



Research Article

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Mitigating Commitment through Negation

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Abstract: The purpose of this paper is to show that the theory of Functional Discourse Grammar constitutes a powerful model to account for the complex phenomenon of Neg-Raising in a consistent and systematic way. Previous studies on Neg-Raising, the phenomenon involving the transfer of the negative from a complement clause to the matrix clause, have traditionally characterized it in terms of syntactic and, more extensively, semantic criteria. These studies have focused on the delimitation of the type of verbs involved in this construction, since Neg-Raising is only allowed by some complement taking verbs, all related to certain kinds of modality. However, despite having been studied extensively, Neg-Raising remains an unclear phenomenon in certain respects. Taking as a point of departure the classification of Complement Clauses resulting from the application of the three parameters (Entity Type, Presupposition and Factuality) proposed within Functional Discourse Grammar, it is possible to arrive at a consistent delimitation of the constructions exhibiting Neg-Raising. Furthermore, the Morphological Level allows accounting for Neg-Raising without resorting to any kind of movement rule. It is through the operation of Morphological Encoding that the negative comes to occupy its position in the matrix clause.

Keywords: Negation, Neg-Raising, FDG, Presupposition, Factuality, Complement clauses

1 Introduction

The notion of negation is far from being straightforward, legitimately referred to as a “complex functional domain” (Givón 1984: 322). This is particularly so in the case of what is traditionally known as *transferred negation* or *negative raising* (*negative transportation* in the formalist tradition; cf. Fillmore 1963).

This phenomenon, concerning the expression of negative ideas in complement clauses, involves “the transfer of the negative from a subordinate clause (generally a *that*-clause), where semantically it belongs, to the matrix clause” (Quirk *et al.* 1985: 1033). In English, some complement clauses allow negative raising (Neg-Raising), thus offering the possibility of negating either the clause containing the *complement taking predicate* (hereafter, CTP)¹ or the *complement clause* (henceforth, CC), implying (almost) the same meaning.

Consider the examples below, where (1a) is said to have two interpretations, the most common of them being (1b), in which the matrix negation is interpreted as if it were in the embedded clause.

1 The term *complement taking predicate* or *matrix predicate*, as used in FDG (cf. Hengeveld & Mackenzie 2008) is preferred to the traditional *main verb* or *matrix verb*, since it covers not only verbs but other categories taking clauses as arguments.

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(1) a. There are expectations of women that I **don't think** are 21st century. It's a very, very male culture.
 [NOW - The Guardian]²
 b. There are expectations of women that I think **aren't** 21st century.
 c. **It is not the case** that I think there are expectations of women that are 21st century.

The interpretation in (1c) is quite infrequent, requiring some kind of emphasis on the main clause.³ In this unlikely reading, the speaker is simply negating that he thinks there are expectations of women that are 21st century. (1b) is felt to be the unmarked interpretation of (1a), and it has been suggested that the “force of the speaker's certainty” (Givón 1984: 342) in (1a) is weaker than in (1b).⁴

The aim of this paper is to show that the theory of *Functional Discourse Grammar* (henceforth FDG; Hengeveld & Mackenzie 2008), constitutes a powerful tool in order to account for the phenomenon of Neg-Raising in a consistent and systematic way.

The paper is organized as follows. Section 2 offers a review of previous approaches to Neg-Raising, presenting the limitations of those studies for clearly restricting the constructions that allow this phenomenon and, consequently, for explaining the non-prototypical cases. Section 3 will then offer an analysis of Neg-Raising within the FDG framework, showing its potential to explain this complex phenomenon, which involves not only syntactic variation, but also semantic as well as pragmatic restrictions.

With this aim, and without intending to offer quantitative/statistical results, extensive data extracted through corpus analysis will be used. The corpus used is the NOW Corpus (*News On the Web Corpus*),⁵ accessed through the BYU interface. The NOW Corpus constitutes an up-to-date source of data, thus offering current examples of the phenomenon under study. Moreover, since it consists of a compilation of news on the web, it represents a varied source of everyday, non-academic language, which seems to be the most frequent context for Neg-Raising.

Section 4 will summarize the main points raised in this paper.

2 PREVIOUS ACCOUNTS OF NEGATIVE RAISING

Previous accounts of Neg-Raising have tried to characterize this phenomenon in terms of different criteria – namely syntactic, semantic and, to a lesser extent, pragmatic ones.⁶ In the following sections, a general review of these criteria will be offered.

2 When not otherwise indicated, the emphasis in the examples is mine.

3 Although most authors dealing with negative raising agree on this requirement, there is no unanimity as far as the type of emphasis is concerned. Lyons mentions “heavy stress” on *don't*, Horn (1978: 131) “contrastive stress” on *I* or *not*, whereas for Quirk et al. (1985: 1033) the requirement is “focus” on *think*. Within FG, Dik (1997: 175) mentions that this type of negation, that he calls *propositional negation*, requires stress on the negative particle. However, Hengeveld & Mackenzie (2018: 20), minimizing the importance of prosodic differences, claim that “the crucial property of Propositional negation is the fact that an entire proposition is being negated”.

4 In fact, Horn points out that this idea was already envisaged by Poutsma, who finds that “the shifting of *not* often has the effect of softening down the negating of a sentence” (Poutsma 1928: 105, quoted by Horn 1978: 131). Furthermore, he argues that this softening process or *Uncertainty Principle*, is not exclusive of Neg-Raising but applies to “all rules affecting the placement and morphology of negation” (1978: 132).

5 The NOW Corpus contains more than 4 billion words from web newspapers and magazines in English from twenty different countries. It is updated every 24 hours, including data from 2010 until the present time. Since this paper is not intended to offer a quantitative study, corpus searches have been restricted to texts from Great Britain. Being at present a more than 4 billion words corpus, the amount of data resulting from the analysis of the complete corpus will considerably exceed the scope of this paper. Further information about the corpus can be found at <http://corpus.byu.edu/now/>.

6 Fischer (1999) offers an interesting characterization of Neg-Raising from a diachronic perspective, investigating the factors that could be connected to the rise of this construction in English.

2.1 Syntactic criteria

Among the syntactic features used to differentiate negative from positive clauses, the presence of non-assertive or negative polarity items (NPIs) within the scope of negation has been one of the most recurring ones.

Thus, the occurrence of the NPI *anything* in the CC in (2a) is said to be influenced by the negative in the matrix clause, which shows that the embedded clause is under the scope of the raised negative. However, as has been pointed out, the same applies to CCs when Neg-Raising is not possible, as shown in (2b), in which an NPI *ever* occurs.

(2) a. I **don't think** transforming your body physically has **anything** to do with the craft of acting [NOW – The Guardian]
 b. I **do not know** that I **ever** did such a thing in my life before. [NOW – The Guardian]

This fact is acknowledged by Horn, who argues that “more liberal negative polarity items (NPIs) like *any* and *ever* can appear freely in embedded clauses under any negated higher-clause predicates and thus cannot be used to argue for any lexically governed extraction rule” (1978: 137). Instead, he suggests paying attention to the behavior of “strict” NPIs, items which are claimed to be restricted to clauses containing negation such as non-durative *until*. In (3a/b) the expression *until midnight* is only acceptable in those cases in which it is under the scope of negation. However, Horn concludes that not even in the case of “strict” NPIs is it possible to claim that they are triggered by a CTP allowing Neg-Raising, as shown in (3c).⁷

(3) a. I thought that Mary **wouldn't** arrive **until** midnight.
 claimed
 realized
 b. I **didn't think** that Mary would arrive **until** midnight.⁸
 *claim
 *realize
 c. I **didn't claim** that I'd finish the paper **until** Friday.⁹

The type of tag question which can be added to CCs has also been claimed to be a distinguishing feature of Neg-Raising. In clauses such as (4), which involves Neg-Raising, when the subject of the matrix clause is 1st person and the verb is in present tense, the subject of the tag is taken from the embedded clause (i.e. *they* anaphorically referring to *many places*), whereas the positive tag question is explained with reference to the presence of the negative particle in the matrix clause, which semantically applies to the CC.

(4) I **don't suppose** many places have much of that community spirit anymore, **do they?** [NOW – Hull Daily Mail]

However, as pointed out by Horn (1978: 154), if the person or the tense is changed, the tag is not possible.¹⁰ On the other hand, the possibility of adding a positive tag to complement clauses with negation in the matrix clause is not restricted to Neg-Raising.

7 See Lakoff (1969) for a detailed discussion of the polarity argument.

8 Horn claims that in the most frequent interpretations, the expression *until midnight* in the sentences in (3b) is understood as belonging to the embedded clause and thus only in the case of *think* involving Neg-Raising, the embedded *until* is acceptable, because it is said to be triggered by the negative that semantically belongs to the embedded clause and that has been raised. Embedded *until* would be unacceptable with *claim/realize*, since matrix clause negation cannot trigger *until* in the CC (i.e. Neg-Raising is not acceptable with these CTPs). In these cases, *until midnight* would be interpreted as “postposed from the main clause” (= I didn't claim/realize until midnight...) (Horn 1978: 143).

9 Quoting Lindholm (1969), Horn (1978: 148) points out that “even overt nonclausemate negation can trigger an *until*-phrase under certain conditions”. In (3c), even without Neg-raising, *until Friday* could be interpreted as modifying *I'd finish the paper*, although, of course, it can be ambiguous as *I didn't think...* in (3b) could be.

10 In her historical account of Neg-Raising, Fischer (1999: 57) claims that “tagging does not help as a diagnostic device in cases with infinitival complements, where NR may also occur”.

(5) I'm **not sure** he cares, **does** he? [Quirk et al. 1985: 1035]

Example (5), which doesn't involve Neg-Raising, contains a positive tag even though the embedded clause is interpreted as positive.

A syntactic account of Neg-Raising has been strongly defended by Collins and Postal (2014, 2017), trying to refute the semantic/pragmatic conception of this phenomenon. These authors (2017) claim that their previous syntactic account of Neg-Raising (Collins and Postal 2014), as well as all previous syntactic analyses of this phenomenon, have turned out to be inappropriate in considering that the negative particle was raised from the complement to the matrix clause.

Thus, Collins and Postal (2017) posit a new syntactic approach consistent with different syntactic tests (i.e. confirmation tag questions, connective adjuncts *neither* and *so*, scope of the modals...) that lead them to consider Neg-Raising a type of sentential negation instead of complement clause negation. They conclude that "main clauses manifesting SC INR [standard cases of Neg-Raising] behave exactly as non-INR [Non Neg-Raising] clauses having main clause sentential negation" (2017: 11). Accordingly, they claim that Neg-Raising implies a negative that has scope and, therefore, should be semantically interpreted, in the main clause. In fact they argue that "Two NEGs originate in a SC INR main clause C. These NEGs are hence interpretable in C and each scopes higher than the main predicate of C" (2017: 17). Furthermore, Collins and Postal also postulate a NEG raised from the embedded clause, given the evidence for syntactic Neg-Raising they have provided in previous accounts of this phenomenon (Cf. Collins and Postal 2014).

Hence, since Neg-Raising clauses only exhibit an overt negative, deletion rules (i.e. NEG deletions) are necessary in order to account for the final surface expression of these clauses. As a result of the application of NEG deletions, the overt main clause negative is not the negative raised from the complement clause, as previous syntactic approaches suggest, but a negative already present in the main clause.

According to Collins and Postal (2017) this new analysis allows a unified account of all types of Neg-Raising, including not only their standard cases (SC INR), but also *negative quantifier* and *cloud of knowing* cases. In this respect, they conclude:

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. (Collins and Postal 2017: 21)

From an FDG perspective, as will be shown later, this proposal lacks simplicity and economy, since, on the one hand, it posits two distinct negatives in the representation of the main clause as well as one in the embedded clause and, on the other, it resorts to deletion rules, which are to be avoided in FDG. Moreover, this syntactic approach doesn't account for the fact that only "a proper subset" of CTPs allows Neg-Raising.¹¹

Consequently, it could be argued that syntactic criteria are not decisive in establishing a clear delimitation of Neg-Raising clauses in English.¹²

2.2 Semantic criteria

As has been mentioned above, Neg-Raising is a phenomenon that concerns CCs and, consequently, the main semantic criterion used in order to determine its (un)acceptability has been the type of CTP introducing the embedded clause.

Quirk et al. (1985: 1033) claim that the verbs¹³ that allow Neg-Raising in English fall into two semantic groups: (i) 'Opinion' (i.e. *anticipate*, *be supposed to*, *believe*, *calculate*, *expect*, *figure* (informal AmE), *imagine*, *reckon* (informal, especially in AmE), *suppose*, *think*) and (ii) 'Perception' (i.e. *appear*, *seem* and *feel as if*, *look as if*, *sound as if* used informally, especially in AmE, with *like* instead of *as if*).

¹¹ Cf. Collins and Postal (2017: 5) for a list of this subset of predicates, which they call classical NEG raising predicates (CNRPS).

¹² Horn (1978) goes through the different syntactic properties that have been suggested to account for Neg-Raising not only in English but also in other languages.

¹³ These authors provide a classification of what they call *matrix verbs*, although predicates belonging to other grammatical categories (i.e. adjectives *likely* and *probable*) are also included in their examples.

A similar position is held by Pullum and Huddleston (2002: 840), whose classification, including verbs and adjectives, comprises five broad semantic groups: (i) Wanting (i.e. *choose, intend, mean, plan, want*), (ii) advise (i.e. *advisable, advise, had better, be meant, recommend, suggest, be supposed*), (iii) probability (i.e. *likely, probable*), (iv) opinion (i.e. *anticipate, believe, expect, feel, figure, guess, imagine, reckon, suppose, think*) and (v) perception (i.e. *appear, feel, look, sound, seem*).

Independently of the number of semantic groups distinguished or the number of items provided as a sample, the main issue is to determine what the common feature characterizing these items is. Pullum and Huddleston (2002: 840) suggest that “all have to do with various kinds of modality.” In the same line, Bublitz (1992: 559) argues that “[t]he class in question consists of verbs of thinking, believing, supposing, perceiving, assessing and wanting” and that “they are non-factive, non-implicative, and mostly stative verbs, which may be classified as expressions of epistemic modality”.¹⁴

However, not all CTPs constituting expressions of similar modality do classify as neg-raisers. Thus, a verb like *claim*, used to express opinion just as *believe*, *think* or *suppose* do, does not allow Neg-Raising. Examples (6b) and (7b) show that a different meaning is conveyed if the negation belonging to the embedded clause is transferred to the matrix clause.¹⁵

(6) a. with the launch of a new kind of linen suit that its makers claim **doesn't** crease [NOW – Telegraph.co.uk] ≠
b. with the launch of a new kind of linen suit that its makers **don't claim** creases

(7) a. Jane said she felt sorry for Marilyn, who she claims **wasn't** treated with respect by the film companies [NOW – Daily Mail] ≠
b. Jane said she felt sorry for Marilyn, who she **doesn't claim** was treated with respect by the film companies

Horn's (1978) *scalar model* has been used to provide an overall explanation for this kind of restrictions.¹⁶ He begins by identifying the following semantic classes of Neg-Raising CTPs in English,¹⁷ noting that the most common are those of the 'opinion' and 'volition' classes.

(8) Horn's (1978: 187) semantic classes:

- a. [OPINION] *think, believe, suppose, imagine, expect, reckon (anticipate, guess)*
- a'. [PERCEPTION] *seem, appear, look like, sound like, feel like...*
- b. [PROBABILITY] *be probable, be likely, figure to*
- c. [INTENTION/VOLITION] *want, intend, choose, plan*
- c'. [JUDGEMENT/(WEAK) OBLIGATION] *be supposed to, ought, should, be desirable, advise, suggest*

In order to account for counterexamples to the proposed classification, this author resorts to the application of Lakoff's (1970) *Uncertainty Principle*, which predicts that factives and implicatives are not possible neg-raisers since a speaker cannot express uncertainty about a proposition that is true. Still, Horn acknowledges that this principle is not sufficient in order to explain the inclusion/exclusion of some CTP as neg-raisers. Thus, he puts forward his *strength scale*, in which epistemic and deontic predicates are arranged in terms of their expression of a *weak*, *medium* or *strong* value of modality. Only verbs characterized as *medium strength* on a scale allow Neg-Raising, since they "do not change their position on the scale radically through negation" (Givón 1984: 343). *Strong* and *weak* predicates do not allow Neg-Raising since they change their position on the scale through negation.

¹⁴ Non-factive verbs being those that have to do with “the state of lack of knowledge” (Bublitz 1992: 565, quoting Perkins 1983: 10).

¹⁵ Note, however, that it could be argued that *claim* is better classified as a verb of 'saying', such as *say*.

¹⁶ Cf. Givón (1984), Bublitz (1992), Pullum and Huddleston (2002).

¹⁷ Although taking English semantic classes as a point of departure, he suggests that there is a high degree of cross-linguistic homogeneity.

The following examples (taken from Pullum and Huddleston 2002: 841) containing adjectival predicates expressing epistemic modality show that only in the case of *likely* (medium strength) Neg-Raising is allowed. Pairs of sentences containing *possible* (weak strength) and *certain* (strong strength) have two different meanings.

(9) Weak strength epistemic modality:

- a. It **isn't** possible that he's alive. ≠
- b. It is possible that he **isn't** alive.

(10) Medium strength epistemic modality:

- a. It **isn't** likely that he's alive. =
- b. It is likely that he **isn't** alive.

(11) Strong strength epistemic modality:

- a. It **isn't** certain that he's alive. ≠
- b. It's certain that he **isn't** alive.

The negation of a weak strength predicate, such as *possible* in (9a), leads to a strong strength predicate, and vice versa, the negation of a strong strength predicate, such as *certain* in (11a), leads to a weak strength predicate.

Horn (1978: 207) concludes that his “mid-scalar hypothesis argues for a unified mid-scalar class of NR predicates clustering around the notion of opinion”. This class would subsume the two main classes of mid-scalar predicates, namely epistemic and deontic predicates, since both concern the expression of opinion, either “of the mind” (epistemic predicates) or “of the heart” (deontic predicates).

The explanation provided by Horn's scalar classification of predicates turns out to be interesting on general grounds, especially in roughly delimiting the semantic nature of the predicates involved. However, Neg-Raising remains an unclear phenomenon in certain respects.

For instance, not all predicates expressing medium strength modality do readily classify as neg-raisers. Pullum and Huddleston (2002: 842) question the acceptability of (12a) in conveying (12b), even though *probable* expresses medium strength modality.

(12) a. It's **not** probable that he's alive.
 b. It is probable that he's **not** alive.

It is worth noting that Quirk *et al.* (1985: 1034) consider that the equivalence relation of the two constructions is not only unclear in the case of *probable*, but also in the case of *likely*. Concerning these two adjectival predicates, these authors claim that the lack of correspondence becomes even clearer when the adjectives are intensified, as shown in (13).¹⁸

(13) a. It **isn't** very likely / probable that oil prices will fall this year.
 b. It's very likely / probable that oil prices **won't** fall this year.

Furthermore, not all verbs belonging to the same semantic field do allow Neg-Raising. Quirk *et al.* (1985: 1034) mention *assume*, *presume* and *surmise*, that although semantically similar to predicates favoring Neg-Raising (i.e. *suppose*, *believe*...), do not allow it.

(14) a. I **didn't** assume that he knew me.
 b. I assumed that he **didn't** know me.

¹⁸ It could be argued that in this case the intensification of these adjectival predicates moves them towards the strong strength value in the scale.

Also, predicates not expressing medium strength modality can function as neg-raisers in some cases. That is the case of *wish* that allows Neg-Raising when the subordinate clause is realized by a non-finite clause, but not when it is realized by a finite clause.¹⁹ This condition is also noted by Horn (1978: 151), who observes that the influence of the type of complementizer doesn't apply, however, in the case of the similar predicate *hope*, that never allows Neg-Raising.

(15) a. I **don't / never** wish to see you again.
 a'. I wish **not / never** to see you again.
 b. I **don't / never** wish that I will see you again.
 b'. I wish that I **will not / never** see you again.

Whereas sentences (15a) and (15a') containing a non-finite embedded clause could be said to be equivalent, this doesn't hold for sentences (15b) and (15b') in which the embedded clause is realized by a finite clause.

Furthermore, the presence of modal auxiliaries in the main clause seems to interact with the (un) acceptability of Neg-Raising. A Neg-Raising reading would be excluded with predicates that otherwise allow it if a modal verb has been added, as is the case in the following sentences (Quirk et al. 1985: 1034).

(16) a. I **can't** believe that they are married.²⁰ [\neq I can believe that they are not married]
 b. You **mustn't** think he's stupid. [\neq I must think he isn't stupid]
 c. I **wouldn't** have imagined that Sandra would be here. [\neq I would have imagined that Sandra wouldn't be here]

Similarly, predicates which normally do not neg-raise will do if they co-occur with certain auxiliaries.

(17) I **wouldn't** say I trust them. ['I would say that I **don't** trust them'] [Quirk et al. 1985: 1034]

Thus, the meaning expressed by the CTP cannot be the only element involved in the (un)acceptability of Neg-Raising. Other aspects, such as the type of CC and the interaction with other elements present both in the matrix and embedded clause require further analysis.

2.3 Pragmatic criteria

Pragmatic criteria have not aroused as much attention as semantic criteria have, even though, as has been pointed out above, Neg-Raising is generally associated with a speaker's choice to weaken his assertion.²¹

The pragmatic aspect of Neg-Raising mainly concerns the communicative function of matrix clause negation as opposed to embedded clause negation, that is, it concerns the question why in certain contexts speakers prefer matrix clause negation instead of the semantically more logical embedded clause negation.

Bublitz (1992: 559) argues that Neg-Raising has "a markedly *interpersonal function*, serving to qualify the speaker's attitude towards propositions and interlocutors alike". Furthermore, he claims that this grammatical phenomenon is clearly associated to the pragmatic concept of politeness.²² When using Neg-Raising, a speaker is not only softening his attitude to the proposition contained in the utterance, but also establishing a good relationship with the addressee, in the sense that "preferring transferred negation

¹⁹ In fact, Fischer (1999: 60) argues that the first cases of Neg-Raising involve non-finite complements.

²⁰ However, as suggested by Fischer (1999: 91), it is possible that "the sentence does contain NR, but that the modal has been raised along with the negative, meaning 'I believe that they cannot be married' rather than 'it is not possible for me to believe that they are married'". This doesn't apply to (16c), though, where the complement clause already contains a modal.

²¹ Other (semantic-) pragmatic approaches to Neg-Raising could be mentioned here, which account for this phenomenon in terms of pragmatic presupposition (Bartsch 1973), weak presupposition (Gajewski 2007) or scalar implicatives (2013). However, given the complexity of these approaches and their limited relevance for the present (functional-oriented) study, a detailed account of these theories falls outside the scope of this paper.

²² In general terms, he conceives of Neg-Raising as a strategy to display positive and negative politeness in the context of Brown and Levinson's (1987) *Politeness Theory*.

helps to leave the addressees' range of options to respond intact, thus avoiding any impression of other-determination" (Bublitz 1992: 560).²³ It is this pragmatic option of choosing politeness that, according to this author, activates the linguistic features that characterize Neg-Raising.²⁴ Therefore, he concludes that "The transfer of negation is, after all, an instance of rhetorical understatement and thus a pragmatic (and only a minor syntactic) problem" (1992: 574).

However, even if Neg-Raising is accounted for in general pragmatic terms (i.e. speaker's attitude towards the truth of the embedded clause), the question of why not all CTPs considered to be (near-) synonyms allow Neg-Raising remains unanswered and, as Horn (1978: 183) puts forward, "the notion of a lexical exception to a pragmatic principle requires some explication".

From the previous account of the different features used to characterize Neg-Raising, it can be concluded that it constitutes a complex phenomenon in terms of its syntactic, semantic and pragmatic properties. As suggested by Horn,

N[egative]R[aising] originates as a functional device for signaling negative force as early in a negative sentence as possible. The determination of how soon possible is will be dependent upon the interaction of pragmatic, syntactic, semantic, and idiosyncratic factors. (Horn 1978, 215-16)

In the next section, the explanatory potential of FDG to account for this complex phenomenon in English will be put to the test.

3 An FDG account of negative raising

Within the Functional Grammar (FG) model, the predecessor of FDG, little attention has been paid to the phenomenon of negation in general and to Neg-Raising in particular. Among the few contributions, it is worth mentioning Nuyts' (1987) account, in which the author concludes that his analysis "indicates the need for a much more powerful model than FG, and for more abstract representations than the underlying predication in FG" (p. 21).

FDG seems to offer such a powerful model for analyzing the phenomenon of negation and its expression from a typological perspective, as the work carried out by Hengeveld & Mackenzie (2018) has shown. In the following sections its potential for the analysis of Neg-Raising in English will be considered. After a brief presentation of the general organization of FDG in (3.1.), its analysis of complementation will be applied to the characterization of Neg-Raising constructions in (3.2.) in order to arrive at a clear delimitation of the object of study. Section 3.3. will then offer an analysis of Neg-Raising within FDG.

3.1 General organization of FDG

FDG (Hengeveld & Mackenzie 2008) is conceived as a Grammatical Component interacting with three other components – a Conceptual, a Contextual, and an Output Component. It is the Grammatical Component that provides the grammatical description of a language. This description is carried out in terms of two operations: Formulation and Encoding. Through Formulation, the conceptual representations are translated into pragmatic, at the Interpersonal Level, and semantic, at the Representational Level, representations. Through Encoding, these pragmatic-semantic representations are converted into morphosyntactic ones, at the Morphosyntactic Level, and then into phonological representations, at the Phonological Level.

Each of the four levels of representation consists of a number of layers, nested into a hierarchical organization. Each layer in turn is provided with its own variable (v), which is restricted by a head. Further

²³ A similar interpretation is held by Giang and Khuong (2014) who maintain that one of the main functions of Neg-Raising is to avoid threatening the hearer's face by decreasing disagreement.

²⁴ The linguistic features analyzed by Bublitz are the distance between the negative item and its scope, the type of main clause predicate involved and the initial position of the negative item.

information can be added to each layer by means of operators (π), information grammatically expressed, or modifiers (σ), information lexically expressed. The general structure of layers is represented (Hengeveld and Mackenzie 2008: 14) as in (18):

$$(18) \quad (\pi v_i: [\text{head}(v_i)_\Phi]: [\sigma(v_i)_\Phi])_\Phi$$

From the overall organization of FDG, the two levels relevant for the Formulation of Neg-Raising are the Interpersonal and the Representational Levels. At the Interpersonal Level units are analyzed in terms of their communicative function. The hierarchical structure of this level is represented schematically as follows (Hengeveld and Mackenzie 2008: 15):

$$(19) \quad (M_i: [(A_i: [(F_i) (P_i)_S (P_i)_A (C_i: [(T_1)_\Phi] \dots (T_{i+N})_\Phi (R_1)_\Phi \dots (R_{i+N})_\Phi] (C_i)_\Phi)] (A_i) \dots (A_{i+N})_\Phi] (M_i))$$

The highest unit of analysis is the Move (M), which consists of one or more Discourse Acts (A). Each Act is formed by an Illocution (F), Speech Participants (P_i and P_i) and a Communicated Content (C). Communicated Contents may contain one or more Subacts of Reference (R) and Ascription (T).

At the Representational Level units are analyzed in terms of the semantic category, entity type, they designate. Propositional Contents (p) may contain one or more episodes (ep), which in turn may contain one or more descriptions of States of Affairs (e). Each State of Affairs is characterized by a Property (f), one or more Individuals (x) and, at a more language-specific level, other expressions designating Location, Time, Manner, Reason and Quantity. The hierarchical representation of this level (Hengeveld and Mackenzie 2008: 15) is shown in (20):

$$(20) \quad (p_i: [(ep_i: [(e_i: [(f_i: [(f_1) \dots (f_{i+n})_\Phi] (x_i)_\Phi \dots (x_{i+n})_\Phi] (f_i) \dots (f_{i+n}) (e_i)_\Phi] \dots (e_{i+n})_\Phi] (ep_i) \dots (ep_{i+n})_\Phi] (p_i))]$$

This hierarchical organization is the basis for the analysis of complement clauses and, accordingly, for the characterization of Neg-Raising constructions that will be presented in the next section.

3.2 Neg-Raising constructions in FDG

In FDG, subordinate constructions may be classified “in terms of the interpersonal or representational layer that underlies them” (Hengeveld & Mackenzie 2008: 362). As any other type of subordinate construction, CCs, embedded clauses functioning mostly²⁵ as arguments of a higher clause, can also be classified in terms of the highest layer they contain. In this case, it is the meaning of the CTP that determines the type of (interpersonal or representational) unit it can take as its argument.

Thus, CCs can represent any of the different layers (/entity types) distinguished at the different levels within the model, depending on the semantics of the CTP.

Table 1. Classification of CCs according to Entity type (Hengeveld & Mackenzie 2008: 363)

Type of clause	Function / Meaning of CTP
M	Situating a Move in the wider discourse (e.g. <i>conclude</i> , <i>summarize</i>)
A	Relating Discourse Acts to one another (e.g. <i>add</i> , <i>go_without_saying</i> , ‘ <i>be_firstly</i> ’)
C	Transmission and reception of Communicated Content (e.g. <i>say</i> , <i>hear</i>)
ep	Situating Episodes with respect to each other (e.g. <i>end_with</i> , <i>happen</i>)
p	Propositional attitude (e.g. <i>believe</i>), Inference (e.g. <i>seem</i>)
e	Direct Perception (e.g. <i>perceive</i>), Volition (e.g. <i>want</i>)
f	Aspect (e.g. <i>start</i>), Participant-oriented modality (e.g. <i>able</i>)

²⁵ It will be argued later that CCs do not always function as arguments of a matrix predicate.

The relevance of this approach is not only that it predicts what type of operators and modifiers can be expressed in a CC depending on the highest layer it contains, but also that it accounts for certain aspects concerning its form and behavior.

This classification of CCs can be further elaborated by the application of other parameters proposed by Hengeveld (1998, 2014, in prep.).²⁶ From a typological perspective, he provides a semantic characterization of these constructions in terms of the application of three parameters: Entity type (i.e. highest layer underlying the CC), Factuality and Presupposition.²⁷

According to Hengeveld, Factuality constitutes an independent parameter which is applicable to all types of entity, that is, “a cover term that hosts distinctions that apply in different ways to the different entity types”. Table 2 contains the application of this general concept to the different entity types.

Table 2. Factuality parameter (Hengeveld 2014, Hengeveld in prep.)

	Factual	Non-factual
C	Endorsed by the speaker	Not endorsed by the speaker
p	True	Not true
ep	Real	Not real
e	Realized	Not realized
f	Applicable	Not applicable

Applying Factuality (*truth-value (epistemic) dependency* in Noonan’s (1990) terminology) to the different types of entities, a distinction would be established between factual clauses (which describe a property or relation as applicable; an event as realized; an episode as real; a propositional content as true; and a Communicated Content as endorsed by the speaker) and non-factual (which describe the different types of entities in opposing terms).

Presupposition²⁸ is also conceived as “a cover term that hosts distinctions that apply in different ways to the different entity types and factuality types” (Hengeveld 2014). Thus, the application of this parameter to CCs varies depending on the entity type designated by the CC in the factual and non-factual domain, as shown in Table 3.

Table 3. Presupposedness parameter (Hengeveld 2014, Hengeveld in prep.)

	Factual	Non-factual
e	implied to be realized	implied not to be realized
ep	presupposed to be real	presupposed not to be real
p	presupposed to be true	presupposed not to be true

It is worth mentioning that the application of the Presupposition parameter to the different entity types in the factual/non-factual domains covers more specific classifications that distinguish between Factive (Presupposed-Factual) / Non-Factive (Non-presupposed-Factual) / Implicative (Presupposed-Factual) / Non-Implicative (Non-presupposed-Non-factual) / Counterfactual (Presupposed-Non-factual).²⁹

Hengeveld’s characterization of CCs constitutes a consistent framework in which the analysis of constructions allowing Neg-Raising can be carried out, since it helps to neatly delimit the constructions under study.

²⁶ In Hengeveld (1998), the advantages of the application of these parameters to the analysis of adverbial subordinate clauses have been shown. This previous work, slightly modified to fit into the new FDG model, has been later applied to the analysis of CCs (Hengeveld 2014, Hengeveld in prep.).

²⁷ Hengeveld (1998) uses the term *presupposedness*, but the most common term *presupposition* is preferred here.

²⁸ Although Hengeveld (1998) does not provide a clear definition of the concept of Presupposition, its application implies a general interpretation of the concept referring to information that is assumed to be already known.

²⁹ See Karttunen (1971a, 1971b, 1973) for the first account of this subject.

Taking Horn's (1978) list of Neg-Raising predicates as the point of departure and applying the three parameters proposed by Hengeveld (1998, 2014, in prep.) for the classification of CCs, the following characterization of Neg-Raising constructions may be posited.

Table 4. Classification of Neg-Raising CCs

		e(p)	p
Factual			Propositional attitude
			<i>believe, think, suppose, imagine, expect, reckon</i>
			Inference
			<i>seem, appear, look like, sound like, feel like</i>
		Pres	
Non-factual	Non-presup	Volition	
		<i>want, wish, expect, intend</i>	
		Advice	
		<i>advise, suggest, be desirable</i>	
		Probability	
		<i>likely, probable</i>	
		Pres	

CCs allowing Neg-Raising have been traditionally associated with CTPs that express some kind of (epistemic or deontic) modality. Thus, it is to be expected that they are restricted to the designation of entity types at the Representational Level.

In Table 4 it can be observed that the CTPs that neg-raise are those taking Propositions as their complements (i.e. propositional attitude and inference) and those taking Events/Episodes (i.e. volition) as their complements. In the case of CCs designating a Proposition, the CTP will imply an evaluation on the truth of the Propositional Content designated by the embedded clause, as in (21a/b).

(21) a. Judge Goldstone interjected: “I don’t **suppose** they were going out to discuss Brexit.” [NOW – Leigh Journal]
 b. Do take a book and a cushion, as I don’t **imagine** the pavements are too comfortable. [NOW – Classical-Music.com (blog)]

CTPs introducing CCs that designate a State-of-Affairs will be concerned with the desirability or advisability of that State-of-Affairs.

(22) a. She said: “It should be a day of celebration, a 15th birthday, but I said I did not want to go out. I did not **want** to be reminded of a day when my son nearly lost his life. It brought back all those memories.” [NOW – Evening Standard]
 b. The NHS do not **advise** pregnant women to use sun beds as it can lead to a folic acid deficiency vita for a baby’s neural development [NOW – Daily Mail]

Furthermore, some predicates can govern a coherent set of State of Affairs, an Episode entity type, as *want* does in (23).

(23) But I don’t **want** to stop here. I **want** to keep going and get more caps. [NOW – Daily Mail]

CCs designating layers at the Interpersonal Level, that concerns communicative intentions rather than the contents of the message, are not expected to allow Neg-Raising.³⁰ As argued by Hengeveld & Mackenzie

³⁰ This would explain the lack of equivalence between (6a-6b) and (7a-7b), if *claim* is interpreted as a verb of ‘saying’, as suggested above, governing an embedded clause designating a Communicative Content.

(2018: 38), “A Communicated Content cannot be negated as such, as once it is produced it exists”, it can only be denied. However, some verbs of ‘saying’ are sometimes said to allow Neg-Raising. This potential counterexample will be given an explanation later.

The second parameter that turns out to be important for the delimitation of constructions allowing Neg-Raising is Presupposition. Only CTPs governing non-presupposed CCs allow Neg-Raising. As Givón claims (1984: 325), “only the *asserted* portion of the corresponding affirmative is denied, while the *presupposition* remains outside the negative scope”. Thus, when a matrix clause containing a CTP that governs a presupposed CC is negated, the presupposed CC remains outside the influence of the negative since it was not asserted.

Predicates taking presupposed complements coincide with Horn’s (1978) *strong strength modality* in the factual domain and with *weak strength modality* in the non-factual domain. Thus, the parameter of Presupposition accounts in a systematic way for the exclusion of CTPs situated at the two extremes of Horn’s scale.

(24) Presupposed Factual:

- a. We didn’t even **know** it was going to be Theresa May until five hours before she arrived [NOW – The Guardian] ≠
- a'. We knew it wasn’t going to be Theresa May...

As pointed out by Lakoff (1969: 158), “Since it is presupposed that the subject of a factive verb knows that the complement of a verb is true, he cannot be uncertain about it”.

(25) Presupposed Non-factual:

- a. I’m not saying I don’t **wish** that I had spent less money on shoes over the past few years and more on constructing a lead-lined bunker in the Welsh valleys full of ready meals and books about how to scratch a living from the scorched earth, but -- now that the first grief of Trump’s victory has receded, I find myself oddly at peace. [NOW – Telegraph.co.uk] ≠
- a'. I’m not saying I wish that I hadn’t spent less money on shoes...

The CCs in the examples above designate Propositions presupposed to be true ((24) presupposes *it was going to be Theresa May* to be true) and presupposed not to be true ((25) presupposes *I had spent less money* not to be true), those presuppositions remain intact when the CTP is negated.

As far as the parameter of Factuality is concerned, it could be argued that it does not seem to be a relevant parameter in determining the (un)acceptability of Neg-Raising. CTPs both in the factual and non-factual domain introduce CCs allowing Neg-Raising. However, a systematic relation could be posited between the Entity type involved and the Factuality domain. Propositional CCs that allow Neg-Raising belong to the factual domain, whereas Event/Episode CCs belong to the non-factual domain. The limitations of this parameter have also been pointed out by Hengeveld (2014, in prep., pc) in relation to the Factuality Hierarchy, which predicts an implicational relation between the factual / non-factual status of CCs and their expression through deranked (non-finite) and/or balanced (finite) verb forms. Hengeveld (pc) concludes that the Factuality hierarchy doesn’t work for complementation. Although the factual / non-factual distinction is relevant in order to apply the Entity type hierarchy, no systematic relation has been found concerning the factual / non-factual pairs.³¹

Summarizing the main points presented concerning the delimitation of Neg-Raising constructions, two prototypical groups of Neg-Raising could be assumed – namely, Non-presupposed Factual Propositions and Non-presupposed Non-factual Events/Episodes.

³¹ Certain limitations were also pointed out in the application of Factuality to adverbial clauses (Hengeveld 1998, Pérez Quintero 2002). It is stated that “in English, as in other European languages, applicability of the Factuality Hierarchy is limited to clauses with ITR [Independent Time Reference], that is, that The Factuality Hierarchy is only operative when ITR exists” (Pérez Quintero 2002: 123).

Furthermore, the application of these parameters for the characterization of CCs provides an explanation for many of the inconsistencies of previous analyses pointed out in Section 2. This is so because it establishes a semantic characterization of CCs directly dependent on the *function* of the CTP introducing it. That is, the determining factor is not only the meaning (in the strict sense) of the CTP but the sense in which it is used in a certain context. This accounts for the fact that some predicates can be used to introduce presupposed and non-presupposed embedded clauses, or Propositional and Communicated Content clauses; hence, only in those cases in which they introduce the required CC they would allow Neg-Raising. Thus, instead of accounting for Neg-Raising in terms of a phenomenon dependent exclusively on the lexical unit introducing the CC, this approach integrates a wider characterization of CCs. The meaning of the CTP is useful, however, in order to establish different groups within each of the different domains, as will be stated in the following subsections, dealing with the Non-presupposed Factual domain (3.2.1.) and the Non-presupposed Non-factual domain (3.2.2.).

3.2.1 Non-presupposed Factual Propositions

CCs designating Non-presupposed Factual Propositions can be arranged into two groups, depending on the meaning expressed by the CTP: (i) Propositional attitude (i.e. *believe, think, suppose, expect...*) and (ii) Inference (i.e. *seem, appear...*).

Propositional Attitude CTPs

This group includes CTPs expressing the speaker's evaluation of the (Non-presupposed) truth of the Propositional Content designated by the embedded clause. By raising the negative from the embedded to the matrix clause, the speaker wants to diminish his commitment towards the Propositional Content, mitigating the force of his assertion.

Since these constructions involve speaker's evaluations, they are characterized by being introduced mainly by first-person subjects and by being expressed in the present tense, as can be seen in the following examples.

- (26) “I don't **believe** society understands what happens when everything is available, knowable and recorded by everyone all the time,” Mr Schmidt told the Wall Street Journal. [NOW – Telegraph.co.uk]
- (27) He said: “I do not **think** we should provide travellers' sites on a tourist island. I do not want them, I do not **think** they are necessary and I do not **think** we should have them on the Island. I'm also concerned the high cross-Solent charges would deter them from leaving.” [NOW – Isle of Wight County Press]
- (28) I don't **suppose** schoolchildren play conkers any more, but when I was little, the autumn term was conker season, with furious competition in the playground for the biggest, shiniest and toughest all-conquering conker. [NOW – Daily mail]

In the previous examples, it can be observed that the negative has been raised from the embedded clause to which it belongs semantically to the matrix clause, governed by a CTP denoting the speaker's propositional attitude.

Examples of constructions with non-first-person subjects can also be found, but in most cases the context indicates that they represent instances of indirect speech, as in the following examples.

- (29) The former Mayor of New York City is back in the news after saying he doesn't **believe** Barack Obama loves America [NOW – Telegraph.co.uk]

(30) But on Wednesday, a judge said he did not **believe** Craig had shown any remorse and handed him a 10-year sentence. [NOW – U.TV]

However, as was mentioned in Section 2.2., a Neg-Raising reading is not possible with propositional attitude CTPs when combined with some modal auxiliaries (see examples under (16)). This restriction has been found in the corpus, where the presence of an epistemic modal cancels the possibility of interpreting negation as affecting the embedded clause.

(31) I honestly **can't believe** there hasn't been more of a general agreement about this ball, I've watched ALOT of football in my time and these games have been so noticeably different to any others I've seen. [NOW – BBC Sports] ['It is not possible that I believe...']

(32) I was absolutely devastated when I found out it was him. I **could not believe** it was Shane. I did not want to believe it. [NOW – Mirror.co.uk]

(33) Most people **wouldn't think** that sitting at home and having more than three pints or drinking most of a bottle of wine in front of the television is binging but the units add up. [NOW – The Independent]

(34) Despite this fact, more and more students are being encouraged to apply, and, perhaps, this could give students who at one point **would never have thought** they would be accepted into such prestigious Universities, to have the experience of a lifetime. [NOW – Richmond and Twickenham Times]

(35) Personally I **cannot think** any WFC supporter will take any positives from that game. [NOW – Whatford Observer]

(36) On the other hand, we **cannot suppose** that the only thing standing between us and an intellectual's paradise is a lack of will power or a dearth of public grants. Education is a bigger industry now than it ever has been -- thanks to a bubble that has yet to burst -- and yet so much of it is mismanaged. [NOW – The Market Oracle]

(37) I **wouldn't suppose** for one moment that there's a single one of Trump's voters that would be anything but confirmed in their beliefs. [NOW – The Guardian]

The previous examples, rather than being considered counterexamples as suggested by previous analyses (Cf. the discussion of the examples in (16)), are accounted for by the fact that polarity has scope over the relevant modals.³² Thus, the negative is interpreted as affecting the modal and not the matrix predicate, as would be the case if Neg-Raising would apply.³³

The following examples, however, can be interpreted as involving Neg-Raising since the relevant modals fall outside the scope of polarity.

(38) However, dentists warn there are other risks associated with drinking wine, and people **should not think** it was good for their teeth. [NOW – Huffington Post UK] ['It is obligatory that people think that it wasn't good for their teeth']

(39) They **may not think** the sky is part of that, but once they get there, they're often struck by how big and dark the sky is [NOW – BBC News]

³² Even more, in the case of the examples with *would* ((33) and (37)) and *would* + perfect ((34)), the CC is presupposed to be true, in lieu of non-presupposed as it is prototypically the case with CC governed by propositional attitude CTPs. Thus, they will not be candidates for Neg-Raising.

³³ This explanation would account for the acceptability of negation in the matrix clause with some verbs of 'saying' (Cf. (17)), where it is the modal that is being negated and, therefore, Neg-Raising doesn't apply.

(40) This response was criticized by tech experts who responded that Apple had a duty of care for its customers, and that tech companies in general **should not suppose** that the average user is aware of security best practice and account for this in their systems. [NOW – The Independent]

Inference CTPs

Another group of neg-raisers introducing non-presupposed factual propositions is formed by inferential predicates by means of which the speaker expresses the lack of evidence and thus the inferential nature of the asserted proposition.

In this case, it is not only the negative that is raised to the matrix clause, but also the subject, as in the examples in (42), and even the modal if present in the embedded clause, as shown in (43).³⁴ Instances in which only the negative is raised as in (41) are not common.³⁵

(41) It **does not appear** to faze them if one client or 10 clients attend their activity. These volunteers' enthusiasm is so high and unconditional. [NOW – Reading Post]

(42) a. He added that obesity **does not seem** to be the main reason obese people are less satisfied with life. [NOW – Daily Mail]
 b. The removal of passporting **does not** currently **appear** to impact a large number of UK fintechs. [NOW – City A.M.]

(43) a. Abdel-Hafiz does not believe the FBI is purging Muslims as a deliberate strategy. For him, the bureau leadership is blind to the fears of non-white officials, particularly Muslims, who **cannot seem** to escape internal suspicion. [NOW – The Guardian] ['It seems that they are not able to escape...']
 b. The International Monetary Fund has become the fiscal cheerleader, yet even the IMF **cannot seem** to marshal its own staff. [NOW – Telegraph.co.uk] ['It seems that even the IMF is not able to marshal...']

3.2.2 Non-presupposed Non-factual Events/Episodes

CTPs governing non-presupposed non-factual (coherent sets of) States of Affairs belong to three broad groups: (i) Volition (i.e. *want*, *wish*...), (ii) Advice (i.e. *advise*, *recommend*...) and (iii) Probability (i.e. *likely*, *probably*...).

Volition CTPs

CTPs expressing 'volition' do allow Neg-Raising from a non-finite embedded clause. When the matrix and the embedded clause share the same Subject, as in (44), the non-raised construction seems not to be an alternative.

(44) And I don't **want** to live in a country which isn't run by normal human beings. [NOW – Mirror.co.uk]

(45) Way said in her Facebook post that she doesn't **want** any girls to have to have their faces rebuilt and their whole lives dictated by abuse'. She said she doesn't want her past to dictate her future [NOW – Daily Mail]

³⁴ These data support Fischer's (1999) claim concerning the first cases of Neg-Raising. The author argues that Neg-Raising seems to have originated in constructions involving impersonal verbs (i.e. *seem*) together with Subject raising. She concludes

In my data a clear link could be established between the occurrence of Subject Raising and NR with the impersonal verbs *seem*, *think* and *happen*. In addition, the data also seem to show that the presence of a modal in the matrix clause may promote the use of NR. (Fischer 1999: 86)

³⁵ From a random sample of 200 sentences with *seem* and 200 with *appear*, only two examples were found that do not contain Subject raising. One of these examples is characterized by the occurrence of the Focus marker *even* in the matrix clause, which seems to block the Neg-Raising interpretation. Thus, *even* seems to attract negation to the matrix clause as epistemic modals do.

"To me it doesn't even seem like I have done enough but if it can make a child feel a little bit more special and better about things then it is a great thing to do." [NOW – Croydon Advertiser]

- (46) ‘Should we leave but stay in the single market and swallow all the rules which go with it, including freedom of movement for everyone in Europe?’ # Nope, we decided convincingly that we did not **wish** to remain a member of the EU, with everything that entails. [NOW – Daily Mail]
- (47) He wrote: “Even if some people expect me to, I do not **wish** to destroy my own life to satisfy the expectations of others.” [NOW – The Independent]
- (48) He was brought up not to **expect** football to be automatically his career path. [NOW – Daily Mail]

It should be noticed that in examples such as (46) and (47) *wish* governs a non-presupposed State of Affairs, that is, the speaker expresses his desire that an event does not occur (i.e. *not remaining a member of the EU* or *not destroying his own life*). This function/meaning of *wish* is different from the expression of ‘unreal wish’, in which the CC designates a Propositional Content presupposed not to be true and, therefore, Neg-Raising doesn’t take place (Cf. (15)). According to the analysis posited here, it is a (pragmatic-)semantic criterion (presupposed/non-presupposed) that blocks Neg-Raising and accounts for the morphosyntactic realization (i.e. different complementizer (to/that) and different verbal form (finite/non-finite)) of the embedded clause.

In the case of volitional CTPs, contrary to what was mentioned in relation to propositional attitude CTPs, when an epistemic modal occurs in the matrix clause, a Neg-Raising interpretation is possible, since the modal (a propositional operator) could be outside the scope of negation (episode/State of Affairs operator).

- (49) Grace would be the first to say that she wouldn’t **want** any other child to suffer in the same way. [NOW – Worcester News]
- (50) He said: “I did English Literature at A Level and loved it and thought ‘how could you not **want** to do something you loved with your work?’” [NOW – BBC News]

Advice CTPs

CTPs expressing ‘advice’ do also allow Neg-Raising, although not so frequently as volitional and propositional attitude ones, as shown in (51) and (52).

- (51) The NHS do not **advise** pregnant women to use sun beds as it can lead to a folic acid deficiency vita for a baby’s neural development [NOW – Daily Mail]
- (52) De Schutter says he is not completely opposed to agribusiness as it is incredibly efficient in connecting consumers and producers far away from each other. # “It is not **desirable** to get rid of agribusiness,” he says. “It is incredibly efficient, connecting far away consumers and producers, and many needs can only be satisfied by agribusiness.” [NOW – The Guardian]

Probability CTPs

CTPs expressing probability (i.e. *likely*, *probable*)³⁶ govern embedded clauses designating events. In this case, the speaker is concerned with the likelihood of occurrence of a State of Affairs.

- (53) “Having diversity and inclusion initiatives as an afterthought or ‘nice-to-have’ will not change overall company culture and is not **likely** to change the demographic makeup of companies,” said Scott. [NOW – The Register]
- (54) It is a relatively simple process to assess blood sugar levels and insulin levels by performing blood tests. While measuring wrist circumference would be slightly easier, the method is not **likely** to be as accurate and results would probably need to be confirmed by subsequent blood tests. [NOW – NHS Choices]

³⁶ The number of occurrences of *probable* is extremely low, only 23 instances were found in the corpus (NOW – GB Section).

(55) Each year Unesco reviews the progress that's been made and this year the authors warn that it's not **likely** that all of the promises will be kept. It warns that promises such as providing a primary school place for all children and increasing the adult literacy rate by 50% are unlikely to be kept. [NOW – BBC Sport]³⁷

(56) With a small majority in the Commons and a degree of hostility likely in the House of Lords, it is not **probable** that the Government will seek to legislate again. [NOW – The Independent]

In the next section, the potential of FDG for analyzing the phenomenon of Neg-Raising will be put to the test.

3.3 An FDG analysis of Neg-Raising

In previous sections it has been pointed out that Neg-Raising is a complex phenomenon, which concerns not only syntactic variation, but also semantic as well as pragmatic restrictions in the context of subordinate complement clauses. From an FDG perspective it is of great importance to establish the interpersonal (pragmatic), representational (semantic), and morphosyntactic factors that determine the choice of a certain type of subordinate clause. Thus, through the operations of Formulation (3.3.1.) and Morphosyntactic Encoding (3.3.2.), FDG should be able to account for the phenomenon of Neg-Raising.

3.3.1 Formulation

Through the operation of Formulation, the pragmatic-semantic characterization of Neg-Raising constructions described in the previous sections should be accommodated in their underlying representations at the Interpersonal and Representational Levels.

As was mentioned in Section (2.3.), Neg-Raising is triggered by an important interpersonal factor – namely, the speaker's intention to mitigate his commitment with respect to the content expressed, showing at the same time his desire of not imposing upon his interlocutor. This interpersonal factor is represented in FDG by means of a Mitigation (Mit) operator at the Interpersonal Level, modifying the Discourse Act (Hengeveld and Mackenzie 2008: 67). Thus, the underlying representation of Neg-Raising constructions would include a Mit operator at the Discourse Act layer, as shown in (57).

(57) **(mit** A₁; [(F₁: ILL (F₁)) (P₁)_S (P₂)_A (C₁)_φ] (A₁))

It has been argued that Neg-Raising CCs can be characterized in terms of the highest Entity type they contain and in terms of their Non-presupposition. Moreover, a systematic relation was posited between the Entity type involved and the Factuality domain. Therefore, these three properties must be specified in the underlying representation of Neg-Raising CCs.

The entity type designated by the CC is reflected in the highest layer assigned to it at the underlying Representational Level. It has been claimed that CTPs allowing Neg-Raising take as their complements Propositional Contents, Episodes and States of Affairs. Their basic underlying representation is offered in (58-60):

(58) p-complement (f₁; believe_V) (x₁)_A (p₁; [(ep₁; [(e₁) (e₂) ... (ep₁)] (p₁))]_U
HRH has read the runes on this and doesn't **believe** [there is public appetite for a large, unwieldy
monarchy in the future.] [NOW – Daily Mail]

³⁷ It should be noticed that in this example, *unlikely to be kept*, which involves Lexical Property negation (Cf. Hengeveld & Mackenzie 2018: 30), does not imply Neg-Raising.

(59) ep-complement (f_1 : *wish*_V) (x_1)_A (\mathbf{ep}_1 : $[(e_1) (e_2) \dots] (ep_1)$)_U

The company did not **wish** [to provide any more detail or comment further on the individual incidents when approached by the Express & Star.] [NOW – expressandstar.com]

(60) e-complement (f_1 : *want*_V) (x_1)_A (\mathbf{e}_1 : $[(f_2) \dots] (e_1)$)_U

And I don't **want** [to live in a country which isn't run by normal human beings.] [NOW – Mirror.co.uk]

Propositional CTPs take as their arguments CCs designating Propositional Contents, represented in (58) by the corresponding variable (p_1). Episode and State of Affairs CCs too are represented by their variables (ep_1 in (59) and e_1 in (60), respectively).

On the other hand, in order to represent that only certain types of Propositional Contents, Episodes or State of Affairs allow Neg-Raising, two pairs of operators should be included at the Representational Level, so that the Morphosyntactic Level can take these characteristics into account. Namely, I propose that FDG underlying representations of CCs incorporate a Presupposition (Presup/Non-Presup) operator and a Factuality (Fact/Non-Fact) operator,³⁸ both accounting for the (un)acceptability of Neg-Raising as well as for some aspects concerning the formal expression of CCs (i.e. its realization as a non-finite or finite complement with verbs such as *wish*). As these two parameters are applicable to all types of entity, they should be represented at the different layers in the hierarchical structure of the clause, depending on the Entity type designated by the CC.

In addition to these CCs representing embedded clauses functioning as arguments of a matrix predicate, special attention should be paid to those cases (Examples (26-28)) in which predicates such as *think*, *believe*... exhibit a very fixed grammatical structure (1st person + present) almost resembling idiomatic expressions.

Lyons (1977: 776) suggests that in those cases, these predicates are not being used descriptively, but performatively, claiming that they should be better analyzed in terms of performative negation. While it is true that their meaning as verbs of 'thought/believe' has become blurred to give rise to a more epistemic modal meaning, these predicates are clearly not performatives. Alternatively, these (almost) 'fixed' expressions could be analyzed as modifiers expressing subjective epistemic modality at the propositional layer contained in the syntactically embedded clause, and not as CTPs.³⁹ This analysis is in fact consistent with Horn's (quoting Urmson (1952)) description of parentheticals:⁴⁰

a parenthetical belief-verb, which can be inserted medially or finally like sentential adverbs, is used as a "warning device," "to modify or weaken the claim to truth which would be implied by a simple assertion" (Urmson 1952: 484). Urmson relates parenthetical verbs to sentence adverbials (*I believe* corresponding to *probably*, *I know to certainly*, etc.) in communicative function as well as syntactic behavior. (1978: 189)

Following this approach, matrix clauses containing a raised negative and 1st person subjects + present tense will be represented as in (61), where p represents the syntactically embedded clause and σ the matrix clause:

(61) (p_1 : $[(ep_1: [(e_1) (e_2) \dots] (ep_1))] (p_1)$: $\sigma (p_1)$)

These parenthetical verbs do not function as lexical verbs, but as fixed expressions of negation (i.e. 'I don't think'). Fischer (1999) argues that verbs expressing opinion (*think*, *suppose*...) seem to have lost their lexical

³⁸ This second operator has been already claimed to be necessary for the representation of adverbial clauses (Pérez Quintero 2002).

³⁹ This analysis is posited by Keizer (2015: 114) for the 'inferential' derived sense of *see*, claiming that "In these contexts the verb *see* does therefore not function as a lexical verb; instead the sequence *I see* as a whole functions as an inferential modality modifier at the layer of the Propositional Content" (p. 212).

⁴⁰ Horn includes within this category of parentheticals inferential predicates such as *seem*, *look*... that could be analyzed as inferential evidentiality modifiers. However, further research would be necessary in order to put forward an analysis of these constructions in this direction.

meaning when used as conversational hedges, constituting a kind of grammaticalization that could be relevant to the emergence of Neg-Raising with these verbs. Such grammaticalized expressions function as disagreement⁴¹ modifiers at the propositional layer, indicating that the speaker (expressed through the 1st person pronoun *I*) is challenging the truth value of the Propositional Content designated by the CC. Since the Negative propositional modifier has scope over the CC, it will trigger NPI's that may occur in the embedded clause. In example (2a), repeated here for convenience, the presence of *anything* in the CC would be triggered by the disagreement modifier at the propositional level.

(62) I **don't think** transforming your body physically has **anything** to do with the craft of acting [NOW – The Guardian]

3.3.2 Morphosyntactic Encoding

Through the operation of Morphosyntactic Encoding, the configurations at the Representational and Interpersonal Levels are translated into morphosyntactic structures. In this section those aspects of the morphosyntactic structure of clauses that have been said to characterize Neg-Raising will be recapitulated from an FDG perspective. Further research would be necessary in order to provide an in-depth account of the morphosyntactic structure of Neg-Raising clauses.

In FDG raising refers to a process by which “a constituent semantically belonging to a subordinate Clause appears as a constituent of a superordinate Clause” (Hengeveld & Mackenzie 2008: 368). According to these authors, this displacement may be triggered by interpersonal, representational, or morphosyntactic factors. In the case of Neg-Raising, considering the data analyzed so far, it could be argued that the choice between a raised or a non-raised construction is triggered by interpersonal, representational and morphosyntactic factors.

It has been argued that the speaker's communicative intention of mitigating his commitment constitutes an important interpersonal factor, represented as an operator at the Interpersonal Level and, thus, triggering the preference for the Neg-Raising construction in lieu of the alternative construction with negation in the CC.

As for the representational factors, it has been claimed that only embedded clauses designating certain representational units (i.e. Propositional Content, Episode or State of Affairs) and only certain types of these representational units (i.e. Non-presupposed, Factual/Non-Factual) will allow Neg-Raising. Thus, two operators were added to the different layers designated by CCs in order to account for their (Non-) Presupposed and (Non-) Factual nature of the different representational units.

Among the morphosyntactic factors, it is worth mentioning that the degree of complexity in those cases in which the embedded clause functions as the Subject of the matrix clause (i.e. Inference CTPs such as *seem*) accounts for cases of Subject-Raising and (facultative) participant-oriented modal raising in combination with Neg-Raising.

Another morphosyntactic trigger would be the Subject sharing between matrix and embedded clause, since Neg-Raising is sometimes obligatory (i.e. *want*), leaving no option for a non-raised construction, when matrix and embedded clause share the same Subject (Cf. (41)).

Taking these interpersonal, representational and morphosyntactic factors into account, a preliminary account of placement rules will be offered in order to show how they operate such that the negative element ends up in the main clause.

The Morphosyntactic Level, concerned with the way in which interpersonal and representational information is formally expressed, is hierarchically organized, just like the Interpersonal and the Representational Levels. Four basic units are distinguished at this level: the Linguistic Expression (Le), the Clause (Cl), the Phrase (Xp) and the Word (Xw). In order to account for the expression of Neg-Raising in English, special attention will be paid to the Clause, the basic unit involved in this phenomenon.

⁴¹ This label has been adapted from Hengeveld and Mackenzie (2018), who distinguish *disagreement* as a propositional operator.

Following the FDG top-down approach, the template for a subordinate clause is first selected, providing a frame in which the placement of the constituents pertaining to that clause will take place in their surface order. In English a Clause will have the structure offered in (63), where each constituent may occur more than once (Hengeveld & Mackenzie 2008: 310).

(63) $(Cl_1: [(Xw) (Xp)_{(\Phi)} (Cl)_{(\Phi)}] (Cl_1))$

According to this representation, a Clause (Cl_1) consists of Words (Xw), Phrases (Xp) and other Clauses (Cl).

Thus, CCs such as (29) or (46), repeated here for convenience as (64a) and (64b) respectively, would contain the following combination of units.

(64) a. He doesn't believe Barack Obama loves America.
 $(Cl_1: [(Np_1)_{\text{Subj}} (Vp_1) (Cl_2)_{\text{Obj}}] (Cl_1))$
 b. We did not wish to remain a member of the EU.
 $(Cl_1: [(Np_1)_{\text{Subj}} (Vp_1) (Cl_2)_{\text{Obj}}] (Cl_1))$

Taking the input from the Interpersonal and Representational Levels, the Morphosyntactic Level will render a morphosyntactic structure, in which the ordering of the elements takes place in two stages: first hierarchically related units of the Interpersonal and Representational Levels (i.e. functions, operators and modifiers) are arranged, then the non-hierarchically related elements.

Thus, in the case of Neg-Raising, the operation of placement rules explains how the negative comes to occupy its position in the matrix clause.⁴² This process is illustrated schematically in (65).

(65) He doesn't believe Barack Obama loves America. [NOW – U.TV]

IL:	(mit A₁: [(F₁: DECL) (P₁)_S (P₂)_A (C₁: - He doesn't believe Barack Obama loves America -)])				
RL:	(p₁: (pres ep₁: (e₁: [(f₁) (x₁)_A (non-presup fact p₂: (pres ep₂: (neg e₂: [(f₂) (x₂)_A (x₃)_U]))_U))))				
ML:	P ^I	P ^M	P ^{M+1}	P ^{M+2}	P ^F
(Cl ₁ :	[(Np ₁) _{Subj} (Vp ₁) He do.pres.3.sg	not	believe	(Cl ₂ : [(Np ₂) _{Subj} (Vp ₂) Obama love.pres.3.sg	(Np ₃) _{Obj}] _{Obj}]) America

In hierarchical ordering, the present tense placeholder of the matrix clause (ep_1) is the first element that needs to be placed in a position, as well as the present tense placeholder of the CC (ep_2). The next element to be assigned a position is the negative element *not*, triggered by the negative polarity operator at the e_2 , that in this case is under the scope of the mitigation Discourse Act operator and the propositional operators Non-presupposed and Factual. Thus, instead of occupying its position in the CC, it is “raised” to the matrix clause. Then, in non-hierarchical ordering, the other units (verbal predicates, subjects and objects) will occupy their position. Finally, the dummy *do* will be triggered, since the negative caused that the verbal predicate could not join the present tense placeholder.

It is worth noting that this process of successive placement rules is not necessary in cases in which propositional attitude CTPs (i.e. *think*, *suppose...*) have become hedges and, therefore, do not function as lexical verbs but as fixed expressions. Following Keizer (2015) it was claimed that these hedges should be analyzed as disagreement modifiers at the level of the Propositional Content contained in the CC.

On the other hand, the presence of a modality operator in the matrix clause prevents Neg-Raising to take place, blocking the influence of the Non-presupposed and (Non-) Factual operators characterizing the CC.

A somewhat different situation is the one presented by CCs functioning as subject of the matrix clause. In this case, Neg-Raising takes place together with Subject raising, due to the high degree of complexity of the CC. The complex subject of the matrix clause, realized by a CC, is placed in Clause-final position, with either the dummy *it* filling the Subject position, when the CC is assigned the pragmatic function Focus (Cf. 41), or the subject of the CC being “raised” to the Subject position of the matrix clause, when it is assigned

⁴² In order to place the different units, FDG distinguishes three absolute positions, Clause-initial (P^I), Clause-medial (P^M) and Clause-final (P^F) positions, and a number of relative positions, which become available as one of the absolute positions is filled.

the pragmatic function Topic (i.e. *obesity* in (42a) or *the removal of passporting* in (42b)).

4 Conclusion

This paper has offered an account of Neg-Raising in the framework of FDG, showing its potential for explaining such a complex phenomenon. The main issues that have been raised are:

- (i) The classification of CCs resulting from the application of the three parameters (Entity Type, Presupposition and Factuality) proposed within FDG (Hengeveld 1998, Hengeveld 2014, Hengeveld in prep.) constitutes a complete and systematic typology that can be used as a grid for the delimitation of the constructions allowing Neg-Raising.
- (ii) Neg-Raising constructions fall into two groups: Non-presupposed Propositional CCs in the Factual domain and Non-presupposed Episodes/States of Affair in the Non-factual domain.
- (iii) FDG, by articulating grammatical description as arising from two operations – Formulation and Encoding – allows accounting for Neg-Raising without resorting to any kind of movement of constituents from one position to the other. It is through the operation of Morphological Encoding that the negative comes to occupy its position in the matrix clause, provided the required pragmatic and semantic restrictions specified through Formulation at the Interpersonal and Representational Levels.
- (iv) FDG's layered structure constitutes a powerful tool, not only to classify CCs allowing Neg-Raising, but also to account for the interaction of polarity with modality in terms of scope relations, explaining restrictions considered counterexamples or problematic cases in previous analyses.

This paper has been concerned with the grammatical description of Neg-Raising and, consequently, has focused on FDG's Grammatical Component. However, the Grammatical Component operates alongside three other components – a Conceptual, a Contextual and an Output Component. The Conceptual Component is of great importance for the analysis of Neg-Raising, since this component is the “driving force behind the Grammatical Component as a whole” (Hengeveld and Mackenzie 2008:7) and, therefore, it is responsible for the development of the speaker's communicative intention. In the case of Neg-Raising, it has been claimed that the choice between raised or non-raised negation is triggered by an important interpersonal extra-grammatical factor – namely, the speaker's intention to mitigate his commitment with respect to the content expressed, by showing less certainty and weakening the power of the negation and, therefore, avoiding imposition upon his interlocutor. In this respect, further research would be necessary in order to throw some light on the interaction of the Conceptual Component, where the mental representation of the Speaker's communicative intentions is located, with the Grammatical Component.

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