

## RESEARCH

## Interclausal NEG raising and the scope of negation

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In this paper, we show that the syntactic analysis of one major type of NEG raising in Collins & Postal (2014) is inconsistent with the facts of negation scope revealed by Klima (1964) type tests for sentential negation. Two of the four original Klima tests plus three additional ones are discussed. We propose a novel alternative syntactic analysis, one also involving NEG raising, that is consistent with the relevant tests, as well as with all the principles of NEG raising and NEG deletion proposed in Collins & Postal (2014). We suggest, further, that the newer analysis permits a more uniform overall conception of the various cases of NEG Raising.

**Keywords:** NEG raising; Klima tests; sentential negation; strict NPIs; confirmation tags; *neither*; *nor*; negative parentheticals

## 1 Introduction

Collins & Postal (2014) argue at length for the theoretical view that what was there called *classical NEG raising*, illustrated in (1a), is a phenomenon involving syntactic raising of the syntactic representation of negation, NEG, out of an embedded clause.

- (1) a. I don't think that Helen owns a new smartphone. =  
b. I think that Helen does not own a new smartphone.

We here suggest replacing the label *classical NEG raising* by the more transparent *interclausal NEG raising* (hereafter: INR). This captures what we take to be an essential feature of all instances of the phenomenon, namely, that a NEG raises from a position  $P_1$  in one clause to a position  $P_2$ , where  $P_1$  and  $P_2$  are not clausemate positions.

It is necessary for the present discussion to distinguish three subtypes of INR, which we will call *standard cases* (SC), *negative quantifier cases* (NQ) and *cloud of unknowing cases* (CU). SC INR is illustrated in (1a). That is, SC INR covers examples where the overt main clause NEG, which Collins & Postal (2014) took to be raised from the complement clause, occurs in a post-aux position.

The account of SC INR in Collins & Postal (2014) was a development of a tradition of ideas supporting a syntactic conception of this phenomenon tracing back to Fillmore (1963) and including Lakoff (1969), Horn (1971; 1972), Seuren (1974) and McCawley (1998). As noted in Collins & Postal (2014: 4), support for the idea that INR was a syntactic phenomenon began to dissolve in the early seventies and was ultimately replaced by a consensus view that it was instead a semantic/pragmatic one. Collins & Postal (2014) reargued for the need of a syntactic account; see also Blanchette (2015).

Type NQ INR, illustrated in (2), is characterized by the presence of a negative quantifier DP or negative adverbial in the main clause:

(2) No professor thinks John knows *jackshit<sub>A</sub>* about physics.

Here and throughout the inscription *jackshit<sub>A</sub>* represents the strict NPI version of the expression, which contrasts with a distinct version equivalent to *zero* (see Collins & Postal 2014: 7, 8, 222, footnote 8). As here, we represent all strict NPIs in italics.

NQ examples were referred to as *composed quantifier* cases in Collins & Postal (2014), where both SC and NQ INR were extensively discussed.

CU INR, first attested in Horn (2014), is illustrated in (3):

(3) I don't know/can't say that he has seen his mother *in ages*.

The CU terminology is based on the title of Horn (2014). This variety of INR, unknown at the time of writing to the authors of Collins & Postal (2014), was hence not discussed therein. Contra Horn (2014), its INR character is argued in Collins & Postal (2015a) (based on island facts and the distribution of Horn clauses). The bulk of the present paper deals with SC INR. But we briefly discuss the other types in Section 9, showing in particular how a newer analysis of SC INR permits a more uniform and more constrained treatment of INR in general.

Despite its overt presence in the main clause, the instance of NEG in (1a) appears to be understood on one reading as taking its scope in the complement clause. We say "on one reading" because there is a distinct reading: (1a) can simply deny that the speaker has an opinion about Helen's ownership of a smartphone, perhaps, because the speaker has never thought about the matter or is undecided about it. On the SC INR reading, cases like (1a) share a reading with those like (1b). That is, (1a) indicates that the speaker supposes that Helen does not own a smartphone.

The facts in (1) contrast with sentences not involving INR, like those in (4):

- (4) a. I didn't state that she can afford a new smartphone.  
b. I stated that she cannot afford a new smartphone.

Here (4a) has no reading under which it paraphrases (4b), hence no reading where the scope of the main clause NEG could be taken to be internal to the complement clause.

On the analysis of Collins & Postal (2014), the NEG in (1a) has raised syntactically from the embedded clause. NEG then takes embedded clause scope because, like all other NEGs, it is interpreted in its position of origin; see Section 2.

However, the claim that negation has embedded clause scope in sentences like (1a) conflicts with the fact that such sentences, on the INR interpretation, pass the tests first invoked in Klima (1964) for what he called *sentence negation* (henceforth: *sentential negation*). We discuss the relation between these tests and claims about INR in Section 3 below. But, just to indicate the issue, two such tests are illustrated in (5):

- (5) a. They don't think that Helen owns a new smart phone, do they?  
b. They don't believe that Helen owns a new smart phone and neither should you.

Both the presence of the grammatical positive tag question phrase in (5a) and that of the grammatical *neither* phrase in (5b) diagnose the presence of a preceding clause which manifests main clause negation scope. We consider the logic and factual basis of this claim in detail in Section 3. Therefore, sentences like (5), on their INR interpretation, appear to illustrate a sharp conflict created by adoption of the Collins & Postal (2014) analysis of SC INR. More precisely, that analysis combines with the view that NEGs are interpreted at their point of origin to clash with the matrix clause scope of negation required by the Klima tests, shown in (5).

This paper proposes an alternative syntactic analysis of SC INR that is consistent with (i) all relevant tests (two of the four original Klima tests, plus three others), (ii) the meanings of the relevant sentences, (iii) the data in Collins & Postal (2014) supporting a syntactic analysis (involving strict negative polarity items, Horn clauses, islands and parentheticals), and (iv) the principles of NEG raising and NEG deletion proposed in Collins & Postal (2014).

The outline of the rest of this paper is as follows. Section 2 briefly reviews Collins & Postal's (2014) analysis of SC INR, focusing on claims made about the scope of negation. In Section 3, we illustrate how INR sentences behave with respect to five tests for sentential negation. In Section 4, we discuss the interaction of these tests with negative quantifier DPs, providing additional support for the claims in Section 3. Section 5 reviews the Collins & Postal (2014) syntactic representation of quantifier scope. Section 6 outlines our new analysis of SC INR. Section 7 briefly disposes of a possible objection to that analysis. Section 8 deals with the NEG deletions needed to sustain the analysis of Section 6. Section 9 shows how the newer analysis of SC INR in Section 6 dovetails with those of NQ and CU INR, discussed in Collins & Postal (2014) and Collins & Postal (2015a), permitting a previously unavailable generalization about INR. Section 10 addresses a technical issue concerning the locality of NEG deletion. Section 11 shows how the newer analysis is consistent with the treatment of negative parentheticals found in Collins & Postal (2014: Chapter 17). Section 12 is the conclusion.

## 2 Collins & Postal (2014) on standard case interclausal NEG raising

The Collins & Postal (2014) analysis of SC INR, illustrated in (1a), was very roughly as in (6):

(6) I do NEG<sub>1</sub> think [that Helen <NEG<sub>1</sub>> owns a new smartphone]

On this analysis, NEG<sub>1</sub> originates in the embedded clause, and raises to the matrix clause. Of course, (6) leaves many points unspecified, in particular, the origin position of NEG<sub>1</sub>. While the higher occurrence of the raised NEG<sub>1</sub> is pronounced, that of its lower occurrence is not. We indicate such non-pronunciation here and throughout by the angled bracket notation <X>. On the analysis of Collins & Postal (2014), only the lower occurrence of NEG<sub>1</sub> is interpreted. We return to this assumption in the discussion of (15) below. An analysis like (6) accounts for the shared interpretation of (1a, b).

A variant of SC INR is illustrated in (7):

- (7) a. She doesn't think that the performance was *half bad*.  
b. She thinks that the performance was not *half bad*.

As in the pair in (1), (7a), which contains an overt main clause NEG, is a paraphrase of (7b), in which the only visible NEG is in the complement clause. But in addition, such cases also manifest the so-called *strict* negative polarity item (NPI) *half bad*. This NPI occurs in a clause not containing an overt occurrence of its putative licenser, the main clause NEG. Strict NPIs are those which have been taken to require local (clausemate) licensers. The examples in (8) indicate the strict NPI property of *half bad*.

- (8) a. The movie was \*(not) *half bad*.  
b. Sylvia claimed that the movie was not *half bad*.  
c. \*Sylvia did not claim that the movie was *half bad*.

Many other examples of strict NPIs are given in Collins & Postal (2014), which takes the behavior of such NPIs to be a key piece of support for the syntactic nature of INR. When a strict NPI appears in the complement of verbs like *argue/claim/insist/proclaim/realize*, etc., which lack INR readings, ungrammaticality in general results if an overt NEG appears only

in the main clause, as in (8c).<sup>1</sup> INR cases like (7) are then under analyses like (6) putatively good because the needed local NEG licenser originated in the complement clause.

Another subtype of SC INR involves what Collins & Postal (2014) refer to as *Horn clauses*. These are illustrated by the fronted phrases in examples like (9a, b):

- (9) a. They didn't believe that in any sense had she betrayed their confidence.  
 b. Joan didn't expect that any of the foreign candidates would the dean approve of.

Pre-theoretically, a Horn clause is an embedded clause whose fronted phrase, based on an NPI, obligatorily gives rise to subject-aux inversion. Sentences like (9) are respectively equivalent interpretatively to the following:

- (10) a. They believed that in no sense had she betrayed their confidence.  
 b. Joan expected that none of the foreign candidates would the dean approve of.

In (10a, b) the highlighted fronted phrases uncontroversially instantiate the *Negative Inversion* construction, one characterized by the necessary presence of subject-aux inversion.

Collins & Postal (2014) analyzes Horn clauses, e.g. (9a), as a sub-variety of a Negative Inversion clause in which the NEG permitting Negative Inversion has raised into a main clause via INR. That is, (9a) was represented schematically as in (11):

- (11) They did NEG<sub>1</sub> believe that [in <NEG<sub>1</sub>> SOME sense] had she betrayed their confidence.

Here, because of the covert NEG<sub>1</sub>, the fronted phrase [in <NEG<sub>1</sub>> SOME sense] requires subject-aux inversion in the embedded clause. Treating certain NPIs as underlying NEG structures, as in (11), is the only analysis we are aware of that can account for the fact that certain NPIs trigger Negative Inversion when fronted. Mainstream theories of NPIs, which analyze them as non-negative indefinites/existential quantifiers offer no account for sentences like (9), since expressions like *a doctor* or *some lawyer* do not permit Negative Inversion.

That the NEG<sub>1</sub> contained in the fronted phrase in (9a) raises from the embedded clause to the matrix clause at first obscures the fact that that fronted phrase represents a regular Negative Inversion case. But considerable evidence for such a conclusion is presented in Collins & Postal (2014), especially in Chapter 14 (see also Collins & Postal 2015). Much of that evidence has the form of parallelisms like (12b, d, e):

- (12) a. Francis might never recover.  
 b. \*Never might Francis recover.  
 c. They thought Francis might never recover.  
 d. \*They thought that never might Francis recover.  
 e. \*They did not think that ever might Francis recover.

<sup>1</sup> This claim requires a major hedge. At least since Lindholm (1969: 153–154) there have been reports that some speakers accept some strict NPI cases structurally parallel to (8c). McCawley (1998: 596, 603) cited:

- (i) a. The director didn't say that your performance was *all that* bad.  
 b. I didn't claim that I'd finish the paper *until* Friday.

As discussed at length in Collins & Postal (2014) (especially Chapter 9), we attribute this to the fact that in such cases the strict NPI represents a negative quantifier with main clause scope and, under our view of these, sketched in Section 4 below, that negative quantifier is represented by a syntactic DP from which its original NEG can raise in the main clause. Thus on the relevant readings, there is no INR. The testable factual claim is that in every case like (i) where the main predicate does not allow INR, the scope of the negative quantifier DP associated with the strict NPI is in the main clause.

That is, just as the modal *might* does not permit uncontroversial instances of Negative Inversion like (12b, d), it does not permit a Horn clause like (12e). This follows with no special stipulation from the Collins & Postal (2014) analysis under which (i) the fronted phrase in a Horn clause is a negative phrase and (ii) the NEG of the fronted phrase has raised into the containing main clause via SC INR. Otherwise, such parallels will just be mysterious accidents. We know of no mainstream account of NPIs based on an analysis of NPIs as non-negative indefinites/existential quantifiers that can account for these parallels.

Only a proper subset of predicates taking complement clauses, listed in (13), permit the NEG raising defining SC and NQ INR.

- (13) appear, advisable, advise, believe, choose, expect, feel, feel like, figure, guess (dialectal), imagine, intend, likely, look like, mean, plan, reckon (dialectal), recommend, seem, sound like, suggest, suppose, supposed, tend, think, turn out, want, used to.

These predicates were called *classical NEG raising predicates* (CNRPs) in Collins & Postal (2014). Despite our switch here to the INR terminology, it seems harmless to keep the term CNRP. The vast majority of predicates taking complement clauses, specifically, *argue, claim, insist, proclaim, state, realize, understand*, permit no form of INR at all. Since the main clause NEG of non-INR cases like (4b) cannot, according to the Collins & Postal (2014) analysis, originate in the complement clause, the scope of that NEG cannot be in the complement clause. Under such assumptions, a subordinate clause strict NPI does not find its needed local licenser, accounting for the ungrammaticality of examples like (8c).

A parallel point to that made for strict NPIs holds for Horn clauses. Since the Collins & Postal (2014) analysis of these depends on the raising of a NEG from a complement clause into a main clause, Horn clauses should only be found in the complements of clauses based on predicates sanctioning INR. Just that generalization was proposed in Horn (1975: 283; 1978: 169) and accepted in Collins & Postal (2014: Chapter 14.5). Thus in general, replacement of the main predicates in (9a, b) by non-CNRPs yields ungrammaticality.<sup>2</sup>

- (14) a. \*They didn't state/testify that in any sense had she betrayed their confidence.  
b. \*Joan didn't predict/proclaim that any of the foreign candidates would the dean approve of.

As alluded to earlier, the analysis of INR in Collins & Postal (2014) requires the following assumption:

- (15) NEG Interpretation  
An NEG is interpreted only in its position of origin.

<sup>2</sup> Horn's generalization faces a serious challenge from cases like (i), acceptable for some speakers:

- (i) Carol doesn't suspect that at any time did Stan betray his wife.

The verb *suspect* is not a CNRP. Collins & Postal (2014: Chapter 14, Section 5), attempts to defend Horn's claim by distinguishing between Horn clauses and those like that in (i), which it called *quasi-Horn clauses*. There we claimed that the key difference was that the quantifier DP fronted in (i) takes main clause scope, while in Horn clauses the scope of the corresponding fronted phrase is limited to the complement clause. In these terms, (i), like (i) of note 1, would not involve SC INR, but rather just NEG raising from the scope occurrence of the negative quantifier DP in the main clause. The implication is that some speakers allow the high scope analysis for some non-CNRPs, permitting not only quasi-Horn clauses but also the occurrence of some strict NPIs in the complements of non-CNRPs, as already noted in Collins & Postal (2014: Chapter 9).

Put differently, a  $NEG_x$  originating in the structure  $[NEG_x K]_A$  functions to yield a denotation for constituent A which, in any model M, is the complement of the denotation of K in M. For a formalization of these semantic ideas, see Collins & Postal (2014: Chapter 3). Consequently, raising of  $NEG_x$  out of its position of origin in A to some higher position has no effect on the semantics of A or of any other constituent.

In PP/Minimalism, NEG raising behaves like clitic movement and verb movement in not being interpreted in its surface position. Syntactically, all three types of movement differ from standard cases of A-movement of DPs and A'-movement of wh-phrases. The interpretative properties of these three types of movement can be implemented in terms of reconstruction. NEG is moved forming a chain. The head of that chain (but not the tail) is deleted before the LF-interface, so only the tail is interpreted. Further, in the framework of Johnson & Postal (1980) and Postal (2012) the semantics of all structures is determined by initial structures defined precisely in the overall conceptual system of those works. Thus the interpretation property of NEG in (15) would require no special statement.

Analyses such as (6) of INR examples like (1a) combine with condition (15) to generate the following claim:

- (16) The scope of the negation represented by  $NEG_1$  in analysis (6) of SC INR examples is internal to the complement clause.

We take the phrase *scope of (the) negation* to refer to the syntactic sister of any occurrence of a NEG in its position of origin (that is, the position where it is interpreted).

The entailment in (16) is entirely consistent with traditional claims, which we endorsed in Collins & Postal (2014) and in Section 2 above, that a defining feature of SC INR cases like (1a) is that the main clause NEG is, despite its surface position, understood as a complement clause NEG.

However, an ultimately fatal difficulty for an analysis like (6) has previously gone unnoticed. This difficulty arises from a variety of arguments linked directly to the various diagnostics/tests for negation scope first invoked in Klima (1964). While Klima argued that his tests diagnosed a purely syntactic property he referred to as *sentence negation*, it is not hard to show that they diagnose the scope of a negation, negative quantifier DP or adverbial.<sup>3</sup> And, unfortunately, neither Collins & Postal (2014) nor any other work to our knowledge has previously recognized that SC INR sentences are, contrary to (16), systematically diagnosed by the extended Klima tests as representing sentential negation, that is, having main clause negation scope for the post-aux NEG. The next section justifies this claim by considering two of Klima's proposed tests, as well as three others referred to jointly as the *extended Klima tests*.

### 3 The extended Klima tests

#### 3.1 Background

Klima characterized sentence negation as follows:

- (17) Klima (1964: 270)  
 "Let's define as instances of sentence negation those structures which permit the occurrence of the *either*-clause (Section 15), the negative appositive tag (Section 16), and the question tag without *not* (Section 17)."

<sup>3</sup> Hereafter we avoid the clumsy disjunction *quantifier DP or adverbial* and for better or worse take the notion quantifier DP to cover negative adverbials like *never*, *not often*, etc. While minimally merely a notational convention, we suspect that the relevant adverbials in fact all have an included DP structure.

Pullum & Huddleston (2002: Chapter 9) in effect take his tests to be diagnostics for what they call *clausal negation*, which they contrast with what they call *subclausal negation*. Instead of Klima's term here, we utilize the more colloquial *sentential negation*.

We do not appeal to either Klima's (1964) *either/too* or *not even* tests. While these may well be as relevant as the other tests we discuss, showing this involves complications which Klima did not deal with. The difficulties for the *either/too* test are well revealed in McCawley's insightful discussion (McCawley 1998: 604–610). Treating the issues raised by these tests would require lengthy discussion orthogonal to the goals of this paper.

In the rest of this section, we show that each extended Klima test diagnoses the main clauses of SC INR examples as representing sentential negation. But the Collins & Postal (2014) SC INR treatment of (1a) in (6) combines with condition (15) to determine that the matrix clause occurrence of NEG<sub>1</sub> is just not interpreted. Given that, the main clause should then behave just like cases containing no NEG at all. But such sentences systematically exhibit the relevant properties of sentential negation, indicating that the Collins & Postal (2014) analysis cannot be correct.

### 3.2 Confirmation tags

One test for sentential negation proposed in Klima (1964: 263, 271) involves the possibility of a declarative clause followed by a positive (NEG-free) confirmation tag question clause, and the impossibility of a following NEG-containing tag clause, as in (18b):

- (18) a. Warren criticized his manager, didn't he/\*did he?  
b. Warren didn't criticize his manager, \*didn't he/did he?

These data illustrate that a positive confirmation tag is only grammatical in association with an immediately preceding clause containing a NEG. A negative tag is ungrammatical under that circumstance. Actually, it would be possible to consider the properties of positive and negative confirmation tags as two distinct tests. To conserve space, we hereafter limit attention to the positive tag case and cite almost no further negative tags. While there are cases where neither test yields a grammatical result, all cases of relevance to the present work are such that when the positive tag is ungrammatical, the negative one is grammatical, and vice versa.

While examples like (18) just show the sensitivity of confirmation tags to the presence or absence of a NEG, those like (19b, c) document a further condition on tag phrases. In the relevant class of cases, the determination of whether they are positive or negative is, as already noted in Klima (1964: 304–305), not affected by the properties of embedded clauses like Clause<sub>2</sub> in (19a).

- (19) a. [<sub>Clause1</sub>.....[<sub>Clause2</sub> ....]], tag?  
b. They did not state that Warren criticized his manager, did they?  
c. They stated that Warren did not criticize his manager, \*did they?

This means that the test not only diagnoses the presence of a NEG, but whether or not that NEG occurs in a main clause. We thus conclude:

- (20) A positive confirmation tag is grammatical in the environment [<sub>Clause1</sub>....[<sub>Clause2</sub>....]] only if Clause<sub>1</sub> contains a NEG.

Statement (20) remains far from a sufficient condition for positive confirmation tags. For instance, Horn (1989 [2001]: 492) provided data like (21b):

- (21) a. She cannot attend can she?  
 b. \*She can (just) not attend can she?

Intuitively, the NEG in (21a) scopes over the modal, while the scope order is reversed in (21b). As in Collins & Postal (2014, especially Chapter 2), we take this to mean that the NEG occurs in a syntactic scope position higher than the modal in the first case, lower than the modal in the second.

Cases such as (21) and many others show that (20) reduces to a more general condition. This must indicate that in order for a sentence to qualify as an instance of sentential negation, the NEG determining that property takes high scope in the matrix clause (see Stockwell et al. 1973: 248; Payne 1985: 200; Horn 1989 [2001]: 492–493; Penka 2015).

Although it is impossible in this paper to provide full supporting data for all of the extended Klima tests, we believe that for current purposes one can generalize to all of them, as in (22a), which incorporates the same basic idea seen in (22b):

- (22) a.  $NEG_1$  determines that a sentence S containing it is an instance of sentential negation only if  $NEG_1$  takes widest scope in the matrix clause of S.  
 b. Penka (2015; see also Penka 2011: 5)  
 “Second, as pointed out by Payne (1985), what these tests really seem to be sensitive to is whether negation is the operator taking widest scope.”

We observe that as indicated in (23), condition (22a) will determine that the element which fixes a clause as an instance of sentential negation will have a scope higher than that of the matrix predicate:

- (23) a. Tubau (2008: 79)  
 “The conclusion to be extracted from these examples is that it is only when negation takes scope above the matrix predicate that it qualifies as sentential.”  
 b. Penka (2015: 306)  
 “Following Acquaviva (1997), sentential negation can be defined as a negation operator having the main predicate in its scope.”

The extended Klima tests we cite all instantiate the following logic. They involve a situation in which a clause  $C_1$  is followed by a certain type of constituent, call it a *test phrase*. For the confirmation tag test, the test phrase is a positive tag. The test divides the class of clauses C preceding the test phrase into two subsets, those whose combination with the test phrase is grammatical and those whose combination with it is ungrammatical. The test defines a clause  $C_1$  as manifesting sentential negation or not, depending on the necessary (but far from sufficient) condition that  $C_1$  contain a NEG. Moreover, if  $C_1$  contains a complement clause,  $C_2$ , whether or not  $C_2$  involves a NEG is irrelevant to the grammaticality of the different test phrases.

Focusing specifically on the tag question test, the crucial fact is that despite what Collins & Postal (2014) analysis (6) entails, putative SC INR cases like (1a) fail to differ from parallel non-INR cases. That is, their main clauses satisfy the positive confirmation tag test for sentential negation just like corresponding NEG-containing non-INR cases do. Thus, based on this test, SC INR main clauses manifest sentential negation. So there is no contrast between a case like (24a), based on a non-CNRP main verb, and one like (25a), based on a CNRP:



- (24) a. Warren doesn't understand that Sheila is a Martian, does he?  
 b. Warren understands that Sheila is not a Martian, \*does he?
- (25) a. Warren doesn't believe that Sheila is a Martian, does he?  
 b. Warren believes that Sheila is not a Martian, \*does he?

Confirmation tag examples containing strict NPIs and Horn clauses supporting the claim that SC INR cases behave like non-INR cases instantiating sentential negation are given in (26). Here and throughout, strict NPIs in examples are highlighted.

- (26) a. Warren doesn't think that Sheila has seen her mother *in ages*, does he?  
 b. Warren doesn't think that Joan understands *a single thing*, does he?  
 c. Warren doesn't think that at any point did they hire a foreign doctor, does he?

Examples like (26) are important since in the framework of Collins & Postal (2014), the presence of a strict NPI or Horn clause in the embedded clause forces a NEG raising analysis. For example, in (26b), the NEG must raise from the embedded clause (where only it licenses the strict NPI) into the matrix clause. And in (26c) the parallel raising is required to account for the fact that the fronted phrase satisfies the conditions on Negative Inversion. The examples in (26) show that even when a NEG raising analysis of main clauses with CNRPs is forced by the presence of strict NPIs or Horn clauses, those main clauses still pass the test for sentential negation.

Thus the tag question case already reveals the fundamental problem with the Collins & Postal (2014) account of SC INR. It predicts contrary to fact for (25a) and (26) that the positive tag is ungrammatical.

### 3.3 The connective adjuncts *neither* and *so*

A further test for sentential negation in Klima (1964: 261–262, 265–266, 271, 274–276) involved the distribution of what Pullum & Huddleston (2002: 786–787) call *connective adjuncts*, namely, *neither* and *so*. These link a preceding clause to a following conjoined one, typically manifesting verbal phrase ellipsis. Both *neither* and *so* are obligatorily preposed:

- (27) a. That lawyer perjured himself and so/\*neither did that doctor.  
 b. That lawyer did not/didn't perjure himself and \*so/neither did that doctor.

Again, the choice of the relevant test phrase, *so* or *neither*, depends on whether a preceding clause manifests a negative element.

Once more, SC INR cases based on e.g. *think* exhibit no contrast with parallel cases based on non-INR main predicates, e.g. *realize*:

- (28) a. Valerie doesn't realize that the minister will be arrested, and \*so/neither does Brian.  
 b. Valerie realizes that the minister will not be arrested, and so/\*neither does Brian.
- (29) a. Valerie doesn't think that the minister will be arrested, and \*so/neither does Brian.  
 b. Valerie thinks that the minister will not be arrested, and so/\*neither does Brian.

Examples involving strict NPIs or Horn clauses (in the INR cases), where the system of Collins & Postal (2014) forces posit of NEG raising, once again reveal that the Collins & Postal (2014) analysis type (6) gives wrong answers.<sup>4</sup>

- (30) a. Valerie doesn't believe that I told *a living soul*, and \*so/neither does Brian.  
 b. Valerie does not think that in any sense was the minister disloyal and \*so/neither does Brian.

### 3.4 *nor*

Pullum & Huddleston (2002: 786) suggest that the behavior of the *nor* seen in examples like (31) parallels that of *neither*, and can also serve as an extended Klima test phrase, as in:<sup>5</sup>

- (31) a. \*Felicia wrote to the priest, nor did Greta.  
 b. Felicia didn't write to the priest, nor did Greta.

And like previous tests phrases, *nor* is only sensitive to main clause post-aux negation, and there is no contrast between CNRPS and non-CNRPS:

- (32) a. Louise didn't swear that she saw a space alien, nor did Melissa.  
 b. \*Louise swore that she did not see a space alien, nor did Melissa.
- (33) a. Mike doesn't expect that Lila will win, nor does Melissa.  
 b. \*Mike expects that Lila will not win, nor does Melissa.

Supporting examples involving strict NPIs and Horn clauses are given in (34):

- (34) a. I don't think he has seen his mother *in ages*, nor does Valerie.  
 b. Mike doesn't expect that for any reason would Lila backstab Greg, nor does Melissa.

### 3.5 *Negative parentheticals*

A fourth test for sentential negation can be based on negative parentheticals; see Ross (1973), Cattell (1973) and Collins & Postal (2014: Chapter 17). Examples include:

<sup>4</sup> We observe that the fixed expressions *me too* and *me neither* also function as extended Klima tests and have the same consequences as to the scope facts for SC INR clauses as the *so/neither* cases:

- (i) a. Jennifer agreed with that. Me too/\*Me neither  
 b. Jennifer did not agree with that. \*Me too/Me neither
- (ii) a. Jennifer doesn't think the movie was *half bad*. Me neither/\*too  
 b. Jennifer doesn't believe that at any time did Ted sell drugs. Me neither/\*too

<sup>5</sup> Use of *nor* as a diagnostic for clausal negation must, however, exclude a certain class of positive sentences from consideration. That follows, because Horn (1989 [2001]: 257) noted that for many speakers, examples like the following are grammatical:

- (i) He was upset about it. Nor was she totally thrilled herself.

Apparently for the relevant speakers, it suffices if the clause preceding *nor* manifests a negative implicature. For (i) this implicature would probably be something like 'He was not thrilled about it'. Compare (ii) where no such implication holds:

- (ii) \*He was thrilled about it. Nor was she pleased herself.

- (35) a. The senator protested vehemently, \*I don't think.  
b. The senator didn't protest vehemently, I don't think.

Once more the extended Klima test fails to differentiate SC INR cases from non-INR cases:

- (36) a. Lester doesn't assume that the visitor could be a space alien, I don't think.  
b. \*Lester assumes that the visitor could not be a space alien, I don't think.
- (37) a. Lester doesn't believe that the visitor could be a space alien, I don't think.  
b. \*Lester believes that the visitor could not be a space alien, I don't think.

Examples involving strict NPIs and Horn clauses are given below:

- (38) a. Karen doesn't believe that Sandra gave Marsha *a single thing*, I don't think.  
b. Karen doesn't believe that Mike has talked to *a living soul* about this, I don't think.  
c. Karen doesn't believe that under any circumstances would Mike do such a thing, I don't think.

### 3.6 Yes/No clauses

A fifth test for sentential negation based on a phenomenon noted in Ross (1973: 157) is seen in data such as:

- (39) a. Diana danced with Herman. Yes, I guess so/\*No, I guess not.  
b. Diana did not dance with Herman. \*Yes, I guess so/No, I guess not.

The test phrase *No, I guess not* can follow a clause only if it represents sentential negation. The test phrase *Yes, I guess so* is ungrammatical in that environment.

And as with previous tests, this one also fails to yield any contrast between CNRPs and non-CNRPs:

- (40) a. That doctor didn't assert that the disease was fatal. \*Yes, I guess so/No, I guess not.  
b. That doctor asserted that the disease was not fatal. Yes, I guess so/\*No, I guess not.
- (41) a. That doctor doesn't expect that the disease will be fatal. \*Yes, I guess so/No, I guess not.  
b. That doctor expects that the disease will not be fatal. Yes, I guess so/\*No, I guess not.

Examples showing that SC INR cases yield perfectly grammatical results under the *No, I guess not* test with complement clauses involving strict NPIs or Horn clauses are given below:

- (42) a. Valencia doesn't believe that Ernie has taken drugs **in years**. No, I guess not.  
b. That doctor doesn't believe that in any sense was Joan cured. No, I guess not.

To summarize, with respect to five distinct tests of the sort first introduced in Klima (1964), main clauses manifesting SC INR behave exactly as non-INR clauses having main clause sentential negation.

We note that certain of the tests can be combined, in particular, tag test phrases, *so/neither* test phrases and *nor* test phrases can collocate with following parenthetical and

*No/Yes, I guess (not)* test phrases. When they do, the same failure of SC INR main clauses to contrast with main clauses clearly based on non-CNRPs is manifest, e.g.:

- (43) a. Victor didn't state that Roman had recently visited his cousin, and  
\*so/neither did Mike, I don't think.  
b. Victor didn't believe that Roman had visited his cousin *in ages*, and  
\*so/neither did Mike, I don't think.
- (44) a. Helen didn't realize that Irene had ever visited Venus; nor did Marsha. No,  
I guess not.  
b. Helen didn't believe that at any time had Irene visited Venus; nor did Mar-  
sha. No, I guess not.

Again, the contrast between CNRP and non-CNRP main predicates predicted by the Collins & Postal (2014) analysis of SC INR cases illustrated in (6) fails to materialize.

### 3.7 Apparent implication

Syntactic SC INR analyses like (6) claim that the post-aux NEG occurring in the main clause originates in the associated complement clause. Since principle (15) claims that only origin positions of NEGs are semantically relevant, it follows that if the five tests really diagnose the semantically relevant syntactic locus of a NEG, no analysis like that in (6), which claims that the scope of negation in an SC INR sentence is located in its complement clause, can be correct.

Initially, this seems like a devastating counterargument against syntactic views of SC INR in general and not just against the particular one in Collins & Postal (2014). And it would potentially provide a powerful argument for theoretically alternative semantic/pragmatic approaches to INR such as that of Bartsch (1973), Gajewski (2007) and Romoli (2013). That follows since those analyses systematically assume that the overt NEG in an SC INR case originates in, and is interpreted in, the main clause. Our goal in what follows is to show that while the conclusion that analyses of the form (6) are incorrect cannot be circumvented, there is a syntactic treatment of INR having the following properties: (a) it maintains all the many factual virtues of the treatment in Collins & Postal (2014) (e.g., accounting for island facts and the distribution of Horn clauses), (b) it characterizes sentential meanings correctly, (c) it is, unlike analyses of the form (6), consistent with all the extended Klima tests, and, lastly, (d) it is consistent with all the syntactic principles proposed in Collins & Postal (2014).

## 4 Negative quantifier DPs and the extended Klima tests

All the data related to sentential negation tests cited so far have involved the distribution of overt post-aux NEGs. However, as is well-known for the Klima tests (and holds for the other extended Klima tests as well), these tests also define sentential negation for negative DPs and negative adverbials. We document this very briefly for three tests, leaving the reader to verify that the claim holds for the others.

At the end of Section 5 in (56), we give a definition of *sentential negation* that encompasses both NEG and negative DPs/adverbials. The fact that NEG and negative DPs/adverbials both give rise to sentential negation strongly suggests that the Klima tests are sensitive to the scope position of NEG, just as they are sensitive to the scope position of negative DPs/adverbials.

The confirmation tag, *neither* and negative parenthetical tests indicate the presence of sentential negation in such cases as:

- (45) a. Nowhere near two hundred people showed up, did they?  
 b. No lawyer would accept that claim and \*so/neither would any judge.  
 c. Not many lawyers would act in that way, I don't think.
- (46) a. Lucia never showed up, did she?  
 b. Large packages rarely get lost and \*so/neither do small ones.  
 c. Stan hardly spoke at the meeting, I don't think.

In all of (45) and (46), the negative quantifier DP or negative adverbial is overt in the clause determined to manifest sentential negation by the extended Klima tests.

Recall then our remark in connection with (19) above that Klima (1964: 304–305) had claimed that the mere presence of a NEG in a subordinate clause C was irrelevant to the sentential negation status of a main clause in which C is embedded. His wording was:

- (47) Klima (1964: 305)  
 “The occurrence of *not*, *no*, *nobody* in subordinate clauses never entails sentence negation, as far as the main clause is concerned.”

However, stated in this flat way, the claim is essentially contradicted by Klima's (1964: 285–286, 303–304) own insightful observation that example (48a) was ambiguously equivalent to either (48b) or (48c):

- (48) a. I will force you to marry no one.  
 b. I won't force you to marry anyone.  
 c. I will force you not to marry anyone.

That follows, since his critical observation was that the reading of (48a) equivalent to (48b) correlated with the fact that the main clause satisfied his tests for sentential negation, in particular, the possibility of a *neither* tag. Thus, despite the ambiguity of (48a), (49) is unambiguously interpretable only as (48b):

- (49) I will force you to marry no one and neither will he.

So despite the fact that *no one* in (48a) is unquestionably a subordinate clause constituent, it manages to determine sentential negation for the main clause.

Moreover, the evidence to this effect from *neither* test phrases is not isolated. The same disambiguation of examples like (48a) is seen with the *nor* diagnostic:

- (50) Her mother forced her to marry no foreigner. Nor did her father.

This can only be understood with the phrase *no foreigner* scoping in the main clause. Parallel facts are seen with the negative parenthetical, *Yes/No* and confirmation tag tests:

- (51) a. They will force you to marry no one, I don't think.  
 b. They will force you to marry no one. No, I guess not.  
 c. They forced her to marry no one, did they?  
 d. They forced her to marry no one, didn't they?

In (51a, b) the addition of the extended Klima test phrase imposes the sentential negation reading of (48b). And in the confirmation tag cases (51c, d), the different scope readings

are forced by the choice of tag. So (51c) represents only the high scope reading of *no one*, while (51d) represents only the low scope reading.<sup>6</sup>

Several conclusions can be drawn from data of the type in (48). First, Klima's flat claim in (47) that quantifier phrases like *no* forms occurring in a subordinate clause can never determine sentential negation status for a main clause is just wrong. Second, data like that in (48–51) show that beyond diagnosing the scope of NEGs as such, the extended Klima tests also diagnose the scope of negative quantifier DPs. More precisely, the tests diagnose the scope position of a negative quantifier DP (e.g., main clause vs. complement clause scope) and the scope position correlates with the interpretation of the sentence. So, if a main clause T satisfies the tests for sentential negation, then the main predicate of T is interpreted as under the scope of negation or of a negative quantifier. That is, T is grammatical in the presence of a diagnostic test phrase, only if a NEG or a negative quantifier DP takes main clause scope in S.

A third conclusion though is that there are genuine mysteries connected with Klima's disconfirmed claim. While not strictly true, (47) is nonetheless correct over a quite wide domain. As far as we know, it is always true for cases when the element in a subordinate clause is a post-aux NEG and not a negative quantifier DP. Second, (47) appears to be systematically true for all cases where the subordinate clause is finite:<sup>7</sup>

- (52) a. John likes nobody in the class, does he?  
 b. \*You think that John likes nobody in the class, do you?

Further, the impossibility of high scope for negative quantifier DPs may hold even for nonfinite complements in cases where the negative phrase is an adverbial. For instance, (53) has no main clause interpretation for *never* and extended Klima tests are not satisfied:

- (53) Her uncle forced her to never contact her oldest son (\*did he?/\*and neither did her aunt/\*nor did her aunt/\*I don't think/\*No, I guess not).

<sup>6</sup> As a referee on an earlier version observes, a number of workers have noted that in some cases, sentences with negative quantifier DPs in object position can, unexpectedly, occur with negative confirmation tags; see Moscati (2006: 89), De Clercq (2011) and Temmerman (2012: 110, footnote 86). We suspect that in such cases the negative quantifier takes scope lower than the matrix clause, but we have not investigated the issue. It is possible to insulate the argument of the present paper from such data by considering the tag question Klima test to be defined only for preverbal negative phrases. With the test subject to that limitation, there are, to our knowledge, no such troublesome cases.

<sup>7</sup> Consider the following paradigm:

- (i) a. Carol suspects that at no time did Stan betray his wife (\*and neither did Vanessa/\*I don't think).  
 b. At no time did Carol suspect that Stan betrayed his wife (and neither did Vanessa/I don't think).  
 c. Carol doesn't suspect that at any time did Stan betray his wife (and neither did Vanessa/I don't think).

Here, the extended Klima test phrases in (ia) are rightly blocked by condition (47). But (ib), manifests sentential negation. So when Negative Inversion raises a phrase from a finite clause, it allows, in the account of Collins & Postal (2014: 140), requires, main clause scope for the negative phrase originating in the finite subordinate clause. Example (ic), from footnote 2, and the example in footnote 1, were cited as constructions (strict NPIs or Horn clauses) normally not allowed in the complements lacking local NEGs of non-CNRPs which are nonetheless grammatical for some speakers. In our terms, cases like (ic) involve high scope negative quantifier DPs from which the defining NEG has raised out (in the main clause). Thus (ic) would have a structure along the lines of (ii).

- (ii) Carol do NEG<sub>1</sub> [[ <NEG<sub>1</sub> > SOME] time]<sub>5</sub> [<Carol > accept [that at DP<sub>5</sub> did Stan betray his wife]]

The generalization covering cases like (ib, c) would be roughly (iii):

- (iii) While it is in general impossible for the scope and argument occurrences of a negative quantifier DP K to span a finite clause, that is possible if the NEG defining K ends up overtly in the higher clause, either via Negative Inversion, as in (ib), or via NEG raising from a scope occurrence, as in (ic).

We cannot offer anything like a real account of the constraints governing the scope properties just cited.

A remaining issue involves the formulation of the extended Klima tests themselves. How are they to be formulated such that in most cases the presence of an overt subordinate clause NEG cannot satisfy the tests and determine main clause sentential negation but that in some cases, like (48a) on its reading (48b) it can. This critical issue for the current argument is a problem we can offer a solution to. But to do that, we need to briefly consider the syntactic representation of quantifier scope.

## 5 The syntactic representation of quantifier scope

Before we can address the issue raised at the end of the previous section and prior to considering how to maintain a viable syntactic view of INR in the face of the extended Klima test data considered in Sections 3 and 4, it is necessary to sketch the Collins & Postal (2014) representation of quantifier scope. The interested reader is referred to Chapter 2 of that work for a fuller discussion. The key assumption is that scope marking is no less syntactic than the marking of phrase structure, word order, categories, etc.

Specifically, the scope of quantifiers is represented syntactically by the presence of DPs in clausal scope positions. We follow May (1985; 1989) and assume that a scope position for a quantificational  $DP_i$  is of the form  $[_S DP_i S]$ . In these cases, the clause  $S$  contains a DP bound by  $DP_i = [_{DP} D NP]_i$  so that  $S$  is in effect the syntactic representation of an open sentence containing a variable bound by the quantificational  $DP_i$ .  $NP_i$  then denotes the restriction of the quantifier represented by  $D$ . So a DP in scope position will always have at least two distinct occurrences, a higher one in a scope position and a lower one in a non-scope position (an “argument” position in some approaches). There can of course be several DPs in scope positions of a single clause, represented by successively embedded structures of the form:  $[_S DP_1 [_S DP_2 [_S DP_3 S]]]$ .

Since the relative scope of quantifiers in such representations is indicated by the relative height of syntactic quantifier DP phrases, the fact that some quantifiers in a clause scope over others falls out from the representation. We need not concern ourselves with the details of the needed principles relating syntactic scope to the corresponding semantics; see e.g. Heim & Kratzer, (1998: Chapter 7) for one approach.

We illustrate these ideas by considering the two readings of Klima’s key example (48a). In the framework of Collins & Postal (2014), negated existential (hence negative antiadditive) quantifiers have the general structure in (54a), instantiated as in (54b) for the illustrative English case:

- (54) a.  $[_{DP} [_D \text{ NEG SOME}] [_{NP} X ]]$   
 b.  $\text{no boy} = [_{DP} [_D \text{ NEG } <\text{SOME}>] [_{NP} \text{ boy } ]]$

Here the syntactic NEG is internal to the DP, with the existential quantifier represented by the form SOME. In the English case (54b), the NEG is realized as *no* while the SOME is covert.

In these terms, Klima’s (48a) has the contrasting structures in (55):

- (55) a.  $< [[\text{NEG } <\text{SOME}>] \text{ one}] >_1 [I \text{ will force you to marry } DP_1]$   
 b.  $I \text{ will force you } [ < [[\text{NEG } <\text{SOME}>] \text{ one}] >_1 [ \text{to marry } DP_1 ]]$

A further purely notational convention from Collins & Postal (2014) is appealed to here. Rather than writing out in full both the scope and argument position occurrences of a DP, the argument occurrence is schematically represented with a DP symbol coindexed with the scope occurrence.

A key fact of course is that the scope position occurrences of quantificational DPs are uniformly covert, as indicated by the angled brackets  $\langle \rangle$  in (55). This fact might ground some skepticism as to the syntactic reality of phrases in syntactic scope positions. But Klima's (1964) documentation of the syntactic reality of scope in his examples like (48a) undermines the basis for such skepticism. As discussed in Section 4, he documented that the high scope reading correlates with satisfaction of the Klima tests while the low scope reading does not. That provides a crucial argument for the reality of the main clause syntactic position of quantifier DPs whose argument position occurrences are in complement clauses, given that in the other cases, such tests diagnose the main clause syntactic presence (or absence) of NEG<sub>s</sub>.

With this background, we are now in a position to propose an account of why an example like Klima's (48a) on one reading can satisfy the extended Klima tests. This will stipulate that such satisfaction with respect to a main clause C has as a necessary condition the presence in C of an instance of NEG or a negative quantifier DP.

In other words, we modify (22a) of Section 3.3 to say:

- (56) A sentence S is an instance of sentential negation only if some NEG or negative quantifier DP takes widest scope in the matrix clause of S.

From this point of view, the extended Klima tests interact with whatever principles control the possible higher syntactic scopes of subordinate clause NEG<sub>s</sub> and negative quantifier phrases in subordinate clauses.

## 6 A novel analysis of standard case interclausal NEG raising

Previous sections entail that SC INR cases like (1a), repeated here as (57a), and strict NPI cases like (57b) must, to account for the results of the extended Klima tests, contain a NEG that has scope (and is semantically interpreted) in the main clause:

- (57) a. I don't think that Helen owns a new smartphone.  
b. I don't think that Lauren knows **jackshit**<sub>A</sub> about physics.

But to account for the overwhelming evidence for syntactic NEG raising detailed in Collins & Postal (2014) (based on strict NPIs, Horn clauses, islands and negative parentheticals), it is also necessary to postulate a NEG raised from the embedded clause.

Minimally then, (57b) needs to be represented so far as (58), which we will revise shortly; see (61):

- (58) I do NEG<sub>1</sub> think that Lauren knows [NEG<sub>3</sub> SOME **jackshit**<sub>A</sub> about physics]

NEG<sub>1</sub> and NEG<sub>3</sub> are independent NEG<sub>s</sub> (not related by raising). The matrix clause NEG<sub>1</sub> is needed to account for the behavior of (57b) with respect to the extended Klima tests. NEG<sub>3</sub> raises to the matrix clause and accounts inter alia for the island effects documented in Collins & Postal (2014) and for the grammaticality of the strict NPI *jackshit*<sub>A</sub>.

Although the idea that the main clause of a SC INR example involves at least one unraised main clause NEG conflicts with the Collins & Postal (2014) analysis in (6), that assumption as such is anything but original. It is the standard view of those who reject a syntactic view of INR, e.g. Bartsch (1973) and various later proposals influenced by that work. These include e.g. Horn (1978; 1989 [2001]), Horn & Bayer (1984), Tovená (2001), Pullum & Huddleston (2002: 838–843), Larrivee (2004: 103–105), Gajewski (2005; 2007; 2011), Sailer (2005; 2006), Bošković & Gajewski (2008), Homer (2010), and Romoli (2013); see the discussion in Collins & Postal (2014: Chapter 1). Moreover, Klima (1964: 292–295) proposed an analysis independent of semantics in which an SC INR structure



was represented by a main clause with an unraised NEG as well as a complement clause with a NEG which was in effect deleted (*absorbed* in his terminology). Further, the analysis of NQ INR cases in Collins & Postal (2014) also appeals to a main clause interpretable NEG, in fact, two; see Section 9.

However, representation (58) does not yield a correct interpretation of (57b), one equivalent to (59a), but rather an erroneous interpretation equivalent to (59b).

- (59) a. I don't think that Lauren knows anything about physics.  
b. I don't think that Lauren knows nothing about physics.

To rectify this general deficiency, we thus advance hypothesis (60):

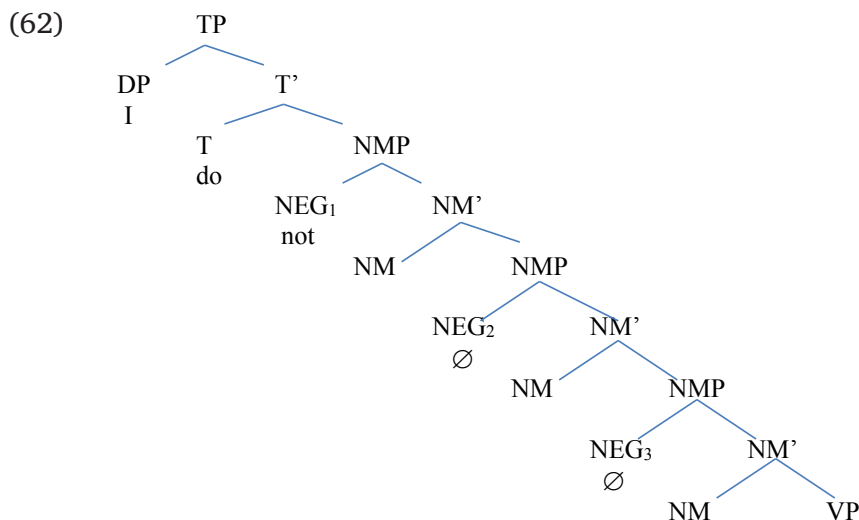
- (60) Two NEG<sub>s</sub> originate in a SC INR main clause C. These NEG<sub>s</sub> are hence interpretable in C, and each scopes higher than the main predicate of C.

This motivates modifying structure (58) to:

- (61) I do NEG<sub>1</sub> [NEG<sub>2</sub> think that Lauren knows [NEG<sub>3</sub> SOME *jackshit*<sub>A</sub> about physics]]

In this structure, neither NEG<sub>1</sub> nor NEG<sub>2</sub> has been raised from the embedded clause, and all three NEG<sub>s</sub> are independent. Once again, NEG<sub>3</sub> raises to the matrix clause and accounts for the island effects documented in Collins & Postal (2014). The raising of NEG<sub>3</sub> to the matrix clause is not shown in (61).

While there are various ways to implement the theoretical proposal in (60), we give here for concreteness a specific proposal in the PP/Minimalist framework outlined in Collins & Postal (2014: Section 3.8).<sup>8</sup> In that framework, each NEG is introduced as the specifier of a dedicated functional projection *NEG Merge Phrase* (NMP). NMP should not be identified with the PP/Minimalist NEG<sub>P</sub>, although a comparison of NMP and NEG<sub>P</sub> is beyond the scope of this paper. NMP is projected to host NEG in its specifier. NEG<sub>1</sub> and NEG<sub>2</sub> are merged into Spec NMP. NEG<sub>3</sub> raises from the embedded clause and moves into Spec NMP. NEG<sub>2</sub> and NEG<sub>3</sub> are deleted, as discussed in Section 8 below.



<sup>8</sup> While the minimalist structure in (62) is a possible execution of our novel two NEG main clause hypothesis about SC INR, we are currently strongly attracted to a different and arguably more radical view. Under this, the analog of NEG<sub>1</sub> in (62) would modify the determiner of a covert DP representing the event quantifier of event semantics. That DP would scope higher than everything represented in (62). Such an approach raises many novel complicated issues and we are unable to develop it within the confines of the present paper.

## 7 A possible objection

Before continuing with the main theme, we address a possible objection. This would query whether it is viable to claim that a main clause double negation structure could satisfy the various extended Klima tests. In fact, independent of INR issues, there is strong evidence that such dual NEG structures can satisfy the relevant tests. In particular:

- (63)
- a. Lasnik (1972: 8)  
Not many girls don't like Rock Hudson, do they?
  - b. Not many of the demonstrators weren't arrested (and neither were many of the bystanders).
  - c. Not often do I not do my homework (I don't think).
  - d. Not many of the demonstrators weren't arrested. No, I guess not.

That is, Lasnik showed that a main clause with a negative subject and a post-aux NEG took a positive confirmative tag, one of the Klima tests for the presence of sentential negation. This was the only diagnostic Lasnik cited. But the others yield the same result as shown in (63b–d).

The examples in (63b–d) without the parenthesized test phrases were given in Lasnik (1972: 6) to show the existence of two origin loci for NEG in a single clause. The grammaticality of the Klima test phrases shows further that the presence of two NEG's in the same main clause does not interfere with the satisfaction by that clause of the extended Klima tests. So there is no basis for any claim that our dual NEG view of the main clauses of cases like (57b) would conflict with the properties of the extended Klima tests.

## 8 NEG deletion

Since only one of the three NEG's recognized in our new analysis of SC INR cases like (57b) is overt, we now briefly consider the specifics of the necessary NEG deletions in a typical case, e.g. (64a), which is related in certain ways to those like (64b, c):

- (64)
- a. I don't believe that Hugh will understand **a single thing**.
  - b. I believe that Hugh will understand not **a single thing**.
  - c. I believe that Hugh will not understand **a single thing**.

In the framework of Collins & Postal (2014), the complement clauses of these examples would share an underlying structure essentially like (65). We label the constituents with X, Y, Z since the precise syntactic identity of these constituents is not relevant to our claims. The structure of (64b), which does not manifest INR, is as follows:

- (65) I believe that [<sub>X</sub> Hugh will [<sub>Y</sub> < [<sub>DP</sub> [<sub>D</sub> NEG<sub>3</sub> SOME] [<sub>NP</sub> **single thing**]] >]<sub>6</sub>  
[<sub>Z</sub> understand DP<sub>6</sub>]]]

In (64b), there is no NEG raising or NEG deletion proper. The scope occurrence of DP<sub>6</sub> is regularly covert and the phrase appears overtly in the object position of *understand*. It is a regular feature of existential expressions like *a single thing* that the D SOME we posit is either null or perhaps appears as the indefinite article.

In (64c), NEG<sub>3</sub> raises from the scope position of its containing quantifier DP to a position right adjacent to the modal auxiliary, yielding:

- (66) I believe that [<sub>X</sub> Herbert will NEG<sub>3</sub> [<sub>Y</sub> < [<sub>DP</sub> [<sub>D</sub> <NEG<sub>3</sub>> SOME] [<sub>NP</sub> **single thing**]] >]<sub>6</sub> [<sub>Z</sub> understand DP<sub>6</sub>]]]



Further, on the assumption that  $NEG_3$  raises to the matrix clause, NEG deletion chain (68) satisfies what Collins & Postal (2014: 72) called the *NDEL Clausemate Condition* requiring the relevant deleted NEG to be a clausemate of its NEG deleter (see Section 10 for discussion of the locality requirement on NEG deletion). We do not represent the raised locus of  $NEG_3$  in (67), but its position in the main clause would be c-commanded by  $NEG_2$ ; see (62).

In these terms, since  $NEG_3$  originates in the embedded clause, the origin positions of  $NEG_3$  and  $NEG_2$  in (67) are not underlyingly clausemates. However, if, as we posit, INR leads to the raising of  $NEG_3$ ,  $NEG_2$  and  $NEG_3$  will be clausemates in the resulting structure. More precisely, this will result if  $NEG_3$  raises out of the embedded clause into the main clause. It follows that even though we take the raised  $NEG_3$  in cases like (64a) to be covert, its raising nonetheless plays a key role in the overall analysis, since it is a requirement for the determination in general terms of that covert status.

Turn then to the deletion of  $NEG_2$  by  $NEG_1$ . This also satisfies the NDEL C-command Condition and the NDEL Clausemate Condition.

Many questions about structures like (67) remain open. Consider (70):

(70) I don't not believe that Hugh will not understand **a single thing**.

Since INR is not obligatory with the CNRP *believe*, what happens if  $NEG_3$  in (67) does not raise? It may be that the grammatical (70) represents that structure. Example (70) would involve no NEG deletion. But suppose that in (67)  $NEG_1$  deletes  $NEG_2$ , but with no other NEG deletion. That would yield (71a) with structure (71b):

(71) a. I don't believe that Hugh will not understand **a single thing**.  
 b. I do  $NEG_1 <NEG_2 >$  believe that Hugh will  $NEG_3$  understand **a single thing**.

While grammatical, this is not a paraphrase of (64a) and thus should not have the same structure as the latter. Arguably then, some principle should, in any structure like (71), block the deletion of  $NEG_2$  without the deletion of  $NEG_3$ .

Fortunately, this is accomplished by a principle already invoked in Collins & Postal (2014: 75), called there the *NEG Deletion Evenness Condition*. This constraint, derived from a proposal of Szabolcsi (2004: 42), involves several complexities we cannot consider here. What it says for present purposes is that a NEG deletion chain cannot contain an odd number of deleted NEGs. But just that would be involved if (71b) were possible.

One conclusion of the discussion of (64a)/(67) is the following. Although our newer analysis of such SC INR cases must, just as our former treatment in (6) did, recognize syntactic NEG raising, the overt main clause NEG in such examples turns out *not* to be the NEG raised from the complement clause of the CNRP.

## 9 Uniform deletion of the raised NEG

As far as we know, the newer analysis of cases like (64a) captures every fact that the analysis in Collins & Postal (2014), schematized in (6), did. Moreover, beyond having the advantage of remaining consistent with the extended Klima tests, the newer treatment has the key additional virtue that it embodies the property that the raised NEG is deleted. This combines with the analyses we have presented of two other types of INR cases to suggest a more unified view of the various subtypes of INR than was possible before.

To understand this claim, we need to say a few words about the two other analyses earlier designated NQ (*negative quantifier*) and CU (*cloud of unknowing*) INR. We stress though that it is not our intention here to justify these previous analyses, a task we believe was accomplished in the works we cite. Here we just wish to explicate their relevant properties.

First, cases like (72a), called *composed quantifier cases* in Collins & Postal (2014: Chapter 16), were designated NQ INR structures in Section 1. These manifest a main clause based on a CNRP which contains no post-aux NEG and were treated along the lines of (72b), yielding the NEG deletion chain in (72c):

- (72) a. No one thinks that Alfred knows **jackshit<sub>A</sub>** about physics.  
 b. [NEG<sub>1</sub> SOME one] [NEG<sub>2</sub> thinks] that [<sub>DP</sub> < [<sub>D</sub> <NEG<sub>3</sub>> <SOME> ] ] [NP **jackshit<sub>A</sub>**] ><sub>5</sub> [Alfred knows DP<sub>5</sub> about physics]  
 c. < [NEG<sub>1</sub> SOME one], NEG<sub>2</sub>, NEG<sub>3</sub>>

In that work, NEG<sub>2</sub> is analyzed as a verbal NEG (instead of a verbal phrase or clausal NEG). Note that in Collins & Postal (2014), there is no NEGP, so the subject *no one* in (72a) is in subject position, it does not occupy Spec NEGP.

The posit of NEG<sub>3</sub> meets the requirement that a strict NPI like *jackshit<sub>A</sub>* have a local “licenser” (in standard terms) and was shown in addition to account for the fact that such cases are subject to a range of island constraints. The relevant fact here is that in an analysis like (72b), independently of any issues about extended Klima tests, the raised complement clause NEG<sub>3</sub> is taken to be deleted.

Second, Collins & Postal (2015a) argued for an analysis of CU INR cases like (73a) of the shape in (73b), yielding the NEG deletion chain (73c):

- (73) a. I don't know that ever before have the media played such a major role.  
 b. I [NEG<sub>1</sub> know-NF] that [ <NEG<sub>2</sub>> [ [ <NEG<sub>3</sub>> ever] before] have the media played such a major role ]  
 c. < [NEG<sub>1</sub> know], NEG<sub>2</sub>, NEG<sub>3</sub>>

In (73b), NEG<sub>3</sub>, which accounts for the fact that the fronted phrase in the subordinate clause can satisfy the conditions on Negative Inversion, is deleted. NEG<sub>2</sub> is raised to the matrix clause and accounts for island effects found with this construction.

So, our newer analysis of SC INR structures, in which the raised NEG is always deleted, combines with our previous analyses of types NQ and CU INR to permit formulation of a new condition on NEG deletion in INR structures, given in (74).

- (74) The INTERCLAUSAL NEG RAISING Obligatory NEG Deletion Condition  
 If NEG<sub>1</sub> raises from position P to a position Q, where P and Q are not clausemate positions, NEG<sub>1</sub> is deleted.

This condition determines that the main clause into which INR raises a NEG always contains a distinct NEG, one participating in a NEG deletion chain. But as our survey of INR types has indicated, under our various proposed INR analyses, this condition is systematically met.

Two of the three INR analyses we previously proposed already satisfied condition (74). And unlike our previous analysis of type SC INR, the newer one also satisfies (74). This reveals that the newer analysis permits a more uniform and more restricted view of INR. It can now be claimed that all instances of non-clause bound NEG raising result in the deletion of the raised NEG in a main clause containing at least one original (hence interpreted there) NEG.

## 10 Locality of NEG deletion

Consider (75a), and a schematized version of the structure assigned to it by Collins & Postal (2014):

- (75) a. Nobody believes/thinks that Amanda knows *jackshit*<sub>A</sub>.  
 b. Nobody <NEG<sub>1</sub>> <NEG<sub>2</sub>> believes/thinks that Amanda knows  
 [<NEG<sub>2</sub>> **jackshit**<sub>A</sub>]

In this structure, *nobody* and NEG<sub>1</sub> are interpreted in the matrix clause, while NEG<sub>2</sub> is interpreted in the embedded clause. The subject DP *nobody* deletes NEG<sub>1</sub>, which deletes NEG<sub>2</sub> (which has raised from the embedded clause). So there is the following NEG deletion chain:

- (76) <nobody, NEG<sub>1</sub>, NEG<sub>2</sub>>

Given the representation in (75b) and others that have been given in this paper, a referee raises the following question: can any scope bearing element (e.g. the adverb *often*) appear between *nobody* and NEG<sub>1</sub>? To address this question, we consider the following contrast, which may not have been previously noted in the NEG raising literature:

- (77) a. Nobody believes/thinks that Amanda knows **jackshit**<sub>A</sub> about linguistics.  
 b. \*Nobody often believes/thinks that Amanda know **jackshit**<sub>A</sub> about linguistics.

One cannot attribute the ungrammaticality of (77b) to the mere presence of *often* modifying *believe/think*, since cases like (78) are fine:

- (78) I often believe/think that Amanda doesn't know **jackshit**<sub>A</sub> about linguistics.

A similar contrast holds with other strict NPIs:

- (79) a. Nobody believes/thinks that Amanda has seen her mother *in years*.  
 b. \*Nobody often believes/thinks that Amanda has seen her mother *in years*.

The framework of Collins & Postal (2014) allows for (77b) the following schematically characterized possible structures:

- (80) a. Nobody often <NEG<sub>1</sub>> <NEG<sub>2</sub>> thinks that Amanda knows  
 [<NEG<sub>2</sub>> **jackshit**<sub>A</sub>]  
 b. Nobody <NEG<sub>1</sub>> often <NEG<sub>2</sub>> thinks that Amanda knows  
 [<NEG<sub>2</sub>> **jackshit**<sub>A</sub>]  
 c. Nobody <NEG<sub>1</sub>> <NEG<sub>2</sub>> often thinks that Amanda knows  
 [<NEG<sub>2</sub>> **jackshit**<sub>A</sub>]

To force the ungrammaticality of (77b), all of these need to be blocked. In the first two, a NEG deleter and the deleted NEG are separated by *often*. Now Collins & Postal (2014: 72), contains a principle, the NDEL Clausemate Condition, requiring that a certain locality condition hold between a NEG deleter and (at least the unary) NEG it deletes. These were required to be clause mates. But we were aware that this necessary condition could well be too weak, stating in Collins & Postal (2014: 72): "This necessary condition does not preclude the possibility that the correct locality constraint on NDEL is even stricter, even to the level of the sisterhood requirement." To address the data in (77b) and (79b), we now propose a relevant strengthening of the Collins & Postal (2014) NDEL Clausemate Condition, changing the name to be consistent with the newer content:

- (81) The Contiguity Condition on NEG Deletion  
 If X is a NEG deleter of a unary NEG, NEG<sub>1</sub>, then there is no Y such that X c-commands Y and Y c-commands NEG<sub>1</sub>.

The framework of Collins & Postal (2014) recognized three kinds of NEG deletion: (a) deletion of a reversal NEG, (b) deletion of a unary NEG with determiner sharing, and (c) deletion of a unary NEG without determiner sharing. Condition (81) is intended only to apply to case (c), although we will not attempt here to make its formulation precise enough to guarantee that restriction.

Condition (81) blocks both (80a, b). In (80a), *often* intervenes between the NEG deletion pair *nobody* and  $\langle \text{NEG}_1 \rangle$ , and in (80b) *often* intervenes between the NEG deletion pair  $\langle \text{NEG}_1 \rangle$  and  $\langle \text{NEG}_2 \rangle$ .

Turn then to structures like (80c) so far unblocked. We propose that here also what is needed is not a new condition but a strengthening of one already invoked. This was the Collins & Postal (2014: 118) version of Seuren's (1974) generalization that we called the *Highest Operator Constraint*. To formulate the needed strengthening we define to a first approximation the notion *operator* as any phrase (e.g. an adverb, a DP) that denotes a generalized quantifier.

The strengthened condition can then be given as follows; once more the modified formulation motivates a renaming:

(82) The Intervention Constraint on NEG Raising

If a NEG raises to position P, and originates in a unary NEG structure  $W = [\text{NEG } X]$ , then there is no operator Y such that P c-commands Y and Y c-commands W.

The Intervention Constraint on NEG Raising is more general than the earlier Highest Operator Constraint, since the latter only applied to INR, whereas the Intervention Constraint on NEG Raising applies to all kinds of NEG raising. We note in passing that the newer constraint is similar to Linebarger's (1987) Immediate Scope Constraint, although we have not done a systematic comparison.

Condition (82) can be schematized as follows:

(83) \*...NEG<sub>1</sub>...Y....[ $\langle \text{NEG}_1 \rangle$  X]....

Given (83), ungrammatical structure (80c) is ruled out since  $\langle \text{NEG}_2 \rangle$  raises over the operator *often*.

We have been dealing with ill-formed examples like (77b) and (79b), which involve a subject negative quantifier DP. The INR cases here all involve what we have called NQ INR. But similar contrasts exist with the more frequently discussed SC INR.

(84) a. I often think Amanda doesn't know **jackshit**<sub>A</sub> about linguistics.  
b. \*I don't often think Amanda knows **jackshit**<sub>A</sub> about linguistics.

(85) a. I often think Amanda has not seen her mother in years.  
b. \*I don't often think Amanda has seen her mother in years.

Schematizing somewhat, (84b) has the following possible structures:

(86) a. I do NEG<sub>1</sub> often  $\langle \text{NEG}_2 \rangle$   $\langle \text{NEG}_3 \rangle$  think that Amanda knows  
[ $\langle \text{NEG} \rangle$  **jackshit**<sub>A</sub>]  
b. I do NEG<sub>1</sub>  $\langle \text{NEG}_2 \rangle$  often  $\langle \text{NEG}_3 \rangle$  think that Amanda knows  
[ $\langle \text{NEG}_3 \rangle$  **jackshit**<sub>A</sub>]  
c. I do NEG<sub>1</sub>  $\langle \text{NEG}_2 \rangle$   $\langle \text{NEG}_3 \rangle$  often think that Amanda knows  
[ $\langle \text{NEG}_3 \rangle$  **jackshit**<sub>A</sub>]

Our schematization leaves unspecified the origin position of NEG<sub>1</sub> in all of these cases. One such position, we claim, would be as a modifier of *often*. On that analysis each of the resulting examples would be ungrammatical for reasons entirely unconnected to the present discussion, namely, as partially discussed in Collins & Postal (2014: 99); Collins & Postal (2015b: 15), deletion of the unary NEG of an NPI requires a NEG deleter X where X is both formed of a syntactic NEG and defines an antiadditive operator. [NEG often] is formed with a syntactic NEG, but it is not antiadditive.

Ignoring the [NEG often] analysis, the alternative takes NEG<sub>1</sub> in all of (86) to be a so-called *sentential negation*. As in the diagram in (62), we will assume that such sentential negation occupies Spec NMP. Given this assumption, the Contiguity Condition on NEG Deletion blocks both (86a, b). The former is blocked because the deletion of NEG<sub>2</sub> is illicit, the latter because the deletion of NEG<sub>3</sub> is. Case (86c) violates (82), since NEG<sub>3</sub> raises over *often*.

## 11 Parentheticals revisited

Chapter 17 of Collins & Postal (2014) presented an account of the structure of parenthetical expressions like (87a), and of particular interest here, of those involving negation like (87b, c):

- (87) a. Ruth would, I guess, invite lots of students.  
 b. Ruth would not, I don't guess, invite foreign students.  
 c. No professor would, I don't guess, invite foreign students.

Developing insights of Ross (1973), the account sought to explicate his observation that negative parentheticals such as (87b, c) are in general not possible with non-CNRP predicates:

- (88) Ruth wouldn't invite foreign students (\*I didn't assert/claim/concede/find out/judge/observe).

None of the verbs in the parentheses here are CNRPs.

Ross (1973: 136) noted an exception to the need for a CNRP in a negative parenthetical. Namely, if the parenthetical-forming verb is one of those with negative force, e.g. *deny*, *doubt*, *forget*, the examples are acceptable:

- (89) Ruth would not, I didn't deny/doubt invite foreign students.

To account for the properties of parenthetical clauses, specifically for the restrictions on negative ones, Collins & Postal (2014: Chapter 17) proposed a constraint called there the *Parenthetical Non-decreasingness Condition*. Since the actual formulation of that involved various complications related to our conception of the syntax of parentheticals and their relations to the main clause they modify, we cannot consider its detail here. It suffices to indicate that this condition restricted the semantics of a parenthetical clause. It required that the composition of the meanings of all the elements in it (e.g. subject, predicate, negation, adverb) yielded only certain types of function. These had to be non-decreasing in a specific restricted sense with respect to what we took to be the covert complement clause of the parenthetical clause, that covert clause being identical to the modified main clause.<sup>10</sup>

<sup>10</sup> However, as noted in Collins & Postal (2014: 244–245, footnote 6), there is an issue here with the definition of *non-decreasing*, which must be restricted to belief worlds. See also the discussion in Collins & Postal (2015a: 28–29).



This condition determines that no grammatical parenthetical clause is possible if it contains one interpretable NEG or if it contains no interpretable NEG and a predicate with negative force. On the contrary, if a parenthetical contains two interpretable NEG's, or a predicate with negative force and one interpretable NEG, the Parenthetical Nondecreasingness Condition is satisfied. These generalizations correctly draw such distinctions as the following:

- (90)
- a. Love is complicated, I guess.  
(No interpretable NEG, no predicate with negative force, result: increasing semantics)
  - b. Love is complicated, \*I denied/doubted/forgot.  
(No interpretable NEG, predicate with negative force, result: decreasing semantics)
  - c. Love is complicated, I didn't deny/doubt/forget.  
(One interpretable NEG, predicate with negative force, result: increasing semantics)
  - d. Love is complicated, no one denied/doubted/forgot.  
(One interpretable NEG, predicate with negative force, result: increasing semantics)
  - e. Love is complicated, \*no one didn't deny/doubt/forget.  
(Two interpretable NEG's, predicate with negative force, result: decreasing semantics)

These results provide basic support for the Parenthetical Nondecreasingness Condition. But it remains to explicate how cases like (91) can be grammatical:

- (91)
- a. Love is not, I don't believe, all that complicated.
  - b. Love is not, no one believes, all that complicated.

That is, each of (91a, b) seems at first glance to involve a parenthetical containing no predicate with negative force and only a single interpretable NEG. Why then are they grammatical? The answer in Collins & Postal (2014) appealed to INR, but in two different ways.

For SC INR parentheticals like (91a), the claim was that the parenthetical clause contained no interpretable NEG, since the overt NEG was raised from the covert complement clause of the parenthetical clause. That is, we invoked an analysis of the form in (6) above, so that cases like (91a) were perfectly compatible with the Parenthetical Nondecreasingness Condition.

For type NQ INR parenthetical clauses like that in (91b), however, the result followed from the completely different analysis given in Chapter 16 of Collins & Postal (2014) of cases like (72a), represented in (72b). That is, in addition to the NEG of the negative quantifier DP, we posited a distinct covert NEG, taken there, rather arbitrarily, to be a verbal NEG. The composition of these two NEG's then yielded increasing semantics, but in a different way from that in (91a). Since we have indicated that we maintain in this paper an analysis of the NQ cases like (72b), the results of Collins & Postal (2014) in this regard are maintained.

Having rejected an analysis of SC INR cases along the lines of (6) in favor of one like the structure in (67), we need to show how the newer analysis, applied to cases like (91a), yields increasing semantics for the parenthetical clause to determine consistency with the Parenthetical Decreasingness Condition and hence grammaticality for the relevant parentheticals. But this is straightforward since, as gone over in Sections 6–8, our newer analysis posits two NEG's in the main clause, one under the scope of the other. And we showed

how the negative (decreasing) force of the lower one is cancelled. Therefore, the newer two NEG analysis of such cases is no less consistent with the Parenthetical Decreasingness Condition than the older analysis sketched in (6).

Notably, for the CU INR cases considered in Horn (2014), the situation is different. In Collins & Postal (2015a) we argued that these involve INR, albeit with a previously unknown class of main clause “triggers” we called *cloud of unknowing predicates*. But we analyzed such cases as in (73) above with only a single main clause interpretable NEG. That means that such main clauses manifest decreasing semantics and should, therefore, fail to form grammatical parentheticals. And just that failure was noted by Larry Horn (personal communication of April 19, 2014 to PMP), as indicated by:

- (92) a. I don't know/can't say that the council is prepared to support that proposal.  
 b. \*The council is not, I don't know-NF/can't say, prepared to support that proposal.

Thus our INR analysis of the type CU INR cases Horn (2014) discovered is also consistent with the Parenthetical Decreasingness Condition.

## 12 Conclusion

This paper has revealed a fatal flaw in the Collins & Postal (2014) syntactic analysis of type SC INR represented in (6) above, one that also existed unnoticed in all previous syntactic analyses of SC INR including Fillmore (1963), Lakoff (1969), Horn (1971; 1972), Seuren (1974) and McCawley (1998). All these analyses wrongly claim the scope of the supposedly raised NEG is internal to the complement clause. But the extended Klima tests show that there must be some NEG with matrix clause scope in type SC INR cases.

To solve the conflict between the Collins & Postal (2014) analysis and the extended Klima test results, we posited a new syntactic analysis of SC INR, one positing two distinct original NEGs in the main clauses of such examples.

We have, further, indicated how our novel syntactic INR treatment eliminates an asymmetry in the class of previous syntactic analyses of INR (SC INR, NQ INR and CU INR). This permits the posit of condition (74), requiring that any NEG raised from an embedded clause into a main clause is deleted.

Lastly, we showed how our new treatment retains core results of Collins & Postal (2014) and Collins & Postal (2015a). Specifically, since the new analysis maintains the view that there is syntactic NEG raising, we are able to account for the fact that INR of all the SC, NQ and CU varieties manifests island effects and gives rise to Horn clauses. Furthermore, we showed how the new analysis accounts for the relevant range of negative parenthetical facts.

The bottom line is that although the extended Klima tests show that a syntactic analysis like (6) for SC INR cases is not viable, they do not more generally undermine syntactic NEG raising analyses of such cases. If the argument of this paper is correct, nothing in the hitherto ignored facts about the relation between extended Klima tests and INR lends any support to non-syntactic views of INR.

## Abbreviations

CNRP = Classical NEG raising predicate, CU = Cloud of unknowing (cases of interclausal NEG raising), INR = Interclausal NEG raising, NDEL = The NEG deletion relation, NPI = Negative polarity item, NQ = Negative quantifier (cases of interclausal NEG raising), SC = Standard (cases of interclausal NEG raising)

## Competing Interests

The authors have no competing interests to declare.

## References

- Acquaviva, Paolo. 1997. *Logical form of negation*. New York: Garland Science.
- Bartsch, Renate. 1973. 'Negative transportation' gibt es nicht. *Linguistische Berichte* 27. 1–7.
- Blanchette, Frances. 2015. *English negative concord, negative polarity, and double negation*. New York, NY: City University of New York dissertation.
- Boškovič, Željko & Jon Gajewski. 2008. Semantic correlates of the NP/DP parameter. In Suzi Lima, Kevin Mullin & Brian Smith (eds.), *NELS 39: Proceedings of the thirty-ninth annual meeting of the North East Linguistic Society*, 121–134. Amherst, MA: University of Massachusetts, Graduate Linguistic Student Association.
- Cattell, Ray. 1973. Negative transportation and tag questions. *Language* 49. 612–639. DOI: <https://doi.org/10.2307/412354>
- Collins, Chris & Paul M. Postal. 2015a. Dispelling the cloud of unknowing. Ms, New York University. (<http://ling.auf.net/lingbuzz/002269>).
- Collins, Chris & Paul M. Postal. 2015b. A typology of negative polarity items. Ms, New York University. (<http://ling.auf.net/lingbuzz/002677>).
- Collins, Chris & Paul M. Postal. 2014. *Classical NEG raising*. Cambridge, MA: MIT Press.
- Collins, Chris, Paul M. Postal & Elvis Yevudey. 2015. Negative polarity items in Ewe. Ms. (<http://ling.auf.net/lingbuzz/002651>).
- De Clercq, Karen. 2011. Squat, zero & no/nothing: Syntactic negation vs. semantic negation. *Linguistics in the Netherlands 2011*. 14–24.
- Gajewski, Jon. 2005. *Neg-raising: polarity and presupposition*. Cambridge, MA: Massachusetts Institute of Technology dissertation.
- Gajewski, Jon. 2007. Neg-raising and polarity. *Linguistics and Philosophy* 30. 298–328. DOI: <https://doi.org/10.1007/s10988-007-9020-z>
- Gajewski, Jon. 2008. NPI Any and connected exceptive phrases. *Natural Language Semantics* 16. 69–110. DOI: <https://doi.org/10.1007/s11050-007-9025-8>
- Gajewski, Jon. 2011. Licensing strong NPIs. *Natural Language Semantics* 19. 109–148. DOI: <https://doi.org/10.1007/s11050-010-9067-1>
- Heim, Irene & Angelika Kratzer. 1998. *Semantics in generative grammar*. Cambridge, MA: MIT Press.
- Homer, Vincent. 2010. Neg-raising and positive polarity: The view from modals. Ms. (<http://semanticsarchive.net/cgi-bin/browse.pl?search=homer>).
- Horn, Laurence R. 1971. Negative transportation: unsafe at any speed? In Paul M. Peranteau, Judith N. Levi & Gloria C. Phares (eds.), *Papers from the seventh regional meeting of the Chicago Linguistic Society*, 120–133. Chicago, IL: University of Chicago.
- Horn, Laurence R. 1972. *On the semantic properties of logical operators in English*. Los Angeles, CA: University of California dissertation.
- Horn, Laurence R. 1975. Neg-raising predicates: Toward an explanation. In Robin E. Grossman, L. James San & Timothy J. Vance (eds.), *Papers from the eleventh regional meeting of the Chicago Linguistic Society*, 280–294. Chicago, IL: University of Chicago.
- Horn, Laurence R. 1978. Remarks on neg-raising. In Peter Cole (ed.), *Pragmatics*, 129–220. New York, NY: Academic Press.
- Horn, Laurence R. 1989[2001]. *A natural history of negation*. Stanford, CA: CSLI Publications.
- Horn, Laurence R. 2014. The cloud of unknowing. In Jack Hoeksema & Dicky Gilbers (eds.), *Black book: A festschrift in honor of Frans Zwartz*, 78–96. Groningen: University of Groningen.
- Horn, Laurence R. & Samuel Bayer. 1984. Short-circuited implicature: A negative contribution. *Language and Philosophy* 7. 397–414. DOI: <https://doi.org/10.1007/BF00631074>
- Jacobs, Joachim. 1980. Lexical decomposition in montague grammar. *Theoretical Linguistics* 7. 121–136. DOI: <https://doi.org/10.1515/thli.1980.7.1-3.121>

- Johnson, David E. & Paul M. Postal. 1980. *Arc pair grammar*. Princeton, NJ: Princeton University Press.
- Klima, Edward. 1964. Negation in English. In Jerry A. Fodor & Jerrold J. Katz (eds.), *The structure of language*, 246–323. Englewood Cliffs, NJ: Prentice Hall.
- Lakoff, Robin. 1969. A syntactic argument for negative transportation. In Robert Binnick, Alice Davison, Georgia M. Green & Jerry L. Morgan (eds.), *Papers from the fifth regional meeting of the Chicago Linguistic Society*, 148–294. Chicago, IL: The University of Chicago. Reprinted in Pieter A. M. Seuren (ed.), *Semantic syntax*, 175–182. Oxford: Oxford University Press.
- Larrivé, Pierre. 2004. *L'association négative*. Geneva: Librairie Droz.
- Lasnik, Howard. 1972. *Analyses of negation in English*. Cambridge, MA: Massachusetts Institute of Technology dissertation. Reproduced by the Indiana University Linguistics Club 1976.
- Lindholm, James M. 1969. Negative raising and sentence pronominalization. In Robert Binnick, Alice Davison, Georgia M. Green & Jerry L. Morgan (eds.), *Papers from the fifth regional meeting of the Chicago Linguistic Society*. Chicago, IL: The University of Chicago.
- Linebarger, Marcia C. 1987. Negative polarity and grammatical representation. *Linguistics and Philosophy* 10. 325–387. DOI: <https://doi.org/10.1007/BF00584131>
- May, Robert. 1985. *Logical form: Its structure and derivation*. Cambridge, MA: MIT Press.
- May, Robert. 1989. Interpreting logical form. *Linguistics and Philosophy* 12. 387–435. DOI: <https://doi.org/10.1007/BF00632471>
- McCawley, James D. 1998. *The syntactic phenomena of English*. Chicago, IL: University of Chicago Press.
- Moscato, Vincenzo. 2006. *The scope of negation*. Siena: University of Siena dissertation.
- Payne, John R. 1985. Negation. In Timothy Shopen (ed.), *Language typology and syntactic Description*, Vol. 1 Clause structure, 197–242. Cambridge: Cambridge University Press.
- Penka, Doris. 2011. *Negative indefinites*. Oxford: Oxford University Press.
- Penka, Doris. 2015. Negation and polarity. In Nick Riemer (ed.), *Routledge handbook of Semantics*, 303–320. London: Routledge.
- Postal, Paul M. 2010. *Edge-based clausal syntax*. Cambridge: MIT Press
- Pullum, Geoffrey K. & Rodney Huddleston. 2002. Negation. In Rodney Huddleston & Geoffrey K. Pullum (eds.), *The Cambridge grammar of the English language*, 785–849. Cambridge: Cambridge University Press.
- Romoli, Jacopo. 2013. A scalar implicature-based approach to neg-raising. *Linguistics and Philosophy* 36. 291–353 DOI: <https://doi.org/10.1007/s10988-013-9136-2>
- Ross, John Robert. 1973. Slifting. In Maurice Gross, Morris Halle & Marcel-Paul Schützenberger (eds.), *The formal analysis of natural languages*, 133–169. The Hague: Mouton.
- Sailer, Manfred. 2005. NEG-raising in an underspecified semantics framework. Paper presented at *Colloque de Syntaxe et Sémantique*, Paris. ([http://www.cssp.cnrs.fr/cssp2005/index\\_en.html](http://www.cssp.cnrs.fr/cssp2005/index_en.html)).
- Sailer, Manfred. 2006. Don't believe in underspecified semantics: Neg raising in lexical resource semantics. In Oliver Bonami & Patricia Cabredo Hofherr (eds.), *Empirical Issues in Syntax and Semantics* 6. 375–403. (<http://www.cssp.cnrs.fr/eiss6>).
- Stockwell, Robert, Paul Schachter & Barbara Hall Partee. 1973. *The major syntactic structures of English*. Toronto: Holt, Rinehart & Winston.
- Seuren, Pieter A. M. 1974. Negative's travels. In Pieter A. M. Seuren (ed.), *Semantic syntax*, 96–122. Oxford: Oxford University Press.
- Szabolcsi, Anna. 2004. Positive polarity—negative polarity. *Natural Language and Linguistic Theory* 22. 409–452. DOI: <https://doi.org/10.1023/B:NALA.0000015791.00288.43>

- Temmerman, Tanja. 2012. *Multidominance, ellipsis, and quantifier scope*. Leiden: University of Leiden dissertation.
- Tovena, Lucia M. 2001. Neg-raising: Negation as failure. In Jack Hoeksema, Hotze Rullmann, Victor Sanchez-Valencia & Ton van der Wouden (eds.), *Perspectives on negation and polarity items*, 331–356. Amsterdam: John Benjamins.
- Tubau, Susagna. 2008. *Negative concord in English and Romance: Syntax-morphology interface conditions on the expression of negation*. Amsterdam: Amsterdam Center for Language and Communication dissertation. (<http://hdl.handle.net/11245/1.299759>).

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