

Neg-Raising and Long-distance licensing of Negative Polarity Items

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1. Introduction¹

NEG-Raising, or Negative Transportation, as it was originally called by Fillmore (1963), is one of the transformations familiar from early work in generative grammar. It was proposed to account for the fact that sentences such as (1) may be interpreted in the same way as (2) by lifting the negation out of the embedded clause into the main clause.

- (1) I don't think it's going to rain.
- (2) I think it's not going to rain.

Of course, there is also another reading, the matrix-negation reading, which simply denies that the speaker thinks it is going to rain. For this reading, the negation need not be moved, but is generated and interpreted in the matrix clause.

It was recognized early on that the rule of NEG-raising only seemed to apply with a limited number of matrix verbs, such as *think*, *believe*, *suppose*. Verbs of saying, factive verbs and most other matrix verbs do not have a NEG-Raising reading when negated:

- (3) Abe didn't say he would come <≠> Abe said he wouldn't come
- (4) Barbara doesn't know class is cancelled <≠> Barbara knows class is not cancelled.
- (5) Chris did not hear that the bell was tolling <≠> Chris heard that the bell wasn't tolling.

The class of NEG-Raising verbs does not seem to be random. To the contrary, in many languages the set of verbs that show the ambiguity illustrated in (1) are by and large the same as in English (cf. Prince 1976 for a comparison of English and French, and Horn 1978, and Popp 2016 for a more wide-ranging overview).

One of the arguments in favor of NEG-raising, apart from the fact that (1) seems to have two readings, can be distilled from the distribution of certain negative polarity items (NPIs). Long-distance licensing of some NPIs by negation in a higher clause may depend on the availability of a NEG-raising interpretation. Prince (1976) mentions *lift a finger* and French *de la nuit*, among other examples, as NPIs of this kind. In the following examples, the grammatical sentences involve NEG-raising, whereas the ungrammatical ones, which are syntactically similar, do not involve NEG-raising.

- (6) a. I don't think he lifted a finger to help.
- b. *I don't mean that he lifted a finger to help.

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- (7) a. Je n’imagine pas que Guy ait dormi de la nuit.
 I neg-imagine not that Guy has slept of the night
 ‘I don’t imagine that Guy has slept all night’
 b. *Je ne veux pas dire que Guy ait dormi de la nuit.
 I neg want not say that Guy has slept of the night
 ‘I don’t want to say that Guy has slept all night’

If it is assumed that these NPIs require licensing by clause-mate negation, and, moreover, that this negation may move upward to a higher clause just in case this clause contains a NEG-raising matrix verb, the difference between the above a- and b-sentences is explained.

In the 1970s, the rule of NEG-raising came under attack. Bartsch (1973) argued that the ambiguity of (1) might be explained in semantic terms. More precisely, if we assume for the complements of certain predicates the law of the excluded middle, we may derive the NEG-raising interpretation for sentences with these predicates. Let $f = I \text{ think that}$, then (1) can be represented by the formula in (8a), and together with (8b), we derive (8c):

- (8) a. $\neg f(p)$
 b. $f(p) \vee f(\neg p)$
 c. $f(\neg p)$

The crux in this analysis is the status of (8b). Bartsch (1973) considered it to be a pragmatic presupposition, while Gajewski (2007), who further developed Bartsch’s account, considers it a weak presupposition. Weak means in this context that it is easily defeasible. Romoli (2012, 2013) argues that (8b) is a scalar implicature.

Given the possibility of a semantic alternative, the rule of NEG-raising was no longer needed. Moreover, syntactic theory in the 1970s was moving toward stricter restrictions on the transformational component. Consequently, there was little support for retaining Neg-Raising as a syntactic operation. This situation did not change until the publication of Collins and Postal (2014), a monograph-length defense of Neg-Raising as a syntactic transformation. It is this highly interesting and tightly argued study which led me to take a look at NEG-raising in connection with long-distance licensing of negative polarity items. Using large hand-collected corpora of naturally-occurring data, I come to different conclusions, as I will explain below. The main claim of this paper is that the evidence from long-distance licensing does not point to a main division between NEG-raising and non-NEG-raising verbs, but rather to one between NEG-raising and nonfactive matrix verbs on the one hand, and factive verbs and verbs of saying on the other.

In this paper, I mainly look at negative transportation from finite clauses in English and Dutch. Infinitival clauses play a minor role in my exposition, and altogether absent from the discussion will be the role of subjunctive mood (important in many languages for long-distance licensing of polarity items – cf. e.g. Progovac 1994, Giannakidou & Quer 1997) or the role of sequence-of-tense. Clearly, a fuller study taking these additional factors into consideration remains a desideratum. I lack sufficient data to study the variation to be found in French or another Romance language in the same level of detail, but it is to be hoped that this corpus study will inspire other linguists to do the same for their language.

The structure of this paper is as follows. In section 2, I will introduce and discuss the syntactic account of Collins & Postal (2014). I will provide some arguments against this account, and will show that some of the arguments in favor of it are invalid. In sections 3 and

4 I discuss some issues in NEG-raising that have been largely ignored in the literature, having to do with the interaction of the matrix verb and other matrix material such as modals in cases of long-distance licensing. Section 5 contains corpus data on long-distance licensing, showing that NEG-raising is not a crucial factor. Section 6 extends the discussion to long-distance licensing in questions. Section 7 contains the conclusions.

2. Collins & Postal's Classical Neg-Raising

2.1. Evidence from inversion

Collins & Postal (2014) base their argumentation for Neg-Raising on some old and some new observations. The old observations have to do with the NPI data briefly discussed above (and to which we return below), as well as a phenomenon, originally noted by Horn (1975, 1978), exemplified by the following sentence:

(9) I don't think that under any circumstances would he commit larceny.

What we see here is inversion order in the subordinate clause, of a kind usually associated with negative elements in English, as in

(10) I think that under no circumstances would he commit larceny.

Negative inversion is not commonly found with NPIs such as *any*. Collins and Postal (2014: 135-6) give the following examples to show this:

(11) a. If you think that Melissa would leave at any point, let me know.
b. *If you think that at any point would Melissa leave, let me know.

(12) a. Do you think that Melissa would leave at any point?
b. *Do you think that at any point would Melissa leave?

(13) a. Everyone who thinks that he will surrender at any time is mistaken.
b. *Everyone who thinks that at any time will he surrender is mistaken.

What is the crucial difference between the b-examples in (11-13) and example (9)? It appears to be the presence of negation. Collins and Postal argue that the negation starts out on the fronted phrase, allowing it to appear in an inversion context, and then moves onward to the matrix clause. This predicts, as already noted in Horn (1975), that sentences such as (9) become ungrammatical when the matrix verb is replaced by a non-NEG-raising verb:

(14) *I did not claim that under any circumstances would he commit larceny.

While the inversion data are interesting, they are only of interest to the study of English. More generally relevant is another type of argument for syntactic movement, namely the existence of island conditions on NEG-raising. While some of the older literature on Neg-Raising (e.g. Seuren 1974) alludes to such conditions, Collins & Postal (2014: 103-123)

presents the first full-fledged exposition. They state (*ibid.*, 103) “we will argue that Classical NR is subject to island constraints. This result does not follow from any known semantic/pragmatic approach to Classical NR, and we see no way it can be made to follow.”

It will not be possible to present all data adduced by Collins and Postal as evidence for island conditions on NEG-raising. A small selection will give an idea of this line of reasoning. Inversion in embedded clauses is impossible if the embedded clause is part of a complex noun phrase, due to Ross (1967) Complex NP Condition, and the negation is outside of that Complex NP:

- (15) a. I don't believe at any any point did Sandra steal money.
b. I hold the belief that at no point did Sandra steal money.
c. *I don't hold the belief that at any point did Sandra steal money.

Topicalized clauses and subject clauses are likewise syntactic islands. This means that they do not allow raising of negation, and the phenomena associated with it. The following sentences show that this appears to be the case for inversion:

- (16) a. Wanda does not believe that on any occasion had Kevin lied.
b. *That on any occasion had Kevin lied, Wanda does not believe.
c. *That on any occasion had Kevin lied was not believed by Wanda.

Whether or not the patterns in (15) and (16) are relevant to the study of NEG-raising is not entirely as clear as Collins and Postal suggest it is. In particular, Haegeman (2012) argues that negative inversion belongs to a larger set of phenomena that are primarily found in root clauses and to a lesser extent in certain kinds of embedded clauses (Hooper & Thompson 1973, Emonds 1976, Heycock 2006), but not in topicalized clauses and subject clauses. For subject clauses, Haegeman (2012: 152) illustrates this with the following examples from the literature:

- (17) a. *That this book, Mary read thoroughly is true.
b. *That a rabbit he pulled out of the hat seemed to confuse him.
c. *That Mary, your antics will upset is obvious.
d. *That over the entrance should hang the gargoyle was written in the plans.
e. *That playing in tomorrow's concert will be Arthur Rubinstein is certain.

If negative inversion is like the embedded topicalization phenomena illustrated in (17), then the starred examples would be explained away by independent factors which have nothing to do with NEG-raising. Haegeman does not discuss this particular case, so I will. A crucial case would be the following sentence:

- (18) *That on no occasion had Kevin lied, Wanda believes.

This sentence should be much better than (16b), but it is not. Hence whatever account we propose for (18) —see Emonds (2004) and Haegeman (2012) for some suggestions— should extend to (16b,c), and we need make no additional assumptions regarding NEG-raising.

The same may be true of the data adduced to show effects of the Complex NP condition. Haegeman cites the following example from Emonds (2004) as evidence that the complement of a noun is not a good host for root clause phenomena such as negative inversion:

(19) *Their promise that only until five will they work will be hard to keep.

To conclude: Inversion data can be explained independently of NEG-raising. This does not necessarily mean that Collins & Postal (2014) is on the wrong track, but it does undermine part of their argumentation.

2.2. Evidence from strict negative polarity items

Collins & Postal (2014), following Horn (1975) in this regard, make a distinction between two types of NPIs, namely the not-so-strict type represented by *any*, *ever* and their ilk, and strict NPIs which require clause-mate licensing. We have already seen some examples of the latter kind in the introduction, and will now present a fuller discussion.

Strict NPIs are, among others, *until*, *breathe a word*, *stop at*, *in ages*, *jack shit*, and *lift a finger*. In other words, the list contains minimizers and minimizing predicates (cf. Eckardt 2006, Israel 2011 for discussion of this class of NPIs), temporal adverbs of the form *in N* (cf. Hoeksema 2005), taboo items (Horn 2001) and various other items.

As we saw in the introduction (examples 6-7), some cases of long-distance licensing are acceptable only if the matrix predicate is a NEG-raising predicate. In addition to this old observation, Collins & Postal (2014: 105) note that the licensing of strict polarity items is sensitive to topicalization and passivization, analogous to the data we noted above (examples in 16) in connection with inversion, cf.:

- (20) a. Laura does not believe that Sheila has prayed in years.
b. *That Sheila has prayed in years, Laura does not believe.
c. *That Sheila has prayed in years is not believed by Laura.
d. It is not believed by Laura that Sheila has prayed in years.

Note that the examples in (20) are also ruled out by standard c-command and precedence conditions on licensing (cf. Ladusaw 1979, Hoekstra 1991, Uribe-Echevarria 1993, de Swart 1998, Hoeksema 2000 for discussion.) However, the upshot of the debate on licensing is, that while topicalization of polarity items is largely impossible, topicalization of polarity items inside larger units such as clauses is generally not forbidden. Compare e.g. the following examples:

- (21) a. I don't want any cheese.
b. *Any cheese I don't want.
c. I can't believe that you have ever committed treason.
d. That you have ever committed treason, I can't believe.

One option, then, might be to conclude that strict NPIs are subject to c-command, even when embedded, whereas *any* and *ever* are only required to be c-commanded by negation

when they are not embedded in a large group. This would equally well predict the data in (20) as the assumption that NEG-raising is impossible from subjects and topicalized clauses. In other words, the NEG-raising analysis is not needed for the data at hand.

I should also note that the data are not as straight-forward as reported by Collins & Postal. In particular, we can find cases of long-distance licensing of alleged strict NPIs in contexts that are not NEG-raising, either because the verb is wrong, or because the clause is in a complex noun phrase:

- (22) a. He told me he didn't know of any specialists and gave no indication that he would lift a finger to try to find any for me.²
b. Dave was totally circumspect, and we had no concern that he would breathe a word of it to anyone.³
c. We saw a moonrise and a sunrise within 24 hours, something I can't say I've seen in years.⁴
d. "We haven't found any evidence he's done a damn thing," said Wright, the Florida investor who owns 12 million shares of stock that at last glance were worth less than a third of a penny per share.⁵
e. I'm not sure he's done a damn thing to correct it but it's been going on for a long time.⁶
f. "I'm not sure it meant a damn thing on the Arab street," Clark said.⁷

Horn (2014) has noted similar examples, in particular a use of *know* that is not factive, which he illustrates with an exchange from the 1992 Clint Eastwood western *Unforgiven*:

- (23) *Ned Logan*: How long has it been since you fired a gun at a man, Will? Nine, ten years?
Will Munny: Eleven.
Ned Logan: Easy, huh? Hell, I don't know that it was all that easy even back then. And we was young and full of beans.

In this example we see long-distance licensing of *all that*, which Collins & Postal (2014) list among the strict NPIs. Yet *know* does not seem to be a NEG-raiser here. The possibility of nonfactive readings for verbs meaning *know* appears to be something that varies from language to language. In modern Dutch, such a reading does not exist.⁸ A first-person present tense sentence such as (24) is pragmatically incorrect, since the presupposition is in conflict with the assertion. (For other combinations of person and tense, the sentence is just fine, of course.)

² <http://www.empowher.com/chronic-fatigue-syndrome/content/life-mecfs-23-years-casting-light-invisible-illness>.

³ Jay Conrad Levinson & Steve Savage, *Guerrilla Business Secrets: 58 Ways to Start, Build, and Sell Your Business*. Morgan James, Garden City, NY. 2009.

⁴ <http://www.campfirequilts.com/blog>.

⁵ <https://www.ksl.com/?sid=16226888> [Posting July 3, 2011]

⁶ <http://www.allenbwest.com/2015/09/obamas-economic-recovery-destroyed-in-just-9-charts/>.

⁷ *Investor's Business Daily*. Feb. 6, 2003.

⁸ Unlike early modern Dutch, cf. Hoeksema (2006) and Coppen (2013) for some discussion.

- (24) #Ik weet niet dat het regent
 I know not that it rains
 'I don't know it is raining'

Collins & Postal (2015) acknowledge and address the concerns raised by Horn, and propose an analysis which aims at retaining some of the beneficial aspects of their (2014) account, while repairing the problems noted by Horn (2014). However, the new analysis assumes that the matrix negation does not originate in the subordinate clause, and hence cannot be said to be a NEG-raising analysis anymore. The local negation needed for inversion and the licensing of strict NPIs is now assumed to be covert, deriving from two negative operators which are deleted. The crucial sentence from (23) is analyzed as follows, where the angle brackets indicate covert material, and the abbreviation NF stands for *nonfactive*.

- (25) I do [NEG1 know-NF] that [[<NEG2> [it was [<NEG3> all that easy] even back then]]

Collins & Postal (2015) assume that their raising analysis still applies to sentences with NEG-raising predicates. Various constraints are invoked to prevent the double negation from showing up in too many undesirable places. However, as far as I can see, nothing in their account prevents one from applying the kind of analysis shown in (25), with two covert negations, to (6b) or (7b), thus predicting counterfactually that these sentences should be grammatical.

2.3. Evidence from Dutch *heel*

Dutch has a negative polarity item, the attributive adjective *heel* 'whole', which can be used as below (cf. Den Dikken 2002, 2006, Hoeksema 2007):

- (26) Ik ken die hele vent niet.
 I know that whole guy not
 "I don't know that guy at all"

As noted by Den Dikken (2002, 2006), this item is a strict polarity item, resisting licensing from a matrix clause if the polarity item is downstairs in a subordinate clause. The examples in (27) show this for *willen* 'want', whereas the examples in (28) show it for *geloven* 'believe'. Note that the starred examples are OK on the irrelevant (and often semantically weird) mereological interpretation where one might be talking about part of a person.

- (27) a. Ik wil met die hele vent niet praten
 I want with that whole guy not talk
 "I don't want to talk to that guy at all"
 b. *ik wil niet met die hele vent praten
 I want not with that whole guy talk
 "I don't want to talk to that entire guy"
- (28) a. Ik geloof dat ik die hele vent niet ken.
 I believe that I that whole guy not know
 'I believe I don't know that guy at all'

- b. *Ik geloof niet dat ik die hele vent ken.
I believe not that I that whole guy know
'I don't believe I know that entire guy'

Sentences such as (28b) may be improved by adding an additional polarity item, as in (29), where the additional item is *ooit* 'ever'. This is known as secondary, or parasitic, licensing (Den Dikken 2002, Postal 2005, Hoeksema 2007):

- (29) Ik geloof niet dat ik die hele vent ooit gezien heb.
I believe not that I that whole guy ever seen have
'I don't believe I have ever seen that guy at all'

The additional polarity item *ooit* seems to function as the licenser of *heel*, making that licensing relation local. *Ooit* itself can be licensed long-distance, by *niet* or other NPI-triggers. Note that *willen*, like its English counterpart *want*, is a NEG-raising verb. Pieter Seuren writes in his blog (Seuren 2013) about *want*:

“Remarkably, verbs of the want-class appear to be very strong Neg-Raisers, so much even that some linguists have declared their non-raised versions ungrammatical. I think that goes way too far, but it is a fact that these predicates, if they are Neg-Raisers, seem to be the strongest ones of all.”

Geloven 'believe' is likewise a bona fide NEG-raiser. Consequently, Dutch *heel* is a clear case of a strict polarity item, licensed by clause-mate negation, which cannot be licensed by higher negation, even when the predicate is a NEG-raising verb. This throws doubt on any theory which assumes that this higher negation originates from the embedded clause.

2.4. Evidence from positive polarity items

One type of evidence not discussed by Collins & Postal (2014) might nonetheless be relevant. Positive polarity items, such as *already*, *still*, *some*, shun the presence of negation, in particular clause-mate negation. Ladusaw (1979: 85) states the restriction as follows (where API stands for Affirmative Polarity Item):

- (30) An API may not appear within the scope of a clause-mate negation.

If NEG-raising involves the syntactic lifting of negation from an embedded clause to a higher clause, this might have effects on the possibility of positive polarity items in the lower clause. If there is an effect, it should be that the clause-mate condition on anti-licensing proposed by Ladusaw is lifted just in case there is NEG-raising. However, such an effect does not appear to be present. Compare the sentences in (31) with the ones in (32). These sets should be similar in acceptability, but they are not.

- (31) a. We don't believe the shooters are still in the building.
 b. The cops don't think they did something wrong.
 c. I don't think the plane has already landed.
- (32) a. *?We believe the shooters are not still in the building.
 b. *?The cops think they did not do something wrong.
 c. *?!I think the plane hasn't already landed.

This means that anti-licensing of positive polarity items, an as-yet untapped source of evidence, does not support a syntactic account of NEG-raising either. Similar judgements hold for Dutch:

- (33) Ik geloof niet dat de daders nog in het gebouw zijn.
 I believe not that the culprits still in the building are
 "I don't believe that the culprits are still in the building"
- (34) *Ik geloof dat de daders niet nog in het gebouw zijn.
 I believe that the culprits not still in the building are
 "**I believe that the culprits are not still in the building"

A caveat: It might be objected that the sentences in (31) and (33) do not involve NEG-raising, but negation of the matrix clause without raising. Note however, that the NEG-raising interpretation is still available in these cases. E.g. (31a) is equivalent to

- (35) We believe the shooters are not in the building anymore.

Consequently, our conclusion stands that the evidence from positive polarity items does not support classical NEG-raising.

2.5. Evidence from multiple licensing

It is a well-known fact that the licensing relation between a polarity trigger such as negation and negative polarity items is not one-to-one (e.g. Horn & Kato 2000). One negative element may license a host of polarity items, compare:

- (36) Don't think that I would ever lift a finger to help any of you clowns!

One type of multiple licensing is of interest to us, involving items in both the matrix and the subordinate clause of a NEG-raising construction. Prince (1976: 411-2, fn. 7) presents a paradigm due to Richard Smaby:

- (37) a. I don't at all think that John will leave.
 b. I don't think that John will leave until next week.
 c. *I don't at all think that John will leave until next week.

Prince writes: “In (a), the negative polarity item in the matrix clause, *at all*, indicates a matrix NEG. In (b), on the other hand, the time-adverbial *until next week* can be claimed to indicate an underlying subordinate NEG which has been raised. The unacceptability of (c), containing both a matrix *at all* and a subordinate *until next week*, is then predictable in terms of this claim.”

While (37c) is iffy, I believe some variants are OK:

(38) Don't ever think he will leave until his demands are met.

The evidence from multiple licensing is not decisive, I conclude.

2.6. Evidence from partial cyclicity

As noted by Fillmore (1963) in his groundbreaking paper, NEG-raising (or as he called it, NOT-shifting) appears to operate in a cyclical manner. To cite Fillmore (1963: 220, fn. 12):

“Notice that a NOT-shifted sentence may itself be embedded into another string containing one of the verbs specified by this transformation, and the NOT may be shifted again. Repeated application of this rule in successive embeddings yields such sentences as I DON'T BELIEVE THAT HE WANTS ME TO THINK THAT HE DID IT, in which the NOT was originally associated with HE DID IT.”

However, as noted by Horn (1971), the cyclic motion of negation is stopped in its tracks if the order of the predicates is not conducive to repeated raising. In particular, *belief*-predicates embedding *desire*-predicates is fine, but *desire*-predicates embedding *belief*-predicates do not permit NEG-raising. In (39) below, sentence (a) is equivalent to sentence (b), whereas the same is not true for (40):

(39) a. I don't believe Bill wanted Harry to die. \approx
b. I believe Bill wanted Harry not to die.

(40) a. I don't want Bill to believe Harry died. \neq
b. I want Bill to believe Harry didn't die.

Various semantic accounts (Gajewski 2007, Romoli 2013) can account for this partial cyclicity, in terms of differences in presupposition projection (Gajewski) or exhaustification (Romoli). The syntactic Classical NEG-raising account does not offer an explanation for partial cyclicity, though the phenomenon should be studied more in depth (Collins & Postal 2014: 247).

3. Factive and nonfactive think

The most common NEG-raising verb in English is currently *think*. This verb is more complicated than one might suppose. Consider for instance the following pair of sentences:

- (41) a. I don't think we are number 1.
 b. I wouldn't have thought we are number 1.

While (41a) has the usual neg-raising reading, implying that I think we are not number 1, example (42), to the contrary, presupposes that the subordinate clause is true. One way to show this is by means of the following paraphrases:

- (42) a. #We are number 1, but I don't think so.
 b. We are number 1, but I wouldn't have thought so.

The counterfactual main clause does not seem to be at odds with the presupposed truth of the subordinate clause. The lack of sequence-of-tense in the b-examples is without any doubt connected to this. Had we put the subordinate clause in the tense of the main clause, the truth of the subordinate clause is clearly no longer presupposed:

- (43) I wouldn't have thought we were number 1.

The difference between the two uses of *think* is reflected in patterns of long-distance polarity licensing. Among other things, there is a difference between (44a) and (44b):

- (44) a. I don't think he is all that smart.
 b. ?*I wouldn't have thought that he is all that smart.

In Dutch, we have similar phenomena.

- (45) a. Ik denk niet dat ze bijster lang is.
 I think not that she all that tall is
 "I don't think she is all that tall."
 b. *Ik zou niet gedacht hebben dat ze bijster lang is.
 I would not thought have that she all that tall is
 "I would not have thought that she is all that tall"

The presence of matrix negation in the b-sentences is less important than the affirmative presupposition connected with the subordinate clause.

The above data could be handled in terms of classical NEG-raising if we assume that NEG-raising does not apply in the b-sentences. This could not be due to the matrix verb *think*, but we might postulate the existence of two verbs *think*, one being a NEG-raising verb, and the other being a factive, non-NEG-raising verb. However, such a move, apart from being a bit ad hoc, would not immediately generalize to other cases where irrealis or counterfactual contexts turn NEG-raisers into factive verbs. Consider in this connection the verb *suppose*:

- (46) a. The police does not suppose that the perps are all men.
 b. The police would not have supposed that the perps are all men.

Here we find a difference much like the one in (41a,b). This means that a strictly lexical solution, in terms of two verbs *think*, is best replaced by one where the verb, whether it be *think*, *suppose* or one of its Dutch counterparts, and its larger context (the modal element *would*, the auxiliary *have* + participial morphology and a nondependent tense in the subordinate clause) codetermine the semantic status of the subordinate clause. On a syntactic account, there is little reason to assume that NEG-raising would be impeded by the presence of irrealis elements.

4. Complex predicates and long-distance licensing

In section 3, we saw that we need to look at more than just the verb to determine NEG-raising and long-distance licensing. In this section I will discuss a couple of other cases where not just the main verb is at stake, involving the verb *hebben* 'have' in Dutch, and the verbs *zeggen/say* in Dutch and English.

4.1. *Hebben* + *dat*-clause in Dutch

The Dutch verb *hebben* is similar in many respects to its English cognate *have*. It can be used as a main verb, indicating possession, as a light verb with nominalizations, and as an auxiliary verb in the expression of the perfect. There is a modal use with infinitives, though less common than English *have to*, but by and large, *have* does not introduce finite clauses, unless a modal element is added, either a modal verb or a modal adverb (*graag*, *liever*, etc.), and finally, there is a habitual construction, typically with adverbs such as *weleens* or *soms* 'sometimes'.

- (47) a. *Jan heeft dat Piet luistert.
 Jan has that Pete listens
 '*Jan has that Pete listens'
- b. Jan heeft graag / liever dat Piet luistert.
 Jan has gladly/rather that Pete listens
 'Jan wants/prefers Pete to listen'
- c. Jan wil hebben dat Piet luistert
 Jan wants have that Pete listens
 'Jan wants Pete to listen'
- d. Je hebt weleens dat Piet luistert.
 You have sometimes that Pete listens
 'It happens from time to time that Pete listens'

The elements *graag* 'gladly' and *liever* 'rather' differ in that the latter is a positive polarity item, whereas the former is not:

- (48) a. Jan heeft niet graag dat men hem negeert.
 Jan has not gladly that one him ignores
 'Jan does not like people to ignore him'

- b. Jan heeft liever niet / *niet liever dat men hem negeert.
 Jan has rather not / *not rather than one him ignores
 'Jan would rather that people do not ignore him.'

Liever hebben is a NEG-raising predicate, as the English translation of (48b) already suggests. In this regard, it differs from the verb it is semantically close to, *prefer* (Dutch: *prefereren*). In cases of a binary choice, say who gets to win a boxing match, it may be perfectly reasonable to say:

(49) I don't prefer for either player to win, as long as somebody wins, for I hate draws.

If *prefer* were a NEG-raising predicate, this would make no sense, since it would then amount to the following contradictory claim (on the relevant reading where *neither player* has narrow scope with respect to the predicate *prefer*):

(50) I prefer for neither player to win, as long as somebody wins.

Graag hebben, in spite of the fact that negation scopes over *graag*, as we see in (48a), is likewise a NEG-raising predicate. The same is true for *willen hebben* 'want to have' which means pretty much the same thing as *willen* 'want' by itself. Volition predicates are listed in Horn (1975) as prime examples of NEG-raising. If we view *willen hebben* as a complex predicate selecting a clause, this need not be viewed as a problem. If, on the other hand, a full-blown clausal structure is proposed, with *willen* as a control predicate and a separate infinitival clause headed by *hebben*, both the licensing of the subordinate clause by *hebben* (cf. the ungrammatical status of 47a) and the NEG-raising properties are unaccounted for. In the Dutch syntactic tradition, there have been proponents of monoclausal structure for sentences with modal verbs and main verbs (e.g. Evers 1975) as well as proponents of bi-clausal structures (cf. Ter Beek 2008 for an overview). I see the *willen hebben* data as evidence for the monoclausal position.

4.2. Zeggen + modal / Say + modal

Verbs of saying are not NEG-raising predicates. As a matter of fact, they do not provide any information on the truth of the subordinate clause. Compare for instance the following two sentences:

- (51) a. Fiona was not sure that the answer was correct.
 b. Fiona did not say that the answer was correct.

While (51a) seems to indicate some doubt on the truth of the subordinate clause on the part of Fiona, (51b) reveals nothing about the truth of the subordinate clause as viewed by Fiona or the speaker. This semantic difference is reflected in long-distance licensing. While *not sure that* may introduce clauses with a wide variety of NPIs (see section 5 below), the same cannot be said of *say* or similar verbs of communication, such as *write*, *report* etc. This verb blocks, even more strongly than factive verbs it seems, long-distance licensing of polarity items.

In a collection of nearly 32,000 occurrences of English polarity items, I found 24 cases of long-distance licensing involving the matrix verb *say*. Of these 24, there were 19 cases where *say* was combined with *can*. Some examples are given in (52):

- (52) a. But I can't say his life makes all that much sense to me.⁹
b. I cannot say that I ever passed two hours with more self-complacency than I did those two at Lichfield.¹⁰
c. I can't say I took to either of them.¹¹
d. Can't say I give a shit about missing the Grammy's last night.¹²

Of the remaining 5, one involved the combination *would say*, and one *to say*:

- (53) a. I wouldn't say that was at all likely.¹³
b. This is not to say that Maya is without her problems.¹⁴

Yet another one involved the combination *mean to say*:

- (54) But you don't really mean to say that you suppose Eleanor has ever thought of marrying Mr. Slope?¹⁵

In none of these cases does *say* function as a normal verb of communication. In *I can't say that p*, we have an idiomatic combination that does not express the speaker's inability to communicate *p*, but rather in a somewhat indirect way that the speaker does not hold *p*. In a separate data set of occurrences of *any*, I also found some cases of *say* in the first person progressive:

- (55) I'm not saying there is anything the matter with him¹⁶

I believe that this is similar to the earlier examples in that the verb *say* is not simply a verb of communication here. The sentence does not deny that the speaker is saying something, but rather, it wants us to focus on the reasons for not saying it, presumably because the speaker believes otherwise, or lacks relevant evidence. In general, it makes no sense to say stuff you are not saying, as there are millions of propositions the speaker is not saying, unless of course the truth of the proposition *there is something the matter with him* is somehow under discussion. In that case making a point of saying that you are not saying it has a special import. In this particular context, various other NPIs may show up as well. They are not in the corpus I used, but intuitively, cases such as the ones in (56) seem OK:

⁹ Malcolm Bradbury, *Dr Criminal*, Penguin, London, 1992, p. 34.

¹⁰ James Boswell, *Life of Johnson*, Oxford University Press, 1985, p 1041.

¹¹ P.D. James, *Devices and Desires*, Knopf, New York, 1990, p 245.

¹² Facebook posting 9-2-2015.

¹³ Agatha Christie, *At Bertram's Hotel*, Fontana, London, 1968 [1965], p 161.

¹⁴ <http://dawn.com/2011/12/18/cover-story-family-a-microcosm-of-society/>

¹⁵ Anthony Trollope, *Barchester Towers*, Penguin 2012 [1857], p 130.

¹⁶ James Thurber, *The Thurber Carnival*, Harper, New York, 1985 [1945], p 28.

- (56) a. I am not saying it's all that hard
 b. I am not saying it's as bad as all that.
 c. I am not saying I could face another helping of potatoes.

Similar observations apply to Dutch. In a corpus of occurrences of the polarity items *ook maar* 'even, so much as' and *zelfs maar* 'even, so much as', there were 15 cases of long-distance licensing in which the matrix verb was *zeggen* 'say'. Of these 15, 8 were combinations with *kunnen* 'can', 5 with *willen* 'want', and 1 involved *te zeggen* 'to say' as a modal infinitive, leaving just one case of plain *zeggen*. *Willen zeggen* has a special interpretation as 'to mean', while *kunnen zeggen* is used just like English *can say*. Some examples from the data set are presented in (57) below:

- (57) a. hetgeen volstrekt niet wil zeggen, dat men die fouten moet verzwijgen
 which absolutely not wants say that one those errors must ignore
 of zelfs maar verdonkeremanen¹⁷
 or even hide
 'which does not mean in any way that one should ignore or even hide those errors'
 b. al kan men niet zeggen, dat gij ooit de Dikken van Pieter Brueghel
 though can one not say that you ever the Fat of Pieter Brueghel
 ook maar in de verste verten benadert¹⁸
 even in the furthest distances approach
 'although one cannot say that you ever even remotely come close to the Fat Guy by Pieter Brueghel'

Dutch also has similar combinations with the verb *beweren* 'to claim, profess', cf. e.g. the following examples, containing the NPI *rouwig* 'sad, sorry' and *ook maar* 'even, so much as':

- (58) a. Ik kan niet beweren dat ik rouwig ben om Palmgren.¹⁹
 I can not claim that I sad am for Palmgren
 'I can't say I am sorry for Palmgren'
 b. Dan kan de NPO echt niet beweren dat ze ook maar enigszins
 then can the NPO really not claim that they even a bit
 hun best hebben gedaan om het te laten werken op Android apparatuur²⁰
 their best have done for it to let work on Android devices
 "In that case the National Broadcast Organization cannot really claim that
 they have even remotely done their best to make it work on Android devices"

The verb *zeggen* may also be used in an adjectival passive construction which is itself polarity sensitive:

¹⁷ Menno ter Braak, *In gesprek met de vorigen*, in *De draagbare Ter Braak*, Prometheus, Amsterdam, 1992, p. 200.

¹⁸ Jan H. Eekhout, *Leven en daden van Pastoor Poncke van Damme in Vlaanderen*. [1941]

¹⁹ BRT-2 [Belgian TV], 19 September 1997.

²⁰ <http://www.totaaltv.nl/nieuws/13011/programmas-publieke-omroep-nu-ook-live-op-internet.html>

- (59) Hiermee is *(niet) gezegd dat we het gaan doen.
 Herewith is not said that we it go do
 "This does not mean we will do it"

This construction likewise permits NPIs in the subordinate clause, as the following examples illustrate:

- (60) a. Hiermee is niet gezegd dat we er rouwig om zijn.
 Herewith is not said that we there sad for are
 'This does not mean we are sorry for it'
 b. Daarmee is niet gezegd dat hij ook maar iets gaat doen.
 therewith is not said that he even anything go do
 "That does not mean he is going to do anything at all"

5. Corpus data in long-distance licensing by negation

Corpus work on long-distance licensing maps largely uncharted territory. Nonetheless it may shed light on two types of variation: differences among NPIs and differences among matrix predicates (including complex predicates, cf. the previous section). In this section, I will present data based in part on hand-collected occurrences of NPIs in English and Dutch, combined with Google-data whenever I did not have enough data to decide whether a particular type of matrix predicate would be compatible with long-distance licensing by negation.

In table 1, I present my data for English. This table does not provide any numbers, but merely the presence or absence of attested combinations. The table contains data regarding a small number of NPIs, presented in alphabetic order. It is to be expected that NPIs not listed here behave like ones that are listed when they are semantically closely related. E.g. the idiomatic predicate *the brightest crayon in the box* should pattern like *the sharpest knife in the drawer*, and the verbal idiom *give a toss* should be comparable to *give a damn* etc.

The matrix predicates are divided into 4 groups: NR (= NEG-raising) verbs, NFNNR (nonfactive, non-NEG-raising) verbs or adjectives, F (= Factive) verbs and S (= say) verbs. The latter only in their use as pure verbs of communication (cf. the discussion in 4.2. above). Clear occurrences of nonfactive *know* (i.e. first person present tense cases) were put in the category NFNNR. The NPI *adverbial any* is the use of *any* as an adverb of degree (*I don't want to run any faster*). The NPI *alive* is the use of *alive* post-nominally, as in *There's not a man alive who would disagree*. The paradigm in (61) will illustrate the usage patterns:

- (61) a. I don't think there's a man alive who does have this experience. [NR]
 b. I am not sure there is a woman alive who agrees with him. [NFNNR]
 c. *I did not know there is a woman alive who disagrees with him. [F]
 d. *The police did not say that there is a woman alive who escaped. [S]

In considering these data, as one should always do in the case of NPIs, it is important to consider only those uses of expressions that are polarity sensitive. All other uses should be disregarded. E.g. *remotely* is an NPI in (62a) below, and a non-NPI in (62b):

- (62) a. He was not even remotely likely to understand the question.
 b. The lights are switched on remotely.

Table 1: English long-distance licensing by negation

NPI ↓ matrix predicate →	NR	NFNNR	F	S
a damn thing	X	X		
a hope in hell	X	X		
a jot	X	X		
a single	X	X		
a thing	X	X		
adverbial any	X	X		
alive	X	X		
all that	X	X		
an X bone in his body	X	X		
any	X	X	X	X
anymore	X	X	X	
anytime soon	X	X		
as all that	X	X		
at all	X	X	X	
be long	X			
can bring oneself	X	X		
can possibly	X	X		
can stand	X	X		
cup of tea	X	X		
either	X	X		
either N	X	X		
even	X	X	X	
ever	X	X	X	
give a damn	X	X		
if one's life depends on it	X			
in any way	X	X	X	
in his life	X			
in the least	X	X		
in years	X	X		
just yet	X	X		
know the first thing	X	X		
mind	X	X		
much	X	X		
much of a	X	X		
need	X	X		
remotely	X	X		
squat [jack/diddly/..]	X	X		
the brightest crayon in the box	X	X		
until	X	X		
yet	X	X		

The main point emerging from Table 1 is that the main division among matrix predicates is not NEG-raising versus the rest, as the original strict/nonstrict division would suggest, but NEG-raising + nonfactive versus the rest. There are some minor differences between the first two columns, but these may well be due to lack of data.

Another conclusion to draw is that there is indeed evidence for a division between strict and nonstrict NPIs, basically *any, ever, even, at all* versus the rest. The strict items permit long-distance licensing by negation if the predicate is either NEG-raising or otherwise nonfactive and nonassertive. The nonstrict items also show up in factive contexts and sometimes even with verbs of saying.

Matrix negation with a NEG-raising predicate or a nonfactive predicate such as *be sure* yields a nonveridical context for the embedded clause (cf. Zwarts 1995, Giannakidou 1998). In other words, from *He does not think that p* or *She is not sure that p*, we cannot conclude *p*. Factive verbs yield veridical contexts, whether negated or not.²¹ Verbs of saying, finally, provide contexts where the truth of the embedded clause cannot be established.

In Table 2 below, I present an overview of the possibilities in long-distance licensing by negation in Dutch. The data in this table, though based on a rather different set of NPIs, not all of which have counterparts in Table 1, show a pattern very similar to that of Table 1, namely a division between a small group of nonstrict NPIs and a much larger group of strict NPIs which are limited to the two left-hand columns. Table 1 does not contain any super strict NPIs which permit only local licensing (if we ignore the possibility of parasitic licensing for a moment). Table 2 lists two such cases, Dutch *heel* (cf. the discussion in section 2.3 above) and *meer* ‘anymore’ (cf. also Hoeksema 2007). Negation by n-words, other than *niet* ‘not’, has been ignored, just as I did for the English data in Table 1 above.

The various possibilities and impossibilities stipulated by Table 2 are illustrated for the item *voorstellen* in (63) below.

- | | | | |
|------|----|---|---------|
| (63) | a. | Ik denk niet dat het veel voorstelt.
I think not that it much matters
'I don't think it amounts to much' | [NR] |
| | b. | Dat betekent niet dat het veel voorstelt.
that signifies not that it much matters
'That does not mean it amounts to much' | [NFNNR] |
| | c. | *Ze wist niet dat het veel voorstelde.
she knew not that it much mattered
'She did not know it amounted to much' | [F] |
| | d. | *Ze zeiden niet dat het veel voorstelde.
they said not that it much mattered
'They did not say that it amounted to much' | [S] |

²¹ There are special issues which we will have to ignore here surrounding so-called emotive factives, such as *regret*, which license polarity items in spite of their factivity. Cf. Giannakidou (2006) for discussion.

Table 2: Dutch long-distance licensing by negation

NPI↓ matrix predicate →	NR	NFNNR	F	S
(iets/veel) anders opzitten ‘there be any/much choice’	X	X		
bijster “all that”	X	X		
de minste/de geringste ‘the least’	X	X		
een-twee-drie ‘right away’	X	X		
enig ²² “any”	X	X	X	X?
fiducie hebben in ‘have trust in’	X	X		
heel “whole”				
het achterste van zijn tong laten zien “show	X	X		
hoeven “need”	X	X		
in de haak ‘in order, OK’	X	X		
in jaren “in years”	X	X		
in zijn hoofd halen “dare, be so bold as”	X	X		
kwaad steken in “be harm in”	X	X	X	
lekker zitten “sit well (with)”	X	X		
malen om “care for”	X	X		
meer “anymore”				
minimizers	X	X		
noemenswaardig “worth mentioning”	X	X		
ook maar “so much as”	X	X		
ooit “ever” ²³	X	X		
over één nacht ijs gaan “act impulsively”	X	X		
pluis “in order, safe”	X	X		
rouwig “sorry”	X	X		
sporen “in his right mind”	X	X		
stil zitten “sit still, be inactive”	X	X		
ter wereld “in the world”	X	X		
überhaupt “at all”	X	X	X	X
vetpot “lucrative position or job”	X	X		
voorstellen ‘to matter, to amount to’	X	X		
wie dan ook / wat dan ook ‘whoever/whatever’ ²⁴	X	X		
zelfs maar “so much as”	X	X		

Matrix negation with a NEG-raising predicate or a nonfactive predicate such as *be sure* yields a nonveridical context for the embedded clause (cf. Zwarts 1995, Giannakidou 1998). In other words, from *He does not think that p* or *She is not sure that p*, we cannot

²² *Enig* is not a polarity item with plural or mass nouns, but with singular count nouns it is a weak NPI (cf. Hoeksema 2010).

²³ The case of *ooit* is somewhat complicated by the fact that this item has a non-NPI use (since the middle of the 20th century) next to its traditional NPI use (cf. Hoeksema 1999). However, using data from before the non-NPI usage, it is possible to show that NPI *ooit* patterns like the majority of NPIs.

²⁴ Actually, *wie dan ook* and *wat dan ook* are representatives of a larger group of wh-indefinites with added particles, which may be used as NPIs and as free choice items in Dutch. For more discussion, see Aguilar Guevara et al. (2011), Hoeksema (2012).

conclude p. Factive verbs yield veridical contexts, whether negated or not. Verbs of saying, finally, provide contexts where the truth of the embedded clause is entirely irrelevant.

We might divide nonveridical contexts in two subsets: (1) cases where the truth of the subordinate clause is at issue, and (2) cases where the truth of the subordinate clause is not at issue. Suppose somebody asks whether p is the case. You may answer that you don't think so, or that you are not sure. Answering that you did not say so, would not be a straightforward answer. We may then say that p is a semantically acceptable host for non-strict NPIs if it complies with one of the following conditions: (a) it contains a local licensing element, or (b) it has a licenser in the matrix clause and is contained in a context where the truth of p is not guaranteed (the nonveridicality requirement) and at issue.

6. Long-distance licensing in questions and elsewhere

In the previous sections I have argued that long-distance licensing needs to be dissociated from NEG-raising. One reason to do so has not yet been discussed, long-distance licensing in questions. Let us for the moment concentrate on yes/no questions. It is obvious from a paradigm such as the following that many of the same factors involved in the long-distance licensing of NPIs in negative sentences carry over to questions.

- (64) a. Do you think it matters to me one whit?²⁵
b. Does my lord believe the men of the Night's Watch would ever follow a whore into battle?²⁶
c. Do you suppose that I ever disbelieved in you?²⁷
d. Are you sure Mary is fond of you, or would ever have you?²⁸
e. Can you say you're ever happy?²⁹
f. *Did you know that I was ever in love with you?
g. *Did you realize that he would budge an inch?
i. *Did you say that you were all that keen on watching TV?

The evidence shows that yes/no questions in which the NPI is in the subordinate clause and a NEG-raising or nonfactive verb is in the matrix clause are OK, while otherwise similar cases with factive verbs or verbs of saying are out. Note the special case of *can say* in (64e), which we also discussed in connection with long-distance negation.

Assuming that yes/no questions do not involve negation, and show the same general pattern as negative sentences, the effect of matrix verbs on long-distance licensing cannot be just due to NEG-raising.

In Dutch, the relevant data show a similar pattern. Rather than showing the full paradigm, I will illustrate my claim with the following examples in which *ook maar iets* 'anything at all' is embedded under representatives of the four classes of verbs distinguished above in Tables 1 and 2:

²⁵ George R.R. Martin, *A game of thrones*, Bantam Books, New York, 2010 [1996], p 129.

²⁶ George R.R. Martin, *A dance with dragons*, Bantam, New York, 2011, p 571.

²⁷ George Eliot, *Middlemarch*, OUP, 1975 [1871], p 678.

²⁸ *ibidem*, p 600.

²⁹ Jonathan Franzen, *The corrections*, Fourth Estate, London, 2001, p 175.

- (65) a. Denk je dat ze ook maar iets zal doen?
 think you that she even anything will do
 “Do you think she will do anything at all?”
- b. Wil dat zeggen dat het ook maar iets voorstelt?
 will that say that it even anything matters
 “Does that mean it amounts to anything at all?”
- c. *Wist je dat ze ook maar iets zal doen?
 knew you that she even anything will do
 “*Did you know she would do even the slightest bit?”
- d. *Zei ze dat er ook maar iets was gebeurd?
 said she that there even anything was happened
 “*Did she say that anything at all had happened?”

Besides questions, there is a host of other contexts where licensing could be local or long-distance. Consider e.g. *hardly*:

- (66) a. Hardly anyone believed she would ever succeed.
 b. Hardly anyone was sure she would ever succeed.
 c. *Hardly anyone was glad she would ever succeed.
 d. *Hardly anyone told us she would ever succeed.

As was the case with long-distance licensing in questions, NEG-raising cannot be an issue here. Moreover, the data pattern with long-distance licensing by negation, indicating a division between matrix predicates like *believe* and *be sure* on the one hand, and factive verbs and verbs of saying on the other.

7. Conclusions

Long-distance licensing of polarity items is frequently treated as involving two subtypes: (1) virtually unlimited licensing of *any*, *ever* and a few other NPIs by negation in a higher clause, and (2) licensing of strict NPIs in NEG-raising contexts. This analysis, due to work in the 1970s by Horn, Prince and others, was recently resuscitated by Collins & Postal (2014). Their proposal is a reboot of the old transformational treatment, in terms of movement of negation to the matrix clause, and is presented with a host of new data showing that this movement is subject to the kinds of island constraints that are the hallmark of displacement phenomena ever since Ross (1967).

In this paper, I have tried to show that these arguments are flawed since there are independent explanations for the data, which do not require any appeal to NEG-raising. In addition, I argued, on the basis of data from English and Dutch, that long-distance licensing of “strict” NPIs is possible in a broader set of contexts than just the NEG-raising contexts. In particular nonfactive predicates permit long-distance licensing in ways that factive verbs, such as *know* or *regret*, and verbs of saying, like *say* or *state*, do not. The data presented here suggest a three-way partition among NPIs: superstrict NPIs (only local licensing), strict NPIs and non-strict NPIs, distributed as follows:

Table 3: Types of NPIs with regard to long-distance licensing by negation

	local	neg-raising	nonfactive	factive	verbs of saying
superstrict	X				
strict	X	X	X		
nonstrict	X	X	X	X	(X)

It is an open question, worth studying more, to what extent the three-way division suggested above coincides or overlaps with other classifications of NPIs, such as the Zwarts classification (cf. Zwarts 1998), or its adaptations by Giannakidou (2011) or Gajewski (2011). The nonstrict items we looked at for Dutch and English (e.g. Dutch *enig*, English *any*) are also the ones that appear in the widest set of contexts in classifications such as that of Zwarts. However, the relation should be studied in a broader range of languages.

I have argued that for long-distance licensing the broader context of the matrix clause may be relevant, in particular elements surrounding the main verb which may influence its semantic properties. One of the cases discussed in this connection is *can say*, which permits long-distance licensing, unlikely simple *say*, which does not. Similar observations were made for Dutch *kunnen zeggen* ‘can say’ and *willen zeggen* ‘want to say, mean’. At the same time, there are contexts in which bona fide NEG-raising predicates, such as *think*, do not allow for long-distance licensing, namely counterfactual contexts where *think* becomes factive.

Finally, I argued that the same set of contexts that permits long-distance licensing by negation is relevant for long-distance licensing in questions and other polarity sensitive contexts. This further undercuts the arguments for assuming a crucial role for NEG-raising in long-distance licensing, since no negation is involved. Instead, a mild restatement of the nonveridicality theory of Giannakidou (1998) would seem to be sufficient to handle the observations. When a subordinate clause *p* contains a strict polarity item but not a local trigger, the matrix clause needs to contain a trigger, and moreover, the truth of *p* must not be guaranteed (*p* is in a nonveridical environment) and at issue.

There is still a lot that is not known about NEG-raising. There are no studies of diachronic developments. Nor are there many studies of the variation between NEG-raising and non-raising in complex sentences (Bao & Cao, this volume, being an exception). With the advent of more and more electronic corpora, these lacunae should be filled in due time.

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