are there. (¬ > many)

(=Few people are there.)

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

[12] Our AppE consultant gives the following paraphrases for (36):

(i) Not a lot of people watched the game.
(ii) Only a few people watched the game.

They further state that the interpretation in (iii) is possible, but the interpretation in (iv) is not, confirming the unavailability of the narrow scope negation reading:

(iii) Not many people watched (but some did).
(iv) *Many people didn't watch (because they were disappointed in the players).

However, in (37) the only possible interpretation is the one in which the negation takes wide scope. We propose that this is the same scope freezing phenomenon that occurs in NAI.

The NAISC and our syntax for NAI serve to explain scope freezing. Consider (40a) below, with the structure in (40b):

(40) 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:

(41) 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 (41a), *many people* undergoes QR and adjoins to TP. In (41b), *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.

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

(42) $[_{FinP}$ 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 following structure results:

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

Since the DP in scope position c-commands NEG, (43) has the interpretation that many people are such that they did not watch the game. We will suggest that a structure such as (42) is not well-formed for syntactic reasons.

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

(44) I didn't see many people.

We assume that the *many* > NEG interpretation has the following LF representation:

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

Given that inverse scope of quantifiers over negation is not in general blocked, nothing blocks the LF representation in (43). We conclude that the representation in (42) is not possible. We suggest that the cliticized NEG can only be the head of a movement chain. Since the cliticized NEG in (42) appears in a trivial chain (no movement is involved), it is ungrammatical.

Additional evidence for this claim is that if the representation in (42) were possible, then we would no longer be able to account for restrictions on NAI subjects, or the impossibility of DN. Under the representation in (42), NEG raising to Fin is no longer necessary, so nothing prohibits the occurrence of a definite phrase in subject position (see (20) and (21)). Furthermore, as we show in Section 8.3, if (42) were possible, then DN should also be possible. 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)):

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

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

In (47), the negation is a sister to SOME, and raises away (cliticizing to Fin). According to (11a), SOME must be spelled out as *any* in this context not as *some*, explaining the unacceptability of (46).

7. NPI Subjects

NAI is possible with subjects that are NPIs (negative polarity items), as shown below:

(48) Dudn't anybody seem to understand… (WAE, Feagin 1979:215, ex. (73))
'Nobody seemed to understand.'

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

'Not a damn thing has changed.'

(50) Ain't anybody here getting no jobs. (AAPCAppE:SKCTC-TH)

'Nobody here is getting any jobs.'

Recall now CP2014's proposal for negative existential quantifiers and the spell-out of *any*, and consider (51). The underlying structure, on the theory of CP2014, would be as in (51a):

(51) a. [Fin [[NEG SOME] body] is here getting no jobs.]

b. [Fin+NEG [[<NEG> SOME] body] is here getting no jobs.]

In (51a), the subject is the negative quantifier DP [[NEG SOME] body]. NEG raises from the subject to adjoin to Fin. When NEG raises, SOME is realized as *any* according to (11). 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 illustrates subject types for tokens with a negative auxiliary appearing first, and immediately preceding a quantificational subject, in the AAPCAppE (Tortora et al., to appear; see fn. 1).[13] It demonstrates that subjects following a negated auxiliary are usually negative indefinites (such as *nobody* or *no student*):

[13] This table includes prototypical NAI constructions like the examples we provide in this paper as well as those classified by Labov et al. (1968) as "existentials", as in the following example:

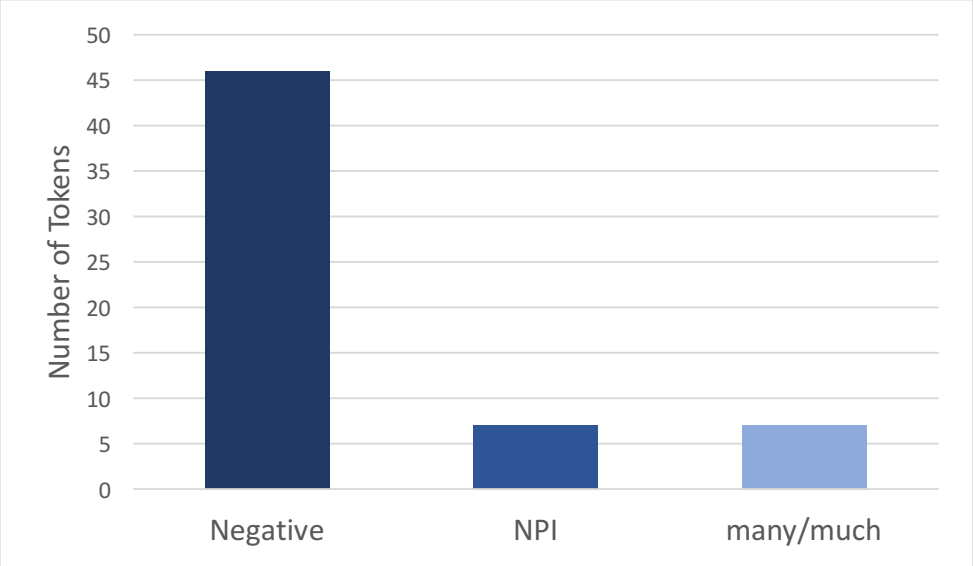

Figure 2. AAPCAppE negative (n=46), NPI (n=7), and *many* (n=7) subject type frequencies in negated auxiliary first constructions

When the subject of NAI is a negative indefinite, it represents a type of negative concord (NC) sentence.[14] In order to account for NAI NC constructions, we therefore also need a theory of NC. We adopt the theory in Blanchette (2015), which extends CP2014 to English NC.

8.1 Blanchette (2015)

(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.'

[14] The 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.'

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

(52) I didn't see nobody. (AAE, AppE, NYCE, WAE, WTE)[15]
'I saw nobody.'

In example (52), 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:

(53) 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.

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 (52) and (53), Blanchette (2015) proposes to extend the model in CP2014. Under her proposal, these would be analyzed roughly as follows:

(54) NC ('I saw nobody')

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

I did NEG_1 see [NEG_1 <some> body]

(55) 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 (54), the NEG raises from the quantifier 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 spell out, and the lower negation is resumptive. In accordance with CP2014's *SOME*/*any* mapping rule (13), when the lower occurrence of NEG spells out, SOME remains unpronounced. A similar proposal by Collins, Postal and Yevudey (2017) accounts for NC constructions in Ewe (see also Collins and Postal 2017 on Serbo-Croatian).

For the DN structure in (55), 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 spells out, SOME is silent and the phrase is realized as *nobody* as required by the rules in (11).

8.2 The Syntax of NAI NC Constructions

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

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

'Nobody watched the game.'

Example (56) is both NAI and NC, in that the two occurrences of negations on the auxiliary and the subject represent a single semantic negation. Following Blanchette (2015), we assume that both negations in (56) 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:

(57) $[_{FinP}$ did+NEG_1 $[_{TP}$ [[NEG_1 <some>] body] ~~did~~ $[_{vP}$…]]]]

Under this analysis, NC NAI constructions and NAI constructions with NPI subjects in (48-50) are syntactically parallel. This is a desirable result, since they are also 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 the following example (52/53) repeated)) has both an NC and a DN interpretation:

(58) 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 (58), 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 (58) with the NAI construction in (56), repeated here:

(59) 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 (58), example (59) 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 negative indefinite objects, they are incompatible with DN interpretations (p.c. from Lisa Green, Greg Johnson, and Paul Reed).[16]

Under our NAI syntax, one way for (59) to give rise to a double negation reading would be for *some* to be doubly negated (where NEG_1 the cliticizes to Fin), as follows:

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

In (60), 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, (60) is ruled out by the *NEG NEG constraint in Collins 2016 ((61) will have to be changed to allow for reversals in the sense of CP2014):

[16] We set aside possible cases of contrastive negation; see fn. 3.

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

This constraint is used to rule out the sentences in (62b,d).

(62) 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.

The fact that NAI and DN are incompatible thus 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 (59) 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 following unacceptable NAI sentence from our survey is also relevant to the incompatibility of NAI and DN interpretations:

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

It may be possible to extend (61) to the following case:

(64) a. Few people were there.

b. *Not few people were there.

Assume that *few* is really a negative quantifier, where (64a) is paraphrased as follows:

(65) 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 (65), then (63) and (64b) will also be ruled out by the *NEG NEG constraint.

Another possible structure for (59) is the structure in (66) where NEG is externally merged with Fin (without raising from the subject):

(66) $[_{FinP}$ Fin+NEG_1 $[_{TP}$ [[NEG_2 SOME] body] watch the game.]]

Such a structure would also give rise to a DN interpretation, but as pointed out in section 6, the structure in (42) violates the condition that the cliticized NEG head a non-trivial chain (it must have been raised from a lower position).

9. Conclusion

In this paper we have discussed three properties of the NAI construction found in some varieties of American English: (a) scope freezing, (b) 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:

(67) NAI Subject Condition (NAISC)

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 them. Most importantly, our analysis assumes that quantifier phrases can be modified by negation, as in phrases like [$_{DP}$ not [$_{DP}$ 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:

(68) 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 (68) the NPI *ever before* triggers Negative Inversion in the embedded clause (an operation distinct from the NAI 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. Since *ever before* is a negated quantifier phrase, it triggers Negative Inversion as other negated quantifier phrases do.

The fact that negative indefinites can be the subject of NAI NC constructions provides support for Blanchette's (2015) analysis of negative concord in English as involving copy raising of NEG.

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