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English contracted negation revisited: evidence from varieties of Scots

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ABSTRACT

This article is concerned with the syntactic position of negation and how that connects to negation's morphological realization and semantic and pragmatic effects. We focus on the case of contracted negation in English, which may appear both before and after the grammatical subject, and which has been classically analysed as involving a single syntactic element placed by syntactic rule into distinct linear positions. We will argue that this analysis is incorrect, and that, in fact, there are multiple negations in English which are not related by a syntactic movement rule. We use the rich and complex morphosyntactic and semantico-pragmatic variation in the behavior of negation in varieties of Scots to motivate the argument and to develop a new approach that comes with both empirical and theoretical advantages.[*]

Keywords: Negation, clitic, affix, microcomparative syntax, varieties of English, Scots

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1. INTRODUCTION. Consider the examples of English contracted negation in 1.

(1) a. Jo hasn't left.
b. Hasn't Jo left?

A standard view of the relationship between the pair of examples in 1 is that the pre-subject position of the negation in 1b is related by movement (or some other syntactic rule) to the post-subject position in 1a (e.g. Haegeman 1995, 189). When what seems to be the same item appears in distinct syntactic positions, it may of course be the case that movement is the correct way to understand the alternation. However, we should also consider an alternative analytical possibility: namely, that there are, in fact, two distinct items.

This article will argue for this latter approach to the syntax of negation in English: there can be at least two different positions where (non-constituent) negation is generated, one higher position in the domain of clausal structure where we usually find complementizers, and one lower, associated with tense. There is in fact a substantial literature arguing for multiple possible positions for negation in the clausal spine in other languages. This literature is based on (micro)comparative work, with evidence from, for example, Turkish and Berber (Ouhalla 1990), Korean (Carston & Noh 1996), and especially from varieties of Romance (see in particular Zanuttini 1997 on variation in Italian dialects), where different negative markers—which may additionally carry different semantic import—occupy different clausal positions. In contrast, it is usually assumed that English does not have distinct positions where negation is generated (though see Cormack & Smith 2012, and Holmberg 2015). We will show, however, through new microcomparative evidence from (mainly) varieties of Scots, that the assumption of a single negation that can undergo movement in English is incorrect. When one takes into account microvariation, a picture emerges that places English firmly within the group of languages which have multiple distinct negations. We will argue that this result is a fortunate one, as the classical analysis of contracted negation as involving movement of heads in English raises theoretical problems for how morphology and syntax interrelate, and for how the semantics of negation is to be understood.

The core analytical puzzle is as follows. In addition to the *-n't* form in 1a, many varieties of Scots have an additional form for contracted negation which is written as *-nae*.

(2) Jo hasnae left.

The two contracted negatives share most of their syntactic and semantic properties, with the notable exception that *-nae* cannot 'invert' in questions, as shown by 3.

(3) *Hasnae Jo left?

This difference has been argued to follow from the hypothesis that *-n't* is an affix (following Zwicky & Pullum 1983) while *-nae* is a clitic (Weir 2007). For that analysis, the *-nae* in 2 and the *-n't* in 1a are quite distinct elements, while the instances of *-n't* in 1a and 1b are assumed to be the same. In this article we will introduce new data from Scots, some of it drawn from the Scots Syntax Atlas (Smith et al. 2019), and argue that a more comprehensive look at microvariation across varieties of Scots shows that there is no good empirical support for the proposed affix/clitic distinction between the two forms of contracted negation. Rather, the data are best explained by the existence of a distinct structurally higher position for negation, which *-nae* is incompatible with. That is, on our analysis, the clause-internal *-nae* in 2 and the *-n't* in 1a are indeed realizations of the same syntactic element, despite their different forms, while it is the clause-peripheral *-n't* in 1b which is different syntactically, despite sharing the same form as the negative element in 1a.

If there are two negative positions, we might expect to see different morphological expressions for the two positions, and different semantic interpretations. We show both of these expectations are met, and relate our findings to the growing literature on negative questions in English (Ladd 1981, Romero & Han 2004, Krifka 2015, Romero 2015, Holmberg 2015, Domaneschi et al. 2017, Jamieson 2018) that shows that contracted negation in the high position does not straightforwardly negate the proposition in the question, as would be predicted if it was simply moved from the position of post-subject negation.[1] Furthermore, we see that some of the specialized morphological forms for pre-subject negation map onto specialized meanings.

2. THE SYNTAX OF CONTRACTED NEGATION. Much research in generative grammar on the structure of the clause in English has converged on the view that sentential negation in this language—whether in the form of unreduced *not* or contracted *-n't*—is associated with a position in phrase structure that is hierarchically superior to the base position of all auxiliaries but is below the position of Tense. Within Minimalist approaches, a reasonable starting assumption about the contracted vs. non-contracted forms is to posit that they respectively occupy the head and specifier positions of a NegP just below Tense in the clausal spine.

(4) Tree 1 goes here

Contracted negation can also appear higher in the clause, in negative questions like 1a and negative imperatives like 5:

(5) Don't you dare talk to me like that!

Given the mechanism of movement assumed in such approaches, an obvious analysis is that the high position of the contracted negation is parasitic on movement of the auxiliary.

If English contracted negation is an affix, as argued in Zwicky & Pullum (1983), then it is straightforwardly predicted that it will travel with the auxiliary to which it is affixed.

Extending this view of how to derive the high position of contracted negation in English to Scots poses an interesting analytical question: if *-nae* is *-n't*, why does only the latter move with the auxiliary in questions? The subject-auxiliary inversion rule ought to be blind to the auxiliary's form. One route we could take could be to pursue an analysis where *-n't* and *-nae* are different syntactic elements. In this section, however, we show that they pattern together syntactically in numerous ways, and in doing so we make the case for giving them a unified syntactic analysis.

We call *-nae* a 'contracted' form of negation because *-nae*, like *-n't*, forms a prosodic word with the preceding finite auxiliary, as evidenced by the fact that they cannot be separated by an adverb or any other such material (see 9 below for more examples).

(6) a. *She has {really / in all likelihood} nae left yet.
b. *She has {really / in all likelihood} n't left yet.
c. She has {really / in all likelihood} not left yet.

Like *-n't*, *-nae* alternates with a full, uncontracted form of negation which follows the finite auxiliary and which occurs when the auxiliary is contracted onto the subject or raised past the subject. In the case of Scots, the uncontracted form of negation is *no*; thus 7 is in variation with *She hasnae left yet*.

(7) She's no left yet.

Variation in the properties of *-nae* itself will play an important role in our argumentation, although some points of variation will be more important than others.[2]

There is some degree of variation from one dialect to another in whether *-nae* is used at all. A clear empirical picture of the dialectal distribution of *-nae* can be gained from the Scots Syntax Atlas, which provides maps that show where *-nae* is accepted. These maps are based on acceptability judgment data gathered by in-person interviews conducted by community-insider fieldworkers in 140 locations across Scotland, with data from four people in each location (two 18-25, two 65+). Speakers gave scores on a 1-5 Likert scale rating the acceptability of sentences containing Scots dialect features, with 1 being completely unacceptable and 5 fully acceptable. In addition, the judgment interviews were supplemented by sociolinguistic interviews which were transcribed and sound-to-text aligned.[3] Figure 1 gives a map for the example *I havenae been there*, where dark spots pick out locations where it was given a score of 4 or 5 by two or more participants in this location, which we take to provide a reliable approximation of where the sentence is generally accepted (see also Thoms et al.

2019). Therefore, when we discuss varieties of Scots which have *-nae*, we are referring to these darker shaded areas. Note that this specifically excludes the West Highlands, including all the islands off the west coast, where there is a concentration of white dots, indicating that *-nae* is not a feature of these varieties. These were historically Scottish Gaelic-speaking areas, and thus do not have many of the forms associated with so-called 'Lowland Scots' (see e.g. Johnston 2007).

[Figure 1 about here.]

All speakers of Scots varieties that use *-nae* also use *-n't*, and the variation between the two forms is sociolinguistically conditioned (see e.g. Smith et al. 2013). Syntactically, *-n't* and *-nae* in these varieties behave alike. They both have exactly the same distribution in declarative sentences: both are possible when attached to finite auxiliaries, 8 (see Table 2 in section 3 for more details) and almost always impossible on any other host; they cannot be separated from the finite auxiliary (see 6 above); cannot be stressed, 9a; cannot be stranded by subject-verb inversion, 9b, and cannot occur in nonfinite contexts of any kind, whether or not they attach to the preceding element, 9c-9f.

(8) a. They {shouldn't / shouldnae} leave.
b. They {couldn't / couldnae} leave.
c. They {haven't / havenae} left.
d. They {aren't / arenae} leaving.

(9) a. *You {shouldN'T / shouldNAE} reply.
b. *Are you {-n't / nae} coming?
c. *You should {haven't / havenae} bothered to reply.
d. *We {expectedn't /expectnae} to like it.
e. *We expected {ton't / tonae} like it.
f. *We seem to {haven't / havenae} been given the right information.

Both do occur in one particular nonfinite context, namely in negative imperatives when attached to *do*.[4]

(10) a. Don't go!
b. Dinnae go!

(11) a. Don't everybody leave just yet!
b. Dinnae everybody leave just yet!

(12) a. Everybody don't leave just yet!

b. Everybody dinnae leave just yet!

Cases like 11b are particularly significant: if they are derived by inversion of *dinnae* with the subject, then they constitute a counterexample to the claim that *-nae* never inverts. We will return to this issue in section 3.3 and then in more detail in section 4 (see also Weir 2013).

The *-n't* and *-nae* elements also interact with other scope-taking operators in the same way. Both may scope below various subject quantifiers, such as universals with *every* or indefinites with *a*, and both may scope above them too (in the right contexts).

(13) a. Everybody {hasn't / hasnae} arrived yet. $\neg > \forall$

b. Everybody {isn't / isnae} happy now. $\forall > \neg$

(14) a. A Scottish team {hasn't / hasnae} qualified this year. $\neg > \exists$

b. A member of this team {isn't / isnae} happy. $\exists > \neg$

Their interaction with modals is also identical. 15 shows that they both scope above *can* but below *should* and *must*. As for epistemic modals, 16 shows that both combine with *can* to give rise to an epistemic interpretation (which is unavailable with non-negated *can*; see Ramchand 2018), while 17 shows that both scope below *must* in its epistemic use.[5]

(15) a. They {can't / cannae} leave. $\neg >$can

b. They {shouldn't / shouldnae} leave. should$> \neg$

c. They {mustn't / mustnae} leave. must$> \neg$

(16) There {can't / cannae} have been much snow last night. $\neg >$can (epistemic)

(17) It {mustn't / mustnae} have occurred to them. must$> \neg$ (epistemic)

18-19 shows that the two contracted negatives pattern alike in both resisting attachment to modal *better* and, for many Scots speakers, to *might*.[6]

(18) *?They {mightn't / mightnae} have left.

(19) *They {bettern't / betternae} have left.

These judgments on *might* and *better* are those of speakers from Scotland who command both the Scots-specific negations and the standard ones. We note that *mightn't* and *bettern't* are acceptable in some varieties of English (*mightn't* more so; on *bettern't*, see Denison 1999: 320 and Hudson 2000: 299), but they seem to be quite consistently rejected in favour of structures using uncontracted negation in Scotland. It is perhaps related that inversions with

these elements, as in *Might we leave?*, are perceived to be extremely high register by most Scots speakers, and are rejected outright by many. The key point here is that *-nae* and *-n't* seem to pattern together with respect to this fact. The data so far, then, suggest an analysis where *-n't* and *-nae* are two distinct realizations of the same syntactic element.

Although our focus in this article is on the contracted negations, we will briefly lay out some facts about the non-contracted Scots form for context. Broadly, where a contracted form is impossible, a non-contracted, independent sentential negative marker can be used as an alternative. As mentioned above, this is typically written *no*. The unacceptable cases with *-nae* discussed above are acceptable when this alternative form is used.

(20) a. Are you {not / no} coming?
b. You should {NOT / NO} reply.
c. You should really {not / no} reply.
d. You should have {not / no} bothered to reply.
e. We expected {not / no} to like it.
f. We expected to {not / no} like it.
g. We seem to have {not / no} been given the right information.

(21) a. They better {not / no} have left.
b. They might {not / no} have left.

Although we do not have survey data on *no* specifically, the Scots Syntax Atlas corpus allows us to see that *no* is used widely across Scots varieties, across the generations, and hardly at all in the Western Isles region where *-nae* is rarely produced or accepted.

The Scots-specific sentential negative *no* is used in a wide range of other contexts where *not* is used: as an uncontracted sentential negative (in particular where the auxiliary is contracted, 22a), an adnominal negative 22b, in negative fragment answers 22c, and in coordination with *whether* 22d.

(22) a. He's {not / no} there.
b. {Not / no} everybody will like this.
c. (Who's going to be there?) {Not / no} Kim, that's for sure.
d. It doesn't matter whether or {not / no} it rains.

Non-contracted negatives clearly take sentential scope, just like contracted ones, as shown by the fact that they behave similarly under the tests in Klima (1964) for sentential scope, such as *so/neither* conjunction.

(23) a. That book has {not / no} been selling well, and neither has this one.
b. *That book has {not / no} been selling well, and so has this one.

(24) a. That book {hasn't / hasnae} been selling well, and neither has this one.
b. *That book {hasn't / hasnae} been selling well, and so has this one.

One difference between *not* and *no* that we are aware of is that *no* seems to be ruled out in sentences with *do*-support, as examples such as 25-28 show.[7] (Such examples are of course possible with the contracted negative forms, e.g. *doesnae* in 25a.) These contrast with cases with other auxiliaries, such as *have* and *be*, where uncontracted and unstressed *no* is possible; see 29-30.[8]

(25) a. *That book does no sell well.
b. That book does not sell well.

(26) a. *I dae/do no like green eggs and ham.
b. I do not like green eggs and ham.

(27) a. *You did no make that clear.
b. You did not make that clear.

(28) a. *Dae/do no hesitate to get in touch.
b. Do not hesitate to get in touch.

(29) The weans have {not / no} visited in ages.

(30) The weans are {not / no} interested.

We will not offer an analysis of the difference between *no* and *not* in such examples, partly because our focus here is on contracted negation, but also because that difference opens up new questions about whether constituent negation is involved in uncontracted forms, given known interactions between constituent negation and *do*-support (see Embick & Noyer 2001: 585-590 for some discussion). Here, we will argue that it is possible to treat Scots *no* as an allomorph of the same category that *-nae* expresses, leaving the analysis of the difference behaviour of *not* in *do*-support contexts for another occasion.

3. CONTRACTED NEGATION: CLITIC OR AFFIX?. Given that *-n't* and *-nae* are scopally and distributionally so similar, the fundamental analytical question is how to understand their different behaviour in subject auxiliary inversion contexts. One approach would be to take them to be distinct forms of negation with distinct morphological properties such that *-n't* is

able to be inverted along with the auxiliary over the subject, while *-nae* is not. One particular execution of this idea, sketched out by Weir (2007), is that *-n't* is affixal, so that it is carried along with whatever operation affects the finite auxiliary, while *-nae* is a clitic, that is, an element that is syntactically separate from the finite auxiliary, but is phonologically integrated with it. Because *-nae* is syntactically separate from the auxiliary, the syntactic operation that inverts the subject and the auxiliary does not have *-nae* in its scope, capturing the different, though similar, behaviour of *-n't* and *-nae*.

Zwicky & Pullum (1983) set out six criteria that distinguish the behaviour of affixes from that of clitics, and argue that application of their criteria lead to an analysis of *-n't* in English as an affix. The criteria are as follows:

A. Clitics can exhibit a low degree of selection with respect to their hosts, while affixes exhibit a high degree of selection with respect to their stems

B. Arbitrary gaps in the set of combinations are more characteristic of affixed words than of clitic groups

C. Morphophonological idiosyncrasies are more characteristic of affixed words than of clitic groups

D. Semantic idiosyncrasies are more characteristic of affixed words than of clitic groups

E. Syntactic rules can affect affixed words, but cannot affect clitic groups

F. Clitics can attach to material already containing clitics, but affixes cannot

These criteria are based on the intuition that affixes are a more integral part of what they are adjacent to than clitics are, so the combination of host and affix is more likely to be irregular (criteria B, C and D), is more selective (criteria A and F), and undergoes distinct syntactic rules (criterion E).

Given criterion E, and the distinct behaviour of *-n't* and *-nae* under inversion, the idea that the core difference between them is that *-n't* is an affix while *-nae* is a clitic is plausible. It's worth, then, considering whether the remainder of Zwicky and Pullum's criteria lead to the same conclusion.[9] Although there is some initial plausibility to this approach, a closer examination through a microcomparative lens does not lead to an analysis that distinguishes these morphemes in that way. Our discussion, in fact, will reveal interesting complexities that cast doubt on an approach relying on the clitic/affix distinction, and will lead us to our own proposal that *-n't* and *-nae* are partially overlapping realizations of two syntactically distinct negations in clause structure, one hierarchically superior to the canonical position of the subject, the other below it.

3.1. IRREGULARITY: CRITERIA B, C AND D. We begin with the criteria that revolve around various kinds of irregularity. One of the key claims in Zwicky and Pullum is that irregularity in a bound morpheme's attachment is an indication that it is an affix and not a clitic. Criteria B and C concern morphophonological irregularities, assuming that arbitrary gaps are simply due to the absence of a given phonological form in the paradigm (an unfilled paradigm cell). Criterion D concerns semantic idiosyncrasy: some combinations of affixes with stems give rise to non-compositional meanings which must be stored idiosyncratically, while this is not seen with combinations of clitics and their hosts.

Let us first discuss Criterion D. Zwicky and Pullum do not provide compelling examples from English for this,[10] but they state that 'richer inflectional systems have greater possibilities of developing specialized uses of inflected forms (p. 505).' However, even in such languages, relevant cases of non-compositionality are hard to find. Stump (1998) provides a case from Breton where a secondary plural inflection may have a meaning associated with differentiability of individuals within a group for some nouns, but has an attitudinal meaning for others. Such cases are, however, as Stump notes, vanishingly rare.

Criterion D seems very weak to us: the paucity of cases of idiosyncratic inflectional affixes in the first place means that instances where we do see idiosyncracy may well be examples where apparent inflection has been reanalysed as a new uninflected word (as in Zwicky and Pullum's example of *last*). Further, there are cases where items which are uncontroversially clitics have idiomatic meanings. Russi (2011) provides a number of cases from Italian where a verb occurring with a particular clitic takes on an idiomatic meaning.

(31) Me la fai sempre.
1S 3S.F do.PRES.2S always
'You always trick me.'

Here the verb *fare*, 'do/make' when combined with the third person singular feminine clitic *la*, has the idiomatic meaning 'trick or deceive'. Russi provides ten other verbs which work in a similar way, and argues that the clitics cannot be understood as affixes (an analysis precluded by Zwicky and Pullum in any event, given their syntactic separability).

Turning to *-n't*, Zwicky and Pullum suggest that we see evidence of lexical idiosyncrasy with combinations of modal verbs and *-n't*, since they result in seemingly idiosyncratic scope patterns: some modals such as *can* scope below negation and others such as *must* scope above it. We might then infer that *-n't* is an affix. However, Homer (2011), Iatridou & Sichel (2011) and Iatridou & Zeijlstra (2013) show that the differences between modals in how they interact scopally with negation can be understood as the reflex of a more general interaction between the modals and downward entailing operators, according to which some modals are specified as NPIs and others as PPIs (see also Jeretič 2021). One relevant observation from Iatridou

& Sichel (2011) is that the negation contributed by negative DP subjects interacts with the modals in the same way as negation contributed by *-n't*: it scopes below *must*, but above *can*.

(32) a. No one must leave. *must*> ¬

b. No one can leave. ¬ >*can*

This means that the (apparent) arbitrariness lies in the lexical specifications of the modals, rather than in the result of the modal combining morphologically with negation. Modal-negation interactions do not, then, provide evidence for the affix analysis of *-n't*. Moreover, we already noted that *-n't* and *-nae* interact with the modals in the same way, suggesting that, if anything, these scope facts lean in favour of a unified account of the two negatives (as also noted by Weir 2007).

Now consider Criteria B and C: arbitrary gaps and morphophonological irregularity (allomorphy). Zwicky and Pullum propose that these are much more characteristic of affix-host combinations than of clitic-host combinations. On the affix side, this is demonstrated by the existence of many irregularities in English past tense verbs, as well as by gaps in the past participle paradigm of verbs such as *stride* (**have strode/stridden*); with respect to clitcization, Zwicky and Pullum give the examples of contracted auxiliaries and possessive *'s*, which have neither the same level of irregularity nor paradigm gaps of the *stride*-type.

Before applying these criteria to negatives, it is worth considering whether they are effective for distinguishing between clitics and affixes. For criterion B, the crucial case is whether clitics can be irregular. We do, in fact, find examples of elements that are usually thought of as clitics, but which have allomorphs that alternate depending on the properties of their host. For example, in European Portuguese, third person feminine accusative enclitics alternate between *as* and *nas* depending on whether the verb they encliticize to is third person plural or not (see Luís & Kaiser 2016, section 3.4.2 for further examples). Another case is Old Irish pro-clitic pronouns. These appear prefixed to the finite verb, preceded by various complementizer, aspectual and other particles. They surface in one set of forms (known as the A-Class) after particles that historically ended in a vowel in Proto-Celtic, in another set (the B-Class) after two particular particles that are syncronically consonant-final, and in the C-Class after relativizing particles (Thurneysen 1975). For example, the feminine singular pronominal object is either *s* (A-Class, followed by nasalization), *ta* (B-class) or *da* (C-Class), depending on the preceding particle. So we find: *no-s-cara*, 'he/she loves her'; *a-ta-cí*, 'he/she sees her'; *do-da-eim*, 'he/she who protects her'. The allomorphy of the clitic here depends on its syntactic and lexical context.

Of course one might say that these Old Irish pronouns are actually affixes, as opposed to clitics, though then some other explanation must be given of why verbal stress, usually initial,

follows the pronoun; why the pronoun is in complementary distribution with overt objects; the unusualness of prefixal object agreement in a Indo-European language, etc. (see Adger 2006 and Newton 2007 for discussion).[11]

On paradigm gaps, the empirical situation is even less supportive of the criteria, given that there are paradigm gaps even at the syntactic level, including classic cases like coordinated possessives in English where, for many speakers, no version is possible if one of the conjuncts is a pronoun (see Zwicky 2008, Parrott 2020 for discussion).

(33) a. ??Gillian and my friend
b. ??Gillian's and my friend
c. ??My and Gillian's friend.

There is also a large literature on paradigm gaps in clitic clusters (a phenomenon often known as the Person Case Constraint, found in a wide range of typologically unrelated languages; see Anagnostopoulou 2017 for review). Like paradigm gaps in general, these are usually 'rescued' by a syntactically distinct paraphrase, as in the following examples from French.

(34) a. *Paul me lui présentera
Paul 1.SG.ACC 3.SG.DAT introduce.FUT.3.SG
'Paul will introduce me to him.'
b. Paul me présentera à lui.
Paul 1.SG.ACC introduce.FUT.3.SG to 3.SG.DAT
'Paul will introduce me to him.'

Such phenomena undermine the plausibility of Criteria B and C as helpful ways of determining the correct analysis of a sequence of morphemes as word plus affix vs. word plus clitic.

Suppose, however, that we temporarily put these qualms aside and accept Zwicky and Pullum's Criteria B and C. What kind of analysis would they lead to for negation? In standard varieties of English, *-n't* would be an affix, since its paradigm has a fairly high proportion of irregular forms, and it has seemingly arbitrary gaps in the *am* cell, known as 'the *amn't* gap' (Hudson 2000, Bresnan 2001), and in the *may* cell. Table 1 from Zwicky and Pullum lays out the relevant data motivating these generalizations.

[Table 1 about here.]

[Table 2 about here.]

Weir (2007) applies Criteria B and C to Scots and argues that *-nae* is more regular than *-n't*; he compares Table 1 with his Table 2 for Scots *-nae*.[12] This comparison shows, for

example, that attaching *-nae* to *will* and *can* produces regular forms *willnae* and *cannae*, and it also yields the form *amnae* when attached to *am*, so it seems there is no *amnae* gap analogous to the *amn't* gap. Weir draws attention to the fact that Table 1 for *-n't* has as many as eight irregular forms across varieties (*ain't*, *won't*, *don't*, *shan't*, *can't*, *mustn't*,[13] *aren't* and *weren't*), while Table 2 for *-nae* has four at most—*dinnae* ('don't'), *di'* (also 'don't', pronounced [de:] in the east-central peninsula of Fife and [də] in the Northeast), *hinnae* ('haven't') and *winnae* ('won't').

However, there is an important problem with how these counts of irregulars are conducted which becomes apparent when we adopt a microcomparative outlook. Table 1 includes forms from many different varieties of English, and no one variety uses all of these forms in natural speech. For example, while *ain't* is used widely in dialectal English, it is not used in Scots, and *shan't* is absent from or highly archaic in most varieties, again including Scots. Moreover, some of the forms are only irregular in certain dialects. Notably, *aren't* and *weren't* as pronounced in Table 1—as monosyllables—are irregular if the regular rule involves addition of a syllabic *-n't*; but there are dialects of Scots in which *-n't* is in fact syllabic in this context and the derived forms are thus entirely regular bisyllabic forms. This conflation of multiple varieties in the inventories of irregulars in these two tables undermines conclusions about a different status for the different morphemes.

The problem becomes particularly clear if we consider contracted negation in specific varieties of Scots. In Dundee Scots, for many speakers there are only three irregular forms in productive use involving *-n't*, namely *don't*, *won't*, and *can't*. *Ain't* and *shan't* are not used (much like the rest of Scotland[14]) *aren't* and *weren't* are regular (i.e. they are bisyllabic), and *mustn't* is reported by speakers as archaic and unlikely to be used in vernacular speech (much like *shan't*).[15] So *-n't* in this variety is significantly more regular than *-n't* in the variety of English represented in Zwicky and Pullum's table. Should we then take it to be a clitic in Dundee Scots, even though its syntactic behaviour is distinct from *-nae*?

Conversely, if we look closely at *-nae*, the (ir)regularity of this element varies substantially depending on the individual variety under consideration. In Glasgow Scots, for example, none of the irregular forms are used: *dinnae* is not used in Glasgow Scots (see further below), and the same is true of *di'* and the other irregular forms. On the other hand, in northeast Scots, there are five irregular forms, none of which invert: in addition to *dinnae*, *hinnae*, a version of *di'* (pronounced [də], sometimes written *daa*) and *winnae*, northeast Scots also has *caa* (pronounced [ka:]), an alternative form of *cannae*. Thus northeast *-nae* is more irregular than Dundee Scots *-n't*. Again, it is hard to draw the conclusion that *-n't* and *-nae* should be distinguished in terms of affix/clitic status on this basis.

As for arbitrary gaps, these also weigh against such an analysis, once we consider

individual varieties in detail. In the case of *am*, there are two relevant observations to make. First, the *amn't* gap is 'plugged' in many Scots varieties: many Scots speakers do in fact accept and produce *amn't* in at least some environments (Hudson 2000, Bresnan 2001, Yang 2017). Second, as noted by Thoms et al. (2023), the corresponding *-nae* form, *amnae*, is somewhat fragile across Scotland, as evidenced by the fact that many speakers rejected it in the Scots Syntax Atlas survey. In fact, scores for *amn't* and *amnae* were quite positively correlated, suggesting that they are susceptible to becoming gaps under the same circumstances (see Thoms et al. 2023 for an account). These correspondences point to a unified treatment of *-n't* and *-nae*.

Another paradigm gap that is revealed by the Scots Syntax Atlas data is what we will call the '*dinnae* gap'. *Dinnae* is the *-nae* form of *do*. It is accepted across most of Scotland, but rejected in two areas: the West Highlands, and Greater Glasgow (which encompasses the city of Glasgow, Dumbartonshire to the west and Lanarkshire to the east). The lack of acceptance in the West Highlands is unsurprising, since speakers in this region reject *-nae* forms quite generally (see Figure 1). The lack of acceptance in Glasgow is, in contrast, quite striking when compared to the rest of the country.

This can be seen in Figure 2, which displays as darker dots locations where a sentence with *dinnae* (*I dinnae like coffee*) was given a score of 4 or 5 by two or more participants. The exceptional status of *dinnae* in Glasgow is made clear if we compare it with its past tense counterpart *didnae*, which is shown in Figure 3 (for *I didnae see you*).

[Figure 2 about here.]

This difference also shows through in the average scores for the areas: the mean score for *dinnae* is 1.8 in Greater Glasgow, and 3.9 in the rest of the country (excluding the West Highlands); the median and mode scores for both Greater Glasgow and the West Highlands are 1, while for the rest of the country the median is 4 and the mode is 5. For *didnae*, the mean, median and mode for the Glasgow area and the rest of the country are the same (3.8, 4 and 5) - again, excluding the West Highlands, where *didnae* received a mean rating of 1.7 (with both median and mode of 1).

The absence of *dinnae* from Glasgow Scots is an arbitrary gap, but *-nae* is fully regular in this variety (aside from the gap). The regularity of *-nae* ought to be motivation to analyse it as a clitic, but the paradigm gap should lead us to characterise it as an affix, undermining Zwicky and Pullum's Criteria B and C, at least for the analysis of Scots negation.

An analysis of *-n't* as an affix following Zwicky and Pulum, and of *-nae* as a clitic following Weir is, then, not supported by application of criteria B or C (or, indeed D). It turns out that we see paradigm gaps and varying levels of irregularity with *-nae*, in much the same way that we see them with *-n't*.

3.2. SELECTIVENESS: CRITERIA A AND F. Clitics are prosodically weak elements which 'lean' onto an adjacent element, and so they ought not to be selective about their host: whichever elements are in the relevant position ought to be possible hosts. Zwicky and Pullum claim that this is the case with clitics like possessive *'s*, which can lean on any final element within a complex possessor (e.g. *the man I was talking to's hat*), and contracted auxiliaries, which can lean onto the subject but also onto preceding verbs when the subject is extracted (e.g. *who do you think's going to win?*). Indeed, the element that a clitic can lean on can be another clitic which is itself leaning on a host, as we see with contracted auxiliaries in sentences such as *I'd've liked that*. Affixes, they claim, are quite different in that they are potentially selective; for instance, the comparative morpheme *-er* only attaches to adjectives, and past tense *-d* only attaches to verbs. Moreover, affixes do not attach to clitics,[16] a fact not classified as selectiveness on Zwicky and Pullum's account but rather as a consequence of affixation occurring in a different module (morphology) which feeds the syntax and hence cliticization.

These criteria build in some assumptions about the relationship between morphology and syntax, specifically that affixation builds morphological structure to which cliticization applies. We show in this section that the facts of Scots negation challenge some of the presuppositions on which these criteria are built, weakening the overall approach of developing an analysis via the criteria.

We already saw in section 2 that *-n't* and *-nae* have almost identical selectional behaviour, both being restricted to attachment to finite auxiliaries. They also typically pattern together with respect to Criterion F, in that they do not attach to clitic auxiliaries. The judgments in 36 reflect the judgments of speakers of most varieties of Scots.

(35) a. *I'dn't be so happy if I were you.
b. *I'dn't wanted to go but he convinced me.

(36) a. *I'dnae be so happy if I were you.
b. *I'dnae wanted to go but he convinced me. e.g. Glasgow Scots

These criteria, then, seem to classify both *-n't* and *-nae* as affixes.

However examples such as 36 are actually acceptable in some Scots varieties.[17] Below are some naturally occurring examples from the Scots Syntax Atlas spoken corpus, gathered from locations in the northeast corner of Scotland. Examples come from both younger (18-25) and older (65+) participants. We found no examples anywhere else in the country, and constructed examples are rejected outright by speakers in the rest of the country (e.g. Glasgow, Edinburgh, the Borders, Fife).

(37) a. I'venae heard of him being round for a filey. Fraserburgh, NE
b. We'venae been told about it either as much. Buckie, NE
c. We'dnae speak in Doric really. Fraserburgh, NE

Criterion F, then, classifies at least the northeastern form of *-nae* as a clitic, rather than an affix. However, a closer look at the behaviour of *-nae* in this variety reveals that matters are more complex.

Criterion A applied to *-nae* in the northeastern varieties appears at first blush to give the same result: this variant of negation is less selective in its attachment possibilities. We see this in cases where the auxiliary (either *do* or *have*) is zero; the relevant data are discussed in detail in Smith (2000b) and given a syntactic analysis in Adger & Smith (2005). Some examples from the Scots Syntax Atlas spoken corpus are given below 38; 38a involves a null *have*, and 38b a null *do*. Like the examples of *-nae* leaning onto contracted auxiliaries, these stranded negations are only found in the northeast.

(38) a. I ∅ nae [anə] been out there for ages.
'I haven't been out there for ages.' Buckie, NE
b. I ∅ nae [anə] think there's going to be a fourth ain.
'I don't think there's going to be a fourth one.' Whitehills, NE

Stranded *-nae* is only possible in contexts in which the form of the auxiliary would always be bare, e.g. with third person plural pronominal subjects, 39a. It does not occur with plural full DPs, 39b (these show variable *-s* agreement in this dialect; see Smith 2000a), or with third person singular contexts, 39c.

(39) a. They ∅ nae [ðenə] seem to bide in the Beacons lang.
'They don't seem to stay in the Beacons for a long time.' (Smith 2000b: 232)
b. *Fowk ∅ nae [fʌuknə] seem to bide in the Beacons lang.
'Folk/people don't seem to stay in the Beacons for a long time.'
c. *He ∅ nae [hinə] seem to bide in the Beacons lang.
'He doesn't seem to stay in the Beacons for a long time.'

There is a further point to note about these cases however. Examples of this sort are only possible with the contracted form of negation; examples where the auxiliary is absent with the local uncontracted form of negation are unacceptable, 40.[18] Forms with *-n't* (which is possible in these varieties, though rare in usage) are similarly impossible, 41.

(40) *I ∅ no [a ne:] mine fa come in.
'I don't remember who came in.'

(41) *I ∅ n't [ant] mine fa come in.

This tells us that the nullness of *do* and *have* in these constructions is dependent upon the presence of the *-nae* morpheme. That is, in these cases we see a low degree of selection, since northeastern contracted negation attaches to both pronouns and auxiliaries, but we also have stem allomorphy of the auxiliary triggered when contracted negation is present.[19] This implies an architecture for the organization of syntax and morphology where syntactic configuration can affect morphological expression, an approach we develop in our own analysis below. Zwicky and Pullum's criteria are, in contrast, based on an architecture where morphology feeds syntax, and this is what leads to the criteria conflicting in cases like northeastern *-nae*.

3.3. FEEDING SYNTACTIC RULES: INVERSION. The motivation behind Criterion E—Syntactic rules can affect affixed words, but cannot affect clitic groups—is that, in groups of clitics, the subunits of the group maintain their syntactic seperateness and so cannot be treated as a unit by syntactic rules, whereas lexical items are units and are hence accessible to such rules. This follows from the architecture that Zwicky and Pullum assume, where affixation takes place in the morphological component, and the output of that component is a single constituent to which syntactic rules can apply.

Zwicky and Pullum give the contrast between inversion of an auxiliary contracted onto another auxiliary and *-n't* contracted to an auxiliary.[20]

(42) a. *Could've you been there?
b. Haven't you been there?

As we have seen, inversion of *-nae* in questions is rejected throughout Scotland. In the Scots Syntax Atlas, sentences such as 43 were given low scores (mean = 2.14, median = 2, mode = 1). This does not seem to be subject to a great degree of regional variation; for instance, the mean score in Glasgow is 2.23, while the score for the northeast is 2.02 (both with median and mode of 1).

(43) Arenae you fed up of moving house?

This contrast between *-n't* and *-nae* thus seems to provide a straightforward argument that they are to be distinguished as affix and clitic respectively.

There is, however, an apparent counterexample to the claim that Scots *-nae* never inverts, namely negative imperatives (Weir 2013). Examples such as 44a are accepted by speakers in most regions of Scotland, and they are broadly similar to examples from standardized varieties of English such as 44b.[21]

(44) a. Dinnae (you) talk rubbish!

b. Don't (you) talk rubbish!

The extent to which these present a problem for the claim that *-nae* is a clitic and not an affix depends on the analysis of negative imperatives.

The correct analysis of standard English examples such as 44b has been the subject of some discussion in the literature. Potsdam (1997) provides a number of arguments for analysing negative imperatives such as 44b as involving subject-auxiliary inversion, with the subject in Spec,TP and the negated auxiliary in some higher C position, as in 45a. He rejects various alternatives where the subject is in a lower position, the negated auxiliary is in T, and the subject is in situ in the *v*P, as in 45b.

(45) a. [$_{CP}$ don't [$_{TP}$ you <don't> [$_{vP}$ <you> talk rubbish]]]
b. [$_{TP}$ don't [$_{vP}$ you talk rubbish]]

If Potsdam's arguments transfer over to the Scots imperatives, then 44a would be analysed as in 45a and would be a counterexample to the claim that Scots *-nae* does not invert.

One of Potsdam's arguments for the inversion analysis of negative imperatives such as 44b comes from the distribution of adverbs such as *simply* and *just*. These adverbs seem to adjoin clause-internally, to a projection below TP; they cannot precede the subject or inverted auxiliaries, indicating that they do not adjoin higher.[22]

(46) a. [$_{TP}$ You {simply/just} don't say that sort of thing]
b. *{Simply/just} [$_{TP}$ you say that sort of thing]
c. [$_{TP}$ You don't {simply/just} say that sort of thing]

(47) a. [$_{CP}$ Couldn't [$_{TP}$ they {simply/just} have become disoriented]]
b. [$_{CP}$ Couldn't [$_{TP}$ they have {simply/just} become disoriented]]
c. *{Simply/just} [$_{CP}$ couldn't they have become disoriented]]

Potsdam points out that when we attach these adverbs to negative imperatives, the only possible position is following the subject. This makes sense if the subject is in Spec,TP, but is hard to reconcile with a low subject position analysis like that in 45b, which would predict 48c to be well-formed.[23]

(48) a. Don't you {simply/just} stand there!
b. *{Simply/just} don't you stand there!
c. *[$_{TP}$ Don't {simply/just} [$_{vP}$ you stand there!]]

The same pattern holds with the Scots imperatives. Judgments are clearest with *just*, but speakers detect the same contrasts with *simply* (with the caveat that there is something of a register clash with *simply*). The examples in 49 are judgments from Fife/Dundee speakers.

(49) a. Dinnae you {simply/just} staun there!
b. * {Simply/just} dinnae you staun there!
c. *Dinnae {simply/just} you staun there! Fife Scots

These facts indicate that *dinnae* imperatives do indeed require that the negated auxiliary, including the *-nae* form, appear in the C position. Any account, then, will need to explain why, in Scots, imperatives are different from questions with respect to possibility of *-nae* occurring in a high position in the left periphery.[24]

3.4. TAKING STOCK. With this richer empirical picture in place, let us return to the analytical options for the syntax of *-n't* and *-nae*, adopting, for the moment, the affix/clitic distinction, where affixal contracted negation would be morphologically part of the finite auxiliary, and where clitic contracted negation would be a distinct syntactic unit.

(50) a. Both of the negatives – *-n't* and *-nae* – are affixes
b. *-nae* is a clitic and *-n't* is an affix
c. Some instantiations of *-nae* are clitics while others are affixes
d. Both of the negatives – *-n't* and *-nae* – are clitics

If we adopt the proposal in 50a, northeastern *-nae*, which attaches outside of cliticized auxiliaries would be a problem, and the impossibility of inversion with *-nae* across Scots would need an explanation that distinguishes it from *-n't*, which can invert. The second option, 50b, is based on the application of Zwicky and Pullum's criteria to Scots, and is proposed by Weir (2007). We have argued that a wider microcomparative database does not support this proposal.

What of the more nuanced version in 50c? This takes northeastern *-nae* to be a clitic but *-nae* elsewhere to be an affix. However, northeastern *-nae* and *-nae* in all other varieties of Scots behave the same way with respect to inversion constructions. If *-nae* outside the northeast is an affix, why isn't it carried along with the auxiliary in inversion contexts? The idea in 50d, that both of the negative forms are clitics, raises the converse question: how can *-n't* invert if it is a clitic?

This outcome suggests that the clitic-affix distinction is not the right theoretical lever for prying open the problem of contracted negation. The differences in inversion between *-n't*

and *-nae* are not down to the former being more integrated with the finite auxiliary and hence being captured by whatever rule inverts the auxiliary.

We will propose instead a unifying analysis of *-n't* and *-nae* as negative elements generated independently of the finite auxiliary and argue that cases in English where the negation appears to have 'inverted' are not, in fact, derived by a syntactic rule which moves the negative to its higher position, but rather they involve a different negative projection which is generated above TP. That is, we land on a disunified analysis of *-n't*—the *-n't* we see in declaratives is not the same as the one we see in inversion contexts—but a unified analysis of *-n't* and *-nae* in declaratives—they are two distinct expressions of the same clause-internal operator. We show how this analysis captures the phenomena we have discussed up to this point, and improves over the alternatives. We also show how it extends to a wider range of microcomparative effects across English varieties when we look in more detail at types of negative 'inversion'. The clitic/affix distinction plays no role in our analysis.

4. REASSESSING INVERSION.

4.1. PROPOSAL: A BASE-GENERATION ANALYSIS. For concreteness, we will couch our analysis in a fairly standard version of Minimalist-style phrase structure, though the core insights are independent of framework. The fundamental theoretical claim is that movement of the negative element to the pre-subject position is not the right analytical tool to capture the correct generalizations. Rather, we propose that overt negation in English, when it follows the canonical subject position, corresponds syntactically to a non-head category which we call, following Haegeman (1995), Neg-Op, the specifier of a negative projection NegP.

(51) Tree 2 goes here

It is Neg-Op that is realised morphophonologically; the Neg head itself is null in English (cf. Ouhalla 1990). For simple declarative clauses, the highest finite auxiliary raises through Neg to T, and Neg-Op is realised morphophonologically as a bound morpheme which attaches to the Perf-T complex. In most varieties of Scots, Neg-Op is variably realised as *-n't* or as *-nae* in the context of a left adjacent finite T.

(52) Tree 3 goes here

With the basic commitments of our analysis spelled out, we should comment on other analytical issues on which we will remain more cautious. First, the reader may take our analysis to constitute a uniform clitic analysis of *-n't/-nae*, which corresponds to option 50d above, since it involves bound morphemes which alternate with non-bound forms as the realization of a single syntactic element. We stop short of endorsing this wholeheartedly, since

taking such a position require us to address many other matters pertaining to the definition of 'clitic', such as the simple/special clitic distinction, the analysis of possessive *'s*, and so on. We do not pursue this issue here.

Second, as our focus is on the syntactic identity of the negative elements in question, we are skirting for now the precise theoretical analysis of the conditioning of allomorphy that we see with *-n't* and *-nae* in combination with auxiliaries. One possible analysis is that allomorphy is conditioned by linear adjacency between the finite auxiliary and Neg-Op (cf. Embick 2010). Another possibility is that some post-syntactic rule fuses the finite auxiliary with the Neg-Op specifier, and that it's within this fused form that allomorphy is triggered (cf. Thoms et al. 2019 on auxiliary contraction). We will not choose among analyses here.

An immediate syntactic consequence of this proposal is that when T further raises to C, Neg-Op is stranded. As discussed in section 2, independent sentential negation is realised as *no* in most varieties of Scots, as in 53. We take it that this is a realization of the same Neg-Op as *-nae*.

(53) Has she no finished?

How then do we generate examples like the familiar 54? On the standard analysis, *-n't* comes to precede the subject by virtue of being pied-piped to C along with the auxiliary in T, but such an analysis is not straightforwardly available if *-n't* is an operator in the specifier of NegP, and hence is not in constituency with T.

(54) Hasn't she finished?

Our solution is that in addition to the NegP position below T which we see in 52, there is a second, higher negative projection, which we call simply HighNegP, which may also host Neg-Op in its specifier. In an example like 54, Perf raises to T and then, through HighNeg, to C. Neg-Op, realised as *-n't*, attaches to the finite auxiliary in just the same way as it would in a declarative clause, but from a higher rather than a lower NegP.[25]

(55) Tree 4 goes here

We can bring together the variation in surface form of negation in a set of realization rules along the lines of 56. These make *-nae* a realization of Neg-Op in the low position but not the high one, capturing the fact that *-nae* doesn't occur in (interrogative) inversion environments.

(56) a. NEG-OP $\rightarrow$ [n̩t] or [ne]/ #T[fin]__#

b. NEG-OP $\rightarrow$ [n̩t] / #C[int]__#

c. NEG-OP $\rightarrow$ [no]/ elsewhere

A null element like the trace of T cannot host a clitic,[26] so rule 56a does not apply in examples like 53, and the elsewhere form *no* is inserted. Disjunctive realization rules such as 56a give rise to optionality, and we assume this optionality may be conditioned by sociolinguistic factors.

The possibility of multiple negation projections and high negation projections of the kind proposed for 54 is well established for many languages (Ouhalla 1990, Carston & Noh 1996, Zanuttini 1997, Garzonio & Poletto 2015). In Scottish Gaelic for example, we find negation expressed via the form of left-peripheral complementizers, with *cha(n)* used for declaratives and *nach* used for negative questions, and *na* used for negative imperatives (e.g. Adger 2010).

(57) Cha do phòg mi mo bhràthair.
C-NEG PST kiss I my brother
'I didn't kiss my brother.'

(58) Nach do phòg thu do bhràthair.
C-NEG PST kiss you your brother
'Didn't you kiss your brother?'

(59) Na rach a Ghlaschu!
C-NEG-IMP go to Glasgow
'Don't go to Glasgow!'

In such languages, negation can license negative polarity nominals in subject position, presumably because HighNeg c-commands the subject. Indeed, this is the only way to express a negatively quantified subject in Gaelic.

(60) Cha do phòg duine sam bith am bràthair.
C-NEG PST kiss person in-the being their brother
'No one kissed their brother.'

The fact that languages such as Scottish Gaelic employ a distinct negative element for imperatives is reminiscent of what we saw with Scots varieties, where we saw that *-nae* could occur left-peripherally in negative imperatives. Recall that these imperatives are the only case we have seen so far where a pre-subject auxiliary allows a cliticised *nae*.

(61) Dinnae you talk rubbish!

Our analysis, where negative morphemes are base-generated in their pre-subject position rather than being moved there, extends in a straightforward way to account for these cases.

Following the discussion in section 3.3, we adopt the clause structure of imperatives argued for by Potsdam (1996), where a nonfinite T layer hosts the subject in its specifier and where

T raises to imperative C, and is realized as *do*. In such cases, in Scots, the only statement that has to be made is a morphological one: Neg-Op in the context of imperative C can be realised as *-nae*, extending the realization rules as follows.

(62) a. NEG-OP → [n̩t] or [ne]/ #T[fin]__#

b. NEG-OP → [n̩t] or [ne]/ #C[imp]__#

c. NEG-OP → [n̩t] / #C[int]__#

d. NEG-OP → [no]/ elsewhere

Thus our account is much like Weir's, in that the *-nae* of negative imperatives is a different element from the one in declaratives. For Weir, it is part of a distinct portmanteau, whereas for us, it is a realization of Neg-Op in HighNeg. Both analyses claim that negative imperatives do not involve movement of the negation.

Multiple negation (or, at least, polarity) positions, including a high negation position, have previously been proposed for English for certain constructions. For example, Holmberg (2015) proposes, in an analysis of English yes-no questions, that there is a syntactic position hierarchically superior to the canonical subject position, which he calls Pol. Pol interacts with the negative position below the subject so as to negotiate the syntactic expression of a range of negative (and positive) yes-no questions. Our proposal is similar to Holmberg's in including a negation in a high clausal position in English which is most clearly visible in interrogatives. Our approach exploits this idea to show how it provides a way of accounting for the different morphological expressions of negation we find across contexts and varieties of the language, as well as providing a means to tackle some of the semantic differences we find when negation appears in yes-no questions versus declaratives. We return to these issues in more detail below.

4.2. SOME CONSEQUENCES. To recap, our proposal is that the negation we see pronounced in inversion constructions in varieties of English is not moved to that position as part of subject auxiliary inversion; rather there is a negation position high in phrase structure and it is that position which is responsible for the negative element being pronounced before the subject. This idea has consequences for theories that take the position of heads in phrase structure to be partially determined by movement operations. We mention two of these here.

The first is that head movement is typically understood to both take place successive cyclically, and to feed the morphological shape of words fairly transparently (this is often known as the Mirror Principle, Baker 1985). If the overt negation is a head, as opposed to a specifier as we suggest here, then movement of the auxiliary to finite T should pass through that head, and pied-pipe it, so that the structure of the element in T is as follows.

(63) Tree 5 goes here

If morphemes such as *-(e)d* and third person present *-s* are realizations of T, and *n't* is the realization of Neg, then the finite past auxiliary of *have* should have the form *han'ted*, as opposed to *hadn't*, and the 3rd person present form would be *han'ts*. It is of course possible to overcome this problem by various means: for example, Chomsky (1995) suggested that the lexical item enters the syntax in its fully inflected form, which would just be listed as *hadn't*; or the way that tense is added to the verb might not be head movement but some other operation (such as Agree, as in Adger 2003, Bjorkman 2011). However, something extra would have to be said. If the overt negative is a specifier and not a head, it will automatically be on the 'outside' of T, and the structure would comport with the Mirror Principle straightforwardly. This can be seen clearly in 63 above.

A second theoretical advantage is that most phenomena that are analysed as head-movement in transformational syntax do not involve a change of scope for the moving head. It is partly this which has led many theorists to suggest that such phenomena do not involve syntactic movement at all (Chomsky 2000 on 'phonological' head movement and Brody 2000 on Mirror Theory). One apparently clear counterexample to this is English inversion constructions. McCloskey (1996: 89) points out that pre-subject negation in subject-auxiliary inversion constructions in English also licenses negative polarity items in subject positions. He provides examples that contrast a *which*-question, which does not automatically license an NPI subject, with a counterpart where negation has attached to the raised auxiliary.

(64) a. *Which one of them does anybody like?
b. Which one of them doesn't anybody like?

This kind of example has been taken to show that head movement feeds scopal interpretation (e.g. Roberts 2010), bolstering the view that syntactic head movement exists.[27] If, on the other hand, the negation is Merged above T, as in 63, then the licensing of the NPI subject obtains straightforwardly by virtue of the c-commanding High-Neg head in its base position; in consequence, facts such as 64 no longer provide support for semantically active head movement.

5. FURTHER PREDICTIONS . A consequence of the analysis we are proposing is that there are two distinct syntactic contexts for Neg-Op. In theories of morphology where the realization of a syntactic element may be conditioned by its syntactic context defined as involving adjacent syntactic features (e.g. Embick 2010, Bobaljik 2012), this account makes predictions which are not made by a syntax for negation where there is only one negative projection.

The first prediction is that we might see different allomorphs of Neg-Op in the different positions, and in particular we might see allomorphy which is sensitive to the features of the C

which appears to the immediate left of Neg-Op in HighNegP. Of course, we have already seen one instance of this in the different effects of interrogative vs. imperative features on C on the availability of the *-nae* allomorph. Given that recent work has argued that there is a wide range of semantically interpretable syntactic features available in the C position, our approach suggests that the morphological realization of Neg-Op could also be sensitive to these features, giving rise to yet richer microvariation in the forms of negation than we have seen so far.

The second prediction of our account, which takes there to be syntactically distinct elements involved in the exponence of what we call 'negation', is that the different negative elements may make distinct semantic contributions. The standard semantic role of Neg-Op is to negate the proposition in a declarative main clause (Miestamo 2005); however, various non-standard semantics for negative operators are found cross-linguistically—for example, presuppositional negation (Zanuttini 1997), metalinguistic negation (Horn 1989), Focus (Zanuttini 1997, Poletto & Zanuttini 2013) or additional emphasis (Auwera 2010). Given the two distinct negative positions, one might expect to see the possibility of distinct interpretations for negation, tied to these different positions.

The next subsections will explore these consequences, arguing that the microvariation we see in Scots can be understood as the result of these different syntactic contexts for the conditioning of allomorphy and the emergence of alternative semantic meaning associated with the position, and bolstering our core theoretical proposal, that English has two positions for negation, and that apparently inverted negation involves the higher of these two positions.

5.1. ALLOMORPHY OF NEG-OP AND THE RAISED AUXILIARY. We begin by looking at the expression of negation in Shetland Scots. In this variety, the negative marker found in declarative clauses generally behaves like *-nae* does in other varieties of Scots.

(65) She doesnae like herring.

However, there is a separate negative marker *-n* [ən], which is impossible in declaratives, but is available in certain contexts when the auxiliary is in pre-subject position (Robertson & Graham 1952, Jamieson 2018). *-n* combines with the inflected form of any auxiliary, without any phonological changes. In many cases, the auxiliary plus *-n* is very similar to the form found when the auxiliary combines with *-n't* – for example, only a subtle vowel change, or a dropped glottal stop. However, in certain cases, it is much more transparent that *-n* is part of a different paradigm: for example, *can* becomes *can'n*, *do* becomes *do'n* and *will* becomes *will'n* (see Table 3 for phonological representations). These complex words are all bisyllabic, whereas the corresponding *-n't* forms are monosyllabic.

[Table 3 about here.]

These *-n* forms are not available in every case where the auxiliary is in pre-subject position. They are restricted to tag questions 66a, exclamatives or rhetorical questions 66b, and for older speakers, polar questions where speakers indicate a bias towards the truth of the positive proposition. For example, in 66c, the speaker indicates that they already believe, to some extent, that it is Jeannie's daughter who got married.

(66) a. You have a standing ticket, do'n you? (Jamieson 2018: 34)

b. Is'n she a bonnie thing? (Robertson & Graham 1952: 10)

c. Tammy, is'n yun Jeannie o' Maanwil's lass at's gotten mairied dis week?
Tommy is.N that Jeannie of Maanwil's daughter that's got married this week
'Tommy, isn't that Jeannie of Maanwil's daughter that has got married this week?'
(Tait 1973: 13)

As well as being ungrammatical in declaratives, *-n* is also ungrammatical in imperatives, and in information-seeking negative polar questions—questions where the speaker wants to know if it is the case that the negative proposition is true. For example, in 67b, *-n* is not acceptable when asking if it is the case that Sam wasn't at the party. The only possible negation of information-seeking polar questions in this variety is stranded *no*, as in 68.

(67) a. *She is'n a teacher.

b. *Was'n Sam at the party?

(68) Was Sam no at the party?

We conclude that this *-n* is specialised for a subset of syntactic contexts. There is no evidence supporting an analysis of *-n* as a negative affix that originates in clause-internal position and is pied-piped to C. It is different in form to the regular clause-internal negation, and it is circumscribed for a specific set of non-canonical interrogatives which implicate features pertaining to the type of speech-act semantics often attributed to phrase structure positions associated with clausal peripheries (Haegeman & Hill 2013, Breitbarth & Haegeman 2014, Wiltschko 2017).

On our account, this kind of variation is what we expect. There is a Neg-Op in the specifier of HighNegP, and this appears right-adjacent to the C head. C itself has a specialized semantic content with an associated syntax. The speech acts performed in clauses with *-n* are non-canonical interrogative speech acts, and we assume that they are associated with some feature, call it [bel] (for *belief*, following work on the role of epistemic beliefs and biases in non-canonical interrogatives e.g. Ladd 1981, Sudo 2013, Gärtner & Gyuris 2017), which is borne on C in all of these contexts. It is this feature that triggers the *-n* allomorph of Neg-Op,

and specifies the local context for its insertion. While in most varieties Neg-Op is realized with the same form in all contexts (namely *-n't*), in Shetland Scots there are distinctions in form conditioned by the presence of [bel].[28]

A strikingly similar example is found in a completely different geographical area of the country, in varieties such as Glasgow Scots, where a negative form *-int* [ɪnʔ] is available (Brown & Millar 1980, Childs 2017, Jamieson 2018).[29]

(69) It was a lovely day, wint it?

This *-int* combines with the onset of any auxiliary, so we see not just a special allomorph of negation, as in Shetland Scots, but also a special allomorph of the inflected auxiliary—for example, *has* + *-int*, *have* + *-int* and *had* + *-int* are all realized as *hint*; *will*, *was* and *would* combined with *-int* each give *wint*; *is* + *-int* gives just *int*, etc. This results in levelling for tense and agreement marking, something which we see in other negative contexts in English (see e.g. Bresnan et al. 2007, Nevins & Parrott 2010).

Like Shetland *-n*, *-int* is found in tags, 69, and also in exclamatives, 70a, but is impossible in declaratives, 70b, and information-seeking polar questions, 70c.

(70) a. Wint it a lovely day!
b. *It wint a lovely day.
c. *Wint it a lovely day?

In an experimental study, Jamieson (2018) shows that *-int* does not pattern exactly like Shetland *-n*, since it is not rated significantly higher in polar questions where the speaker has a prior belief in the truth of the proposition, as in the Shetland Scots case in 66c. Thus analogous examples with *-int* such as 71 are still rejected by speakers.

(71) *Wint it Jean's daughter that got married last week?

These fine-grained differences between varieties can be captured straightforwardly on our approach: the feature on C which triggers this allomorphy in Glasgow Scots will have a slightly narrower distribution than the one which triggers allomorphy in Shetland Scots, and it will be circumscribed for use in tags and exclamatives only. The feature in question might be related to the fact that these are non-information seeking questions. The precise specification of the features which would distinguish Glasgow Scots *-int* from (older) Shetland Scots *-n* is a matter that requires a more careful investigation than we can embark on here (see Jamieson (2018: 223) for discussion of semantic/pragmatic features that would feed into this featural specification).

We mention one other case that we know of from outside Scotland where specialized allomorphs of negation in tags and other polar questions are found. In the variety of English spoken in Tyrone, Northern Ireland, examples like 72 are attested (data due to Warren Maguire, p.c.).

(72) She'll come, won'tn she?

Much like in the Scots varieties just discussed, this *-n'tn* construction is found in tag questions like 72, and it is accepted to some extent in polar exclamatives or rhetorical questions, but not in declaratives. We have to leave a fuller account of this construction for future work, but at the very least this initial description suggests that the use of specialized allomorphs of negation in certain inversion environments is not only found in Scots, and so is not directly related to the use of *-nae* forms in declaratives, since *-nae* is not a feature of this variety of English.

To sum up: our general prediction that there may be particular morphological forms of negation that are only attested in inverted positions is borne out by micro-comparative data from a range of English varieties. This situation, where one language/variety realises fine-grained distinctions with different lexical items while another uses a single form, is a familiar one from comparative syntax, where we see syncretic forms in some languages but distinct forms in others.

5.2. SEMANTIC VARIATION OF NEG-OP. We have seen that morphologically, negation in the high position need not have the same form as negation below T. Our account also predicts that the semantic interpretation of the negative marker in each case need not be the same, given the independent projections for each Neg-Op. Indeed, this is what we find across varieties of Scots, with many of the morphologically mismatched high negations containing a distinct semantics beyond negative polarity.

As we saw in section 5.1, the *-n* found in Shetland Scots and the *-int* found in Glasgow Scots are each restricted to subsets of syntactic contexts—specifically, non-canonical interrogatives, such as tags, exclamatives and rhetorical questions (Robertson & Graham 1952, Brown & Millar 1980, Childs 2017, Jamieson 2018). They are unable to be used to question a true negative proposition, as in 67b.

On the basis of this syntactic and pragmatic distribution, Jamieson (2018: 200) argues that *-int* and *-n* are not propositional negation markers, but rather can be analysed as having the semantics of CHECK moves in a dialogue semantics framework. These operate when the speaker already believes the positive proposition *p*, believes that their interlocutor also believes *p*, and adds both *p* and the fact of this shared knowledge to the Common Ground.

Even outside of these specific form-meaning mappings, there is evidence of alternative or additional semantic meaning arising for high negation across varieties of English, initially

highlighted by Ladd (1981). In an experimental study, Domaneschi et al. (2017) find that English speakers prefer to produce *-n't* in questions where the speaker has an existing bias towards *p* as the answer. Participants opted to produce low negation *not* in contexts where the speaker has no prior belief about the answer of the question, but some current contextual evidence suggesting that $\neg p$ is the case, i.e. that the speaker is questioning whether $\neg p$ is true. Outside of Scots-specific morphology, then, similar semantic/pragmatic distinctions can be drawn between high and low negation, even in interrogatives.

Further evidence for a different semantics for negation in the high position in English comes from the distribution of strict NPIs. Strict NPIs such as punctual *until*, *in years* and *either* are known to be licensed only by antiadditive operators such as negation, as in 73 (see e.g. Gajewski 2011, Collins & Postal 2014; we include the different negations here for completeness). Strict NPIs are not licensed in most of the other non-increasing environments which are known to license 'weak' NPIs such as *any*, e.g. polar questions; compare 74 with 75.

(73) a. Chris {didn't / didnae / did not} leave until Sarah arrived.
b. John {hasn't / hasnae / has not} cleaned his room in years.
c. Jane {isn't / isnae / is not} coming either.

(74) Did anyone bring wine?

(75) a. *Did Chris leave until Sarah arrived?
b. *Has John cleaned his room in years?
c. *Is Jane coming either?

If contracted negation in polar questions behaved in the same way as clause-internal negation, then we might expect that adding contracted negation to the sentences in 75 would improve the acceptability of the strict NPIs. But Sailor (2013) notes that this is not the case, as most speakers strongly reject punctual *until* and *in years*, and many do so with *either* as well.[30]

(76) a. *Didn't Chris leave until Sarah arrived?
b. *Hasn't John cleaned his room in years?
c. %Isn't Jane coming either?

In this respect they contrast with questions where non-contracted low negation is used, 77, as well as with embedded questions with low negation, 78.

(77) a. Did Chris not leave until Sarah arrived?
b. Has John not cleaned his room in years?

c. Is Jane not coming either?

(78) a. I asked whether Chris {didn't / didnae / did not} leave until Sarah arrived.
b. I asked whether John {hasn't / hasnae / has not} cleaned his room in years.
c. I asked whether Jane {isn't / isnae / is not} coming either.

We conclude with Sailor (2013) that the inverted contracted negation in polar questions such as 76 does not have the same semantic properties as regular negation.

A number of proposals regarding the semantics of this high interrogative negation marker have been put forward in the literature. These proposals can classified into scope-based analyses (Romero & Han 2004, Holmberg 2015, Krifka 2015) and analyses which treat the negation marker as a separate operator (Repp 2009, Romero 2015). For example, Romero (2015) posits an analysis in which the 'negation' is actually in itself an operator, FALSUM (see also Repp 2009)—a common ground management operator which introduces $\neg p$ alongside not-at-issue content stating that the speaker 'is sure that, in all the worlds satisfying [their] conversational goals, *p* is not added to the Common Ground' (Romero 2015: 504).

As with the distinction in morphological form found between Shetland Scots *-n* and Glasgow Scots *-int*, discussed in section 5.1 above, the exact specifications of the [bel] feature which would distinguish English *-n't* from Glasgow Scots *-int* and Shetland Scots *-n* is beyond the scope of this paper. The main takeaway is that our account of the syntax of English negation predicts it would be *possible* to have a distinct semantic interpretation associated with the Neg-Op in C, differentiated from the Neg-Op below T, which arises from interaction with the [bel] (belief) feature on C. Microcomparative evidence from English varieties indicates that indeed, this is the case.

6. CONCLUSION. Tony Kroch used to say that there are two real results in syntax, and in fact in science in general: one is where you show that two things you thought were different are actually the same, and the other is where you show that two things you thought were the same are actually different.[31] The analysis in this article can be thought of as aiming to do both. On the one hand, we have argued that for Scottish speakers *-n't* and *-nae* are not different items belonging to, say, Standard English vs. Scots, and with distinct morphological properties (affix vs. clitic); rather they are 'the same' in the sense that they are best analysed as allomorphs of a single item (Neg-Op), and in fact we have suggested that the uncontracted negative form in Scots (*no*) is also an allomorph of the same item. It is worth noting that the first part of this conclusion at least—that for Scottish speakers *-n't* and *-nae* alternate within a single system—is entirely consistent with the conclusions drawn by sociolinguists working on Scots (Smith 2001). Nor should we be surprised that acquirers of the language are willing to posit

allomorphy; what is perhaps more interesting is that generations of speakers have maintained the syntactic conditioning on the allomorphy, that is, that they have not extended the *-nae* allomorph to occur with C. On the other hand, we have argued that what looks like 'the same' *-n't*, appearing in different positions only by virtue of movement, is in fact two different items, a Neg-Op base-generated in a high pre-subject position, and a Neg-Op base-generated below and to the right of the subject. As we have discussed, there is a good deal of literature arguing for distinct possible positions for negation; we hope to have shown that a microcomparative analysis of Scots provides new support for the existence of a 'high' position for negation in English varieties.

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NOTES

[1]There is also an evident connection between our approach to pre-subject negation and proposals that have been made for pre-subject auxiliaries in English varieties, including Scots, which are also known to exhibit idiosyncrasies compared to those in lower positions (for instance *Aren't I coming with you?*) We cannot go into these cases here, but refer the reader to Francis (1985), Bresnan (2001), Sag et al. (2020) for relevant data and discussion.

[2]One point of variation that we think has no syntactic ramifications is in the phonetic form of both the contracted and uncontracted negative, which differs according to geography (see, e.g. Macafee 1980/2001, 47). In central and southern varieties, the contracted negative is pronounced [ne] and typically represented as *-nae*, while in Tayside, the northeast and northern isles, it is pronounced as [nə] and represented as *-na*. Here we use the orthographic form *-nae* to represent contracted negation in all varieties. Similarly, we will write the uncontracted form as *no*, typically pronounced [no] in most Scots varieties, though in the northeast it is, somewhat confusingly, often written *nae* and pronounced [ne:]. As far as we can tell, these points of phonetic variation do not correlate in a meaningful way with any of the other properties that we discuss in what follows.

[3]For access to all the data and more details on the metholodogies and practices of the project, please see the project website: https://scotssyntaxatlas.ac.uk.

[4]The negative imperatives in the (b) examples here are not accepted in all Scots varieties; in particular, they are rejected in varieties spoken in Glasgow, it seems for reasons relating to the form of the negated auxiliary rather than the imperative syntax. We discuss this in more detail in section 3.1.

[5]We note in passing that not all speakers accept *mustnae* in both deontic and epistemic uses (Brown 1991, Weir 2007). We speculate that this might be related to the fact that *mustn't* is high register and unnatural for many Scots speakers, although we cannot go further than drawing the potential connection here.

[6]There is some variation in the judgments on attaching *-nae* to *might* in Scots, as it is accepted and produced by speakers in the northeast. The judgments reported in 18 reflect those of speakers from Glasgow, Fife, Dundee, Ayrshire and Shetland. This apparent difference between the northeast and other regions is possibly related to the facts discussed in section 3.2 concerning selectiveness, but we do not have enough data on acceptance of *mightnae* across Scotland to substantiate this point.

[7]The observation that imperatives like 28a are widely rejected by Scots speakers is prefigured in Weir (2013) and Jamieson (2020: 11).

[8]A reviewer (Andrew Weir) notes that, for him, examples where *no* appears after uncontracted *is* are ungrammatical. That judgment doesn't seem to be widespread, in contrast to the judgments about *do*-support.

[9]Weir argues that they do, but his dataset was necessarily limited at the time of writing. The larger microcomparative picture made available by SCOSYA allows us to see a more complex picture.

[10]They give the examples of the adjective *last* and the quantifier *most*, which they suggest might be understood as irregular meanings for the superlatives of *late* and *more*. They mention the use of *last* in *last words*, which are 'final, not just maximally late or recent' (p.505). This is rather weak, as the regular meaning and the one that they pinpoint are transparently related. As for *most*, they allude to its use in the 1950s slang *Frankie Avalon is the most*, where it has a meaning more like *best*. We suggest that cases such as this, where the superlative appears without an overt modifiee, could potentially be analysed in terms of idiosycratically selective silent elements, as in Kayne's (2014) analysis of *seventh* in the baseball-specific *we're at the bottom of the seventh* (where there is an implied *inning*). Kayne's research program identifies many such cases comparable to this, some of which involve clitics. One from Scots varieties is the use possessive *'s* in *we're going to John's tomorrow*, which has the meaning *we're going to John's place*, which Kayne analyses in terms of a silent PLACE predicate (Kayne 2005). Kayne provides substantial evidence for syntactic constraints on the distribution of these silent elements, but whatever the final analysis may be, the clitic/affix distinction is unlikely to prove relevant.

[11]For further discussion of irregularities in cliticization paradigms, see e.g. Nevins (2011) on possessive *'s*.

[12]The Scots forms that Weir reports here involve the form of negation which is used in Dundee and the northeast, which he spells as *-na* following established practice and which is pronounced as [nə] as his transcriptions indicate. Some of the forms are no longer in use in contemporary Scots speech, such as *maun*/*maunna*.

[13]Zwicky and Pullum argue that *mustn't* is also irregular because the deletion of /t/ to derive [mʌsn̩t] is not a regular process.

[14]However see the discussion in section 5.1 of *int*-based forms in certain inversion environments, which are similar to *ain't* in that they show a high degree of levelling for

person/number distinctions.

[15]We refer specifically to the epistemic use of *mustn't* here. As acknowledged by Weir as seen in Table 2, Scots speakers tend not to use *must* deontically (see Macafee 1980/2001, Tagliamonte & Smith 2006). Also a reviewer notes that many other speakers of English do not find *mustn't* acceptable.

[16]There are questions around the status of the generalization: see Harris & Halle (2005), Kayne (2010) and Arregi & Nevins (2018) on instances of mesoclisis in Romance which seem to counterexemplify this generalization. However the clitics in question are what Zwicky and Pullum called 'special clitics', so they may not fall within the purview of their account.

[17]Weir (2007) provides 36b and notes that it was accepted 'without demur' by two of his older Scots speakers, one originally from Fife, and another originally from Renfrewshire (outside Glasgow) who then lived in Fife. We have not been able to replicate this for other speakers from these areas, so we are unsure about the status of these cases outside of the Northeast. Andrew Weir (p.c.) notes that it is possible that these speakers might have been overaccepting these particular examples, and that he has never heard any live examples of this type.

[18]See footnote 2 on the pronunciation of negation in this variety of Scots.

[19]Though we do not see *-nae* elsewhere in Scotland attaching to other clitics, or attaching to pronouns, this is determined by independent factors. It is the possibility of zero forms of the auxiliaries in the context of contracted negation that is responsible for the low-selectivity of northeastern contracted negation, and these zero forms are not found elsewhere. The fact that *-nae*, outside of the northeast, does not attach to other clitics does not, of course, show that it is an affix.

[20]Actually some varieties allow the (a) example, further undermining the motivation for the criterion; see Johnson (1988) and Close (2004) for some discussion. This was also investigated in the Scots Syntax Atlas: see https://scotssyntaxatlas.ac.uk/linguists-atlas/#6.25/57.929/-4.448/D8/And/all/1/12345/both/null/point.

[21]44a is not accepted in the West Highlands due to the lack of *-nae* (again see Figure 1 and section 2), nor it is acceptable in Glasgow due to the *dinnae* gap (see section 3.1).

[22]We have used different examples from Potsdam's to illustrate this point, as his own examples did not involve the same auxiliaries in all contexts. Note that here and throughout we focus on the S-adverb interpretation of *just* which has a similar meaning to *simply*. In some instances *just* has

another meaning, similar to a sentence connective, as in the following:

(79) You can park your car there for now, but just don't you start leaving it there every night.

The acceptability of such examples demonstrates that there is no general ban on placing adverbs to the left of the auxiliary and subject in inverted imperatives.

[23] This analysis hinges on the assumption that an adverb left-adjoined to a *v*P with a specifier would appear to the left of that specifier. This view of specifier/adjunct ordering is well-established in the relevant literature (e.g. Adger 2003, 110).

[24]Weir's account takes *dinnae* and *don't* in imperatives to be atomic heads of a Jussive-encoding projection, JussiveP (Zanuttini 2008), which encodes imperative semantics and occurs in the C-domain, with no TP projecting.

(80) [$_{\text{JussiveP}}$ don't/dinna [$_{\text{vP}}$ you stand there]]

Our own account set out in section 4 will adopt the idea that some pre-subject negations are base-generated and effectively generalize it to all pre-subject negations.

[25]We will assume that Neg-Op is base-generated in the specifier of HighNeg or of Neg and that only one of these heads is available in the structure. An alternative is that Neg-Op moves from the specifier of Neg to the specifier of HighNeg, and that only the category that it ends up in is semantically interpreted. This latter option seems to us to be more complex, and we put it aside here.

[26]It may be the case that not all null elements are alike with respect to their inability to host a clitic; for example, we saw in the discussion of northeastern Scots that a zero *do* or *have* was compatible with the presence of *-nae*, which would attach to the preceding subject. As Andrew Weir (p.c.) notes, this difference between traces of verb raising and zero auxiliaries recalls the distinction between null proforms and traces that was discussed for the case of contracted auxiliaries in Thoms et al. (2019).

[27]There are still technical problems to be overcome. If negation has syntactically attached to T, and then T raises to C in such examples, negation will not c-command the subject, unless some special proviso is made (see also Hall 2015).

[28]An alternative analysis for *-n* is found in Jamieson (2018), in which *-n* is a specific negative operator which is inserted into a high projection in C rather than being conditioned by feature-based allomorphy.

[29]Examples such as 69 are also reported for Edinburgh Scots by Brown & Millar (1980: 118), but they do not provide a full paradigm, and we have not established that *-int* is as productive in Edinburgh varieties as it is in Glasgow ones. We focus on the Glasgow variety here, since we have a fuller range of data for it.

[30]Sailor conducted a small acceptability study based on the judgments of 12 younger speakers of American English, and the results indicated that these speakers rejected *either* in these inversion contexts, unlike in cases where negation is low, although they did not reject it as strongly as they rejected questions with the other strict NPIs. This result is different from what is reported by Ladd (1981), who reports that his speakers accept *either* on a negatively biased interpretation of yes-no questions. It seems that this is a matter of dialectal variation with respect to the polarity-sensitivity of *either*. Our judgments are in line with those that Sailor reports, in that *until* and *in years* are completely unacceptable for all of us and that the examples with *either* are acceptable for some but not all of us.

[31]See Santorini 2022 for this and a number of other observations attributed to Kroch.

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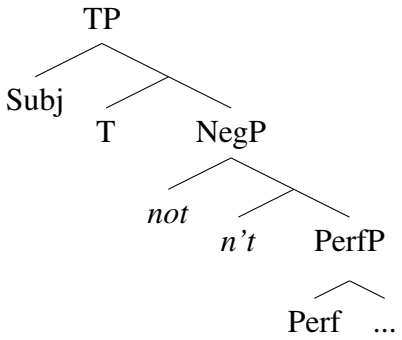
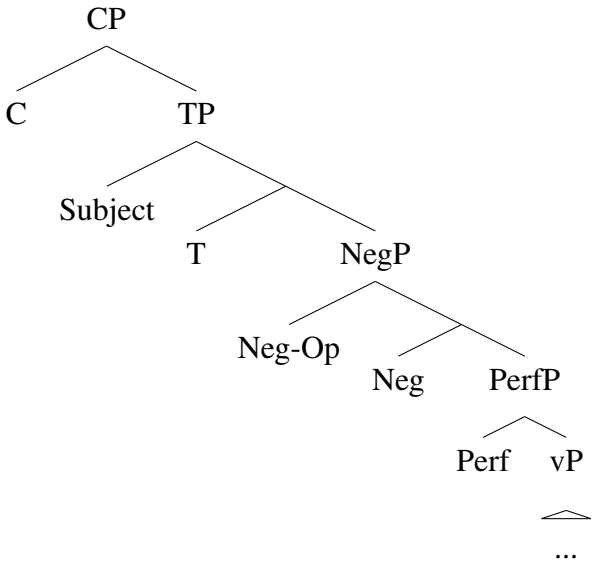
3 Acceptability of *I didnae like it at all* in the Scots Syntax Atlas, with the Greater Glasgow area circled. 52

Trees:

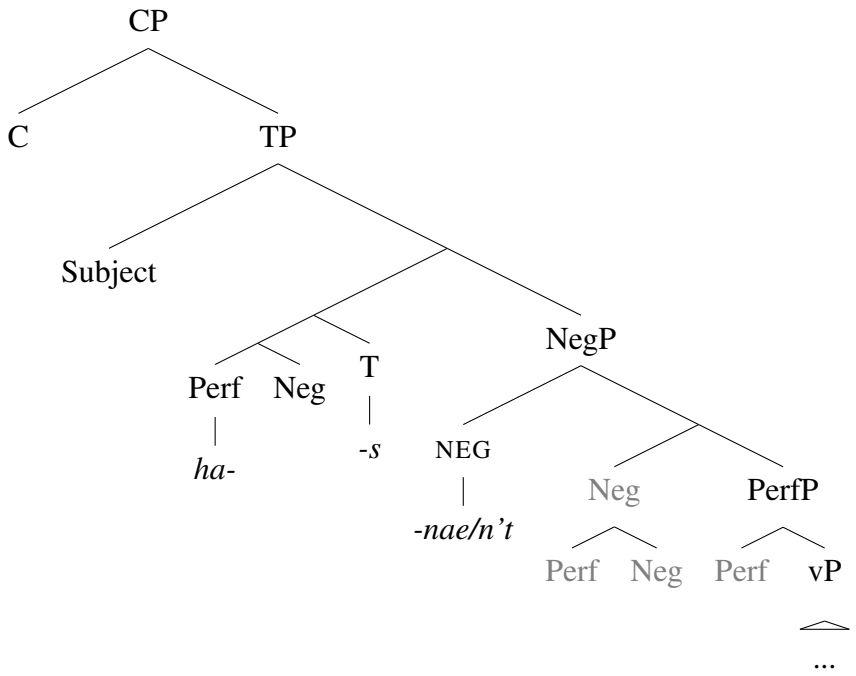
(81) Tree 1



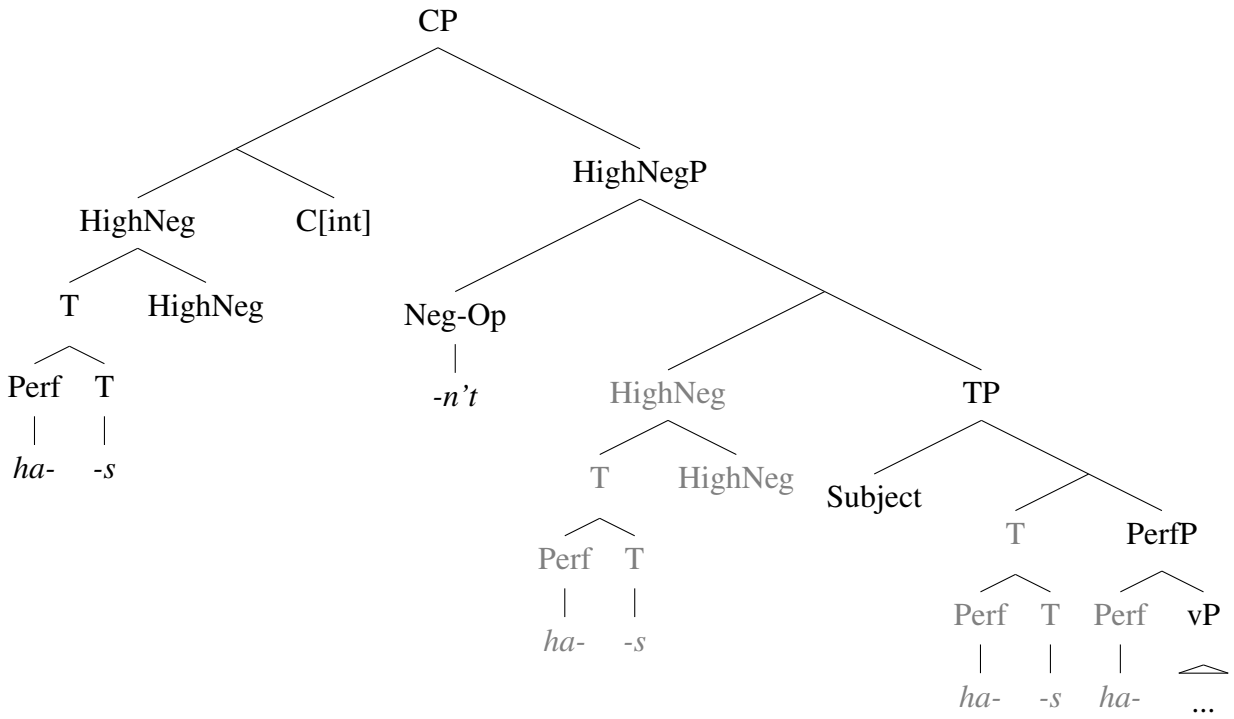
(82) Tree 2



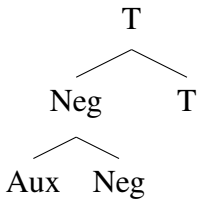
(83) Tree 3



(84) Tree 4



(85) Tree 5


T
Neg
T
Aux
Neg

9. LIST OF FIGURES.

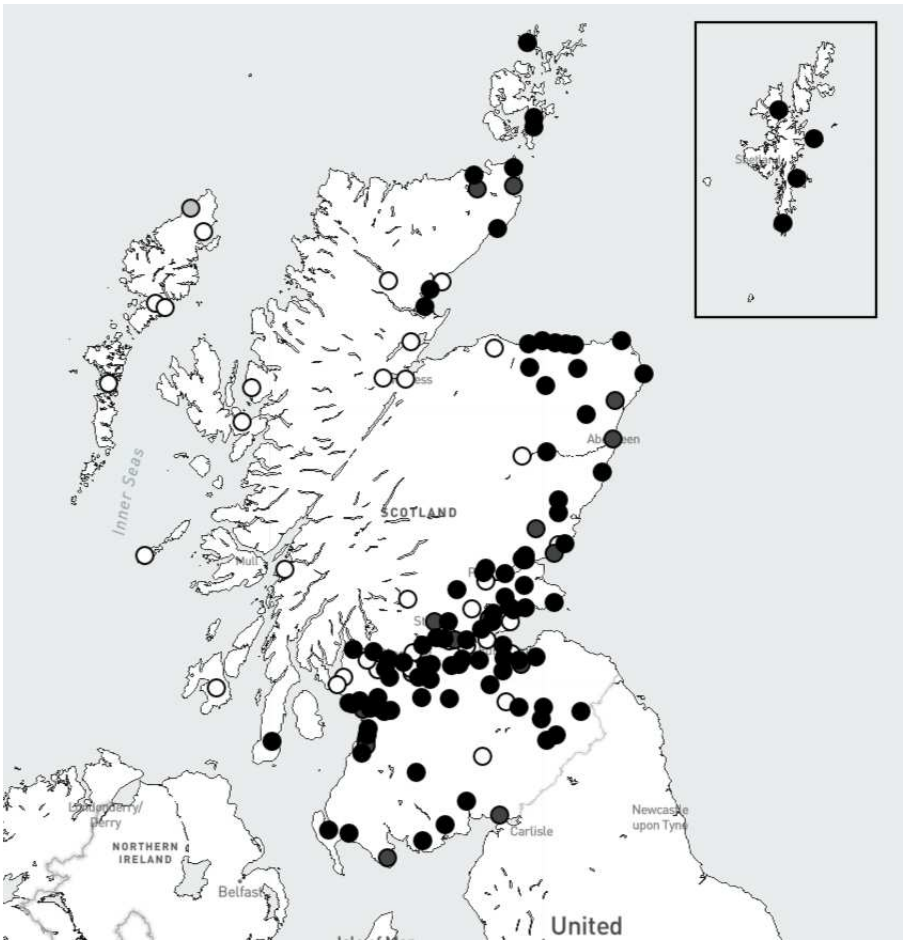


FIGURE 1. Acceptability of *I havenae been there* in the Scots Syntax Atlas.

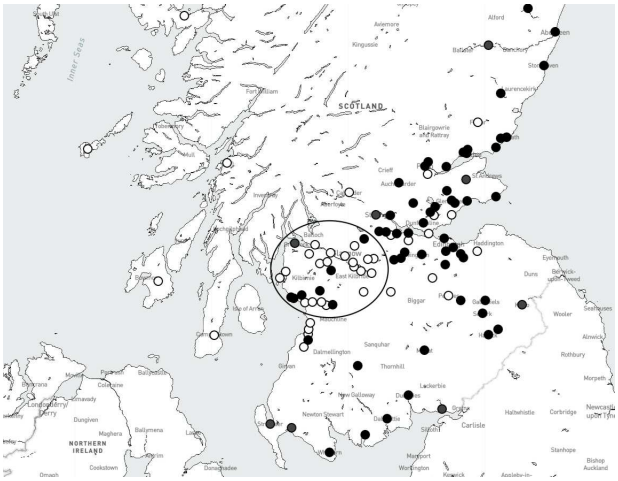


FIGURE 2. Acceptability of *I dinnae like coffee* in the Scots Syntax Atlas, with the Greater Glasgow area circled.

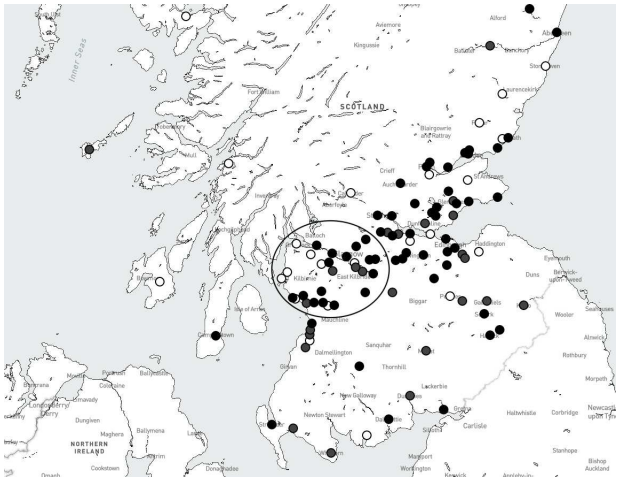


FIGURE 3. Acceptability of *I didnae like it at all* in the Scots Syntax Atlas, with the Greater Glasgow area circled.

10. LIST OF TABLES.

a.	do	[du]	don't	[dont]
b.	does	[dʌz]	doesn't	[dʌzn̩t]
c.	did	[dɪd]	didn't	[dɪdn̩t]
d.	have	[hæv]	haven't	[hæv n̩t]
e.	has	[hæz]	hasn't	[hæzn̩t]
f.	had	[hæd]	hadn't	[hædn̩t]
g.	can	[kæn]	cannot/can't	[kænat/kænt]
h.	could	[kʊd]	couldn't	[kʊdn̩t]
i.	may	[me]	—	—
j.	might	[mait]	mightn't	[maitn̩t]
k.	shall	[šæl]	shan't	[šænt]
l.	should	[šʊd]	shouldn't	[šʊdn̩t]
m.	will	[wɪl]	won't	[wont]
n.	would	[sʊd]	shouldn't	[sʊdn̩t]
o.	dare	[der]	daren't	[dern̩t]
p.	must	[mʌst]	mustn't	[mʌsn̩t]
q.	need	[nid]	needn't	[nidn̩t]
r.	ought	[ɔt]	oughtn't	[ɔtn̩t]
s.	am	[æm]	—	—
t.	are	[ar]	aren't	[arnt]
u.	is	[ɪz]	isn't	[ɪzn̩t]
v.	was	[wʌz]	wasn't	[wʌzn̩t]
w.	were	[wɹ̩]	weren't	[wɹ̩nt]
x.	—	—	ain't	[ent]

TABLE 1. Attachment possibilities for *-n't* (based on Zwicky and Pullum: 508)

English	Scots affirmative	Pronunciation	Scots negative	Pronunciation
do	dae	[de]	dinna; di′	[dɪne]; [de]
does	dis	[dɪz]	disna	[dɪzne]
did	did	[dɪd]	didna	[dɪdne]
have	hiv, hae	[hɪv, he]	hivna, hinna	[hɪvne, hɪne]
has	haes	[hɪz, hæz]	haesna	[hɪzne, hæzne]
had	haed	[hɪd, hʌd, had]	haedna	[hɪdne, hʌdne, hadne]
can	can	[kan]	canna	[kane]
could	cuid	[kɪd, kud]	cuidna	[kɪdne, kudne]
may	—	—	—	—
might	micht	[mɪxt]	—	—
shall	sall	[sal]	sallna	[salne]
should	shuid	[ʃid, ʃud]	shuidna	[ʃidne, ʃudne]
will	will	[wɪl]	willna, winna	[wɪlne, wɪne]
would	wad	[wad, wɪd]	wadna	[wadne, wɪdne]
dare	daur	[dar, dɔr]	daurna	[darne, dɔrne]
must (obligation)	maun	[man, mɔn, mɪn]	maunna	[manne, mɔnne, mɪnne]
must (‘I conclude that’)	must	[mʌst]	?mustna	[mʌstne]
need	—	—	—	—
ought	—	—	—	—
am	am	[am]	amna	[amne]
are	ar	[ar]	arna	[arne]
is	is	[ɪz]	iana	[ɪzne]
was	wis	[wɪz]	wisna	[wɪzne]
were	war	[war, wʌr]	warna	[warne, wʌrne]
‘aint’	—	—	—	—

TABLE 2. Attachment possibilities for Scots *-nae* (based on Weir 2007: 10)

Verb		-n form		-nae form		-n't form	
can	[kɪn]	can'n	[kɪ.nən]	cannae	[ka.nə]	can't	[kanʔ]
do	[du]	do'n	[du.ən]	dunnae	[dʌ.nə]	don't	[dɔnʔ]
will	[wɪl]	will'n	[wɪ.lən]	winnae	[wɪ.nə]	won't	[wɔnʔ]
would	[wɪd]	would'n	[wɪ.dən]	widnae	[wɪd.nə]	wouldn't	[wu.dənʔ]
is	[ɪz]	is'n	[ɪ.zən]	isnae	[ɪz.nə]	isn't	[ɪ.zənʔ]

Table 3: Sample list of verb forms and how they combine with -n, -nae and -n't in Shetland, from Jamieson (2018)