

CHAPTER 15

EXPLETIVE NEGATION

DENIS DELFITTO

15.1. INTRODUCTION

In natural language, standard sentential negation is a truth-value reversal operator whose semantics can be generalized to a complement-set operation. Standard negation has a rich syntactic and pragmatic dimension (Zanuttini 1997; Horn 1989, 2010). At the interface between syntax and the systems of interpretation, a phenomenon that deserves special attention is the so-called ‘expletive’ negation (EN), corresponding to cases in which a negative formative that is often (though not always) linguistically indistinguishable from standard sentential negation is used in main and embedded clauses without providing, according to the received wisdom, any truth-conditional contribution to interpretation. For the reader’s convenience, some uses of EN are exemplified below for languages as different as Italian (embedded comparative clause; Napoli and Nespors 1976), German (temporal clause introduced by *bevor*; Krifka 2010) and Korean (negative selected complement clause of the verbal predicate *hope*; Yoon 2011):¹

- (1) Maria è più alta di quanto *non* sia Carlo
Maria is taller than not is-SUBJ Carlo
‘Maria is taller than Carlo’
- (2) Mozart vollendete nicht sein Requiem bevor er *nicht* nach Wien umzog
Mozart finished not his Requiem before he not to Vienna moved
‘Mozart did not finish his Requiem before he moved to Vienna’
- (3) John-un Mary-ka anh-oci-*anh*-ul-kka kitayha-koissta
John-TOP Mary-NOM NEG1-COME-NEG2-FUT-NFCOMP hope-ASP
‘John hopes that Mary might not come (although it is unlikely to happen)’

¹ According to Yoon 2011 (p. 9), “the negative interpretation comes from the first *anh* (Neg1: real negation) while the second *anh* (Neg2: EN) is logically vacuous.”

EN has a number of puzzling properties: (i) it has a variable cross-linguistic distribution; (ii) it is optional intralinguistically (its use is generally not compulsory in the structures in which it is admitted); (iii) it does not reverse sentence polarity; (iv) contrary to anti-additivity operators such as standard negation it does not license items of negative polarity (NPIs) or negative concord words (NCIs) with an indefinite interpretation (i.e. it is incompatible with negative-concord (NC)). Moreover, when it co-occurs with standard negation (cf. (3) above), it does not give rise to the standard semantics of double-negation (DN). According to the available typological data, EN appears to be preferably licensed in non-veridical contexts in the subjunctive mood and is most typically found in the following syntactic environments: (i) in the complement of verbs expressing fear, prohibition, hindering, avoidance, denial, doubt and, though more restrictively, hope (as in Korean/Japanese); (ii) in clauses introduced by specific complementizers such as *until*, *without*, *unless*, etc.; (iii) in temporal clauses introduced by *before* (but not by *after*); (iv) in comparative and exclamative clauses. On these grounds, the question arises whether EN is a vacuous morpheme (a really ‘expletive’ element), whether it somehow loses its negative import as an effect of syntactic derivation and compositional interpretation, or whether there are ways to interpret it as a real negation, after all. In this chapter, I will mainly concentrate on these questions, that is on the puzzles raised by EN’s nature and interpretation.

The chapter is structured as follows. In section 15.2., I will discuss some of the most common analyses of EN, and more particularly: (i) the syntactic relationship between EN and NC; (ii) the proposals according to which EN is a real negation; (iii) the idea that EN is a special formative linked to an additional evaluative/expressive layer in the semantics of language. In section 15.3., I will inquire into the peculiar behavior of EN in Italian temporal, exclamative, and comparative clauses, as a (possibly revealing) individual case study. In section 15.4., I will summarize the results of the preceding discussions while pointing to some new promising directions of inquiry.

15.2. WHAT IS EN? THE STATE-OF-THE-ART

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In the literature, EN has been argued to be similar to NC in a number of respects. For instance, both phenomena have been claimed to involve expletiveness (EN-contexts are interpreted positively, while in NC-contexts there is one or more morphologically negative elements that are interpreted positively) and optionality (EN is systematically optional, while NC is at least partly optional, in that, for instance, an NCI in subject position may or may not co-occur with sentential negation giving rise to NC). Moreover, both EN and NC involve clause-boundedness and, arguably, a local dependency from a head hosting a negative feature of some sort (expressing either a non-veridical operator (EN) or an anti-additive operator (NC); Espinal 1992, 1997, 2007). However, there is also clearly a point at which the parallelism stops. First, NC involves a dependency from anti-veridical operators, whereas EN most typically involves a

dependency from non-veridical operators,² and can arguably surface even in veridical contexts, as in the case of *until*-clauses in Spanish and other languages and in the case of time measure constructions with *since* in languages such as Korean (Cepeda 2018).³ Second, NC has been related to scope-marking effects, whereas EN has been usually taken to be scopally inert and not to exhibit, more generally, any significant interaction with NCIs and NPIs (see however Delfitto, Melloni, and Vender 2018 for the claim that EN is in fact scopally active in Italian). Third, and perhaps more noticeably, NC is definitely not semantically vacuous as a grammatical phenomenon (Déprez et al. 2015), whereas it is traditionally claimed that EN is, though this chapter will present important evidence to the contrary. Moreover, as I have already observed, the set of licensers is sharply distinguished for NC and EN: anti-veridical operators for NC and non-veridical (or even veridical) contexts for EN.

Given the set of properties generally assigned to EN, it should be emphasized that there is abundant room for cross-linguistic variation. For instance, both the clausal complement of ‘doubt’ and *before*-clauses qualify as non-veridical operators. However, whereas *abans* ‘before’ and *dubtar* ‘doubt’ license the expletive marker *no* in Catalan, this is not the case for a closely related language such as Spanish (Espinal 2007). For instance, a sentence such as (4) in Catalan cannot be interpreted in Spanish (or in Italian) as indicated in the English translation; in these languages, the negative marker is rather interpreted as a real sentential negation:

- (4) Dubto que no mengi
 I doubt that not eat-SUBJ
 ‘I doubt that he eats’

The idea that verbs like *doubt* and prepositions like *before* contain a syntactically active Neg-feature interacting with the Neg-feature on EN has been extensively defended in a series of contributions by M. T. Espinal (Espinal 1992, 1997, 2007). Roughly, the insight is that heads qualifying as non-veridical operators are syntactically ‘negative’ and that their Neg-feature attracts (i.e. checks and absorbs) the Neg-feature expressed by EN. The existence of this type of syntactic dependency is corroborated by the observation that Catalan *abans* or Spanish *antes* ‘before’ easily license, besides the expletive negative marker *no*, also NCIs as indefinites, as shown in (5) below:

- (5) a. Abans que ningú digui res, deixeu-me donar-vos la benvinguda (Catalan)
 b. Antes de que nadie diga nada, dejen que les dé la bienvenida (Spanish)
 ‘Before anyone says anything, let me welcome you’

Syntactic accounts in terms of Neg-feature attraction raise a number of delicate issues concerning the distribution and the interpretation of negative features and, more generally,

² Simplifying a bit, we can state that a propositional operator *O* is veridical if and only if *Op* entails or presupposes that the proposition *p* is true. Conversely, an operator *O* is anti-veridical iff *Op* entails that *not p* is the case. If *O* is neither veridical nor anti-veridical, it is said to be non-veridical (cf. for instance Giannakidou 2006b).

³ I am indebted to an anonymous reviewer for drawing my attention to these data.

the interface between morpho-syntax and the systems of interpretation, both conceptually and empirically. Conceptually, non-veridical contexts as *before*-clauses and verbs of doubt are not negative contexts; rather, they qualify as neutral contexts in which there is no commitment to the truth of the relevant proposition on the part of the speaker. Why should then the Neg-feature expressed by the relevant heads in EN-contexts be treated on a par with the Neg-feature expressed in NC-contexts, which is promptly interpreted as expressing anti-additivity (i.e. negation proper)?⁴ Empirically, the interesting question arises whether the negation licensed in *before*-clauses is an instance of EN or reflects the presence of a real negation in the underlying logical form. As a matter of fact, syntactic structures of the form ‘A before B’ can be analyzed as involving universal quantification over times and a negative interpretation of the predicate expressed by the *before*-clause (as in Krifka 2010, partially based on Anscombe 1964): “For every time *t* preceding A, $\neg B(t)$.” Informally, the *before*-clause is negated at all times preceding the time at which the main clause is evaluated; this is equivalent to a non-factual (i.e. non-veridical) analysis of *before*-clauses (Krifka 2010 a.o.). A convenient exemplification is given in (6), where (6a) is assigned the logical form in (6b), roughly interpreted as indicated in (6c):

- (6) a. Warn her before she causes any trouble! (warn her = A; before she causes . . . = B)
 b. $A(\tau) \wedge \forall t: t < \tau. \neg B(t) \cong A(\tau) \wedge \neg \exists t: t < \tau. B(t)$ ⁵
 c. Ensure that all times *t* preceding the moment τ at which you warn her are such that she does *not* cause any trouble at *t*

On these grounds, one might adopt the view that EN in *before*-clauses, as in the Italian equivalent of (6a), given in (7) for the reader’s convenience, is not really expletive but somehow reflects the negative interpretation of the *before*-clause in logical form:

- (7) Avvertila prima che non combini qualche guaio!

The question is: can this non-expletive analysis be generalized beyond *before*-clauses? There is in fact a tradition of thought, in linguistics, according to which EN is more strictly tied to real negation than the expletive account would be ready to admit. According to this tradition, the EN occurring in an embedded clause selected by a verb or noun expressing fear, prohibition, hindering, avoidance, denial, or doubt expresses the negative content of the superordinate predicate. The claim is in fact that all these are predicates with a negative import. Similar ideas have been put forward with respect to a large variety of languages, such as Old/Middle English (Jespersen 1917), French (Muller 1978), Polish (Jablonska 2003), Russian (Brown and Franks 1995) and in general, the approach is best known as involving the concept of ‘paratactic’ negation, introduced by Jespersen. It is probably within this tradition of thought that Seuren 1974 proposed that comparative

⁴ It is generally assumed that strong polarity items cannot be licensed by downward-entailing operators, but only by anti-additive operators, that is, sentential negation and negated existentials such as *no-N* and *never*. Formally, an operator *O* qualifies as anti-additive if and only if $O(A \vee B)$ is logically equivalent to $O(A) \wedge O(B)$.

⁵ For simplicity, the formula refers to τ as the referentially given time of the event expressed by the main clause.

clauses also actually involve semantic negation: a sentence like *John is taller than Mary* should be read as *John is tall at a degree d , and Mary is not tall at that degree*. No surprise, then, that in languages such as Italian one can say things of the sort *John is taller than Mary is not*, as exemplified in (1) above. Again, the use of EN would be related to the presence of a real negation in the underlying logical form.

Unfortunately, the evidence available by now does not support the claim that in all contexts featuring EN there is a real negation semantically, either in the main or in the embedded clause. In effect, nowadays the perhaps most accepted style of analysis of EN relates its use to the activation of a distinct expressive-evaluative layer of semantic interpretation (Potts 2005). From this perspective, EN is certainly not an instance of real negation. On the contrary, EN and real (i.e. logical) negation are two homophonous elements, each relevant for a distinct layer of meaning. The evaluative interpretation of EN requires the use of doxastic models reflecting the epistemic stand of the speaker (whether, say, the relevant proposition is considered (un)likely or (un)desirable by the speaker) and represents the reflex of grammaticalization of perspective and subjective mood, further exemplified by predicates of personal taste (Lasersohn 2005), mood choice (Quer 2001; Giannakidou 2009) and other phenomena of the same kind. Technically, the evaluative sense of EN should be understood as an utterance modifier, in the form of a conventionalized implicature (CI; Yoon 2011). It should be emphasized that this analysis of EN is more related to the tradition of thought that takes EN to be a truth-conditionally vacuous element than to the analysis, mentioned above, involving the notion of ‘paratactic’ negation. The reason is that the truth-conditional content of what is said and the expressive/evaluative content are strictly separated from each other. According to Potts’s approach (multidimensionality of CIs), the meaning contribution of EN is dealt with as a separate dimension with respect to the basic semantics of the sentence containing EN. In other words, EN contributes to the ‘enriched’ meaning of the sentence, but its contribution is logically and compositionally independent of what is said (as confirmed by the observation that CIs are scopeless).

As an exemplification of this expressive/evaluative interpretation of EN, consider first the Korean sentence in (3) above: whereas the non-factive complementizer simply expresses uncertainty with respect to the propositional content of what is hoped, the insight is that adding EN turns uncertainty into unlikelihood.⁶ In other words, the CI triggered by EN expresses the speaker’s epistemic stand according to which the speaker hopes that p though she knows that it is extremely unlikely that it will be the case that p . The semantic value of the relevant CI further translates, in different contexts, in a large variety of different emotional contents, often achieved by emphasizing the meaning expressed independently of EN. According to this line of analysis, exclamative sentences such as those in (8a) and (8b), containing EN, further emphasize the sense of surprise, independently expressed by the semantics of the *wh*-exclamative, for the fact that the agent is really doing everything. Similarly, *before*-clauses of the sort indicated in (8c) are likely to express, when containing EN, the undesirability of the propositional content

⁶ Yoon (2011) strongly emphasizes (p. 108) that “both Japanese and Korean clauses with EN must take a non-factive complementizer (NFcomp)” and that (p. 109) “it is certainly not coincidental that the non-factive complementizer *ci/kka* in Korean and *ka* in Japanese are in an identical form to a question particle.”

expressed by the *before*-clause (Yoon 2011). More generally, these examples show that the CIs tied to the use of EN directly trigger the activation of hierarchies of likelihood/desirability and indirectly trigger the expression of the expressive/emotional values conveyed by the reference to these hierarchies:⁷

- (8) a. Was du **nicht** alles machst!
what you NEG-all do
‘The things you do!’ (German: Roguska 2007)
- b. Che cosa **non** ha fatto Gianni!
what thing not has done Gianni
‘The things Gianni did!’ (Italian: Delfitto and Fiorin 2014)
- c. Before he burns down **any** house . . . , before he kills **anyone** . . . , etc.

Interestingly, the original analysis of EN in Italian comparatives (Napoli and Nespor 1976) was also based on the insight that EN expresses unlikelihood in these contexts. For instance, in the case of (1) above, what the use of EN would convey is the sense of unlikelihood of the situation according to which Carlo’s height comes close to Maria’s.

Clearly, all these predictions should undergo some more detailed empirical scrutiny. This is what I intend to do in section 15.3, by assessing the predictions made by the evaluative approach for temporal, comparative, and exclamative clauses in Italian. This will lead us to the formulation of an interesting alternative analysis.

15.3. EN IN TEMPORAL, COMPARATIVE, AND EXCLAMATIVE CLAUSES

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15.3.1. Temporal clauses

The evaluative analysis of EN takes EN as expressing an evaluative relation between an individual x and a proposition p . The evaluative relation generally consists of an attitude that x has towards p , corresponding to the epistemic state x is in. If we apply this analysis to *before*-clauses, we get as a result that the propositional content expressed by the *before*-clause is evaluated as unlikely or as undesirable, in terms of the conventionalized implicature triggered by EN. Undesirability is arguably the expressive meaning readily associated with

⁷ An anonymous reviewer observes that the “undesirability interpretation seems to be related more to world knowledge than to the presence of the negative marker.” However, there need not be any contrast between the presence of EN and access to knowledge of the world: in most cases, the whole point is that there is a syntactic marker of undesirability, in full agreement with the contextual interpretation of the sentence. Whether undesirability covers all the uses of EN in languages such as French or Italian is a separate issue, and in fact I should strongly emphasize that the present chapter does not defend the expressive/evaluative account as the correct treatment of EN at a general cross-linguistic level. In fact, I will argue for a possible reduction—in many if not all languages—of the desirability/likelihood interpretation to the mechanism of implicature cancellation that will be discussed in section 15.3.

the *before*-clauses in (8c), as well as the meaning arising in counterfactual uses of a *before*-clause, exemplified in (9) (Yoon 2011):

(9) Mary defused the bomb before it exploded

Surely enough, not all *before*-clauses are interpreted counterfactually. In fact, it is generally accepted that what ‘*A before B*’ entails about B is largely determined by the context of utterance. In order to see this in some detail, let us consider for instance a sentence like (10):

(10) I arrived (at the party) before you arrived

By generalizing the truth-conditions exemplified in (6b), the semantics associated with (10) simply holds that at all times *t* preceding my arrival, you had not arrived at the party yet.⁸ However, uttering (10) is likely to trigger the conversational implicature according to which you arrived at the party *after* me. Notice that whenever uttering a *before*-clause activates this layer of implicated meaning, the propositional content of the *before*-clause is interpreted factually. In (10), what is meant is that you actually arrived, though this happened only *after* my arrival. Of course, this conversational implicature (together with the concomitant factual interpretation) can be cancelled. This is obviously the case in counterfactual contexts like (9): if Mary defused the bomb, the bomb never exploded. Consider also the instance of *before*-clause in (11a):

(11) a. Bring the dog to the vet before he dies!

The logic of the order/advice expressed by (11a) is most plausibly that bringing the dog to the vet will be crucial to avoid that the dog dies, not only before but obviously also (in a pragmatically relevant period) after your visit to the vet. There is consequently no implicated meaning to the effect that the dog dies after you brought him to the vet. As a result, the *before*-clause in (11) is not interpreted factually. What this suggests is that if a *before*-clause is interpreted factually depends on whether the cognitive/pragmatic conditions of utterance legitimate the conversational implicature that may be associated with the *before*-clause, that is the proposition according to which, given ‘*A before B*’, B actually took place *after* A. On these grounds, it is quite tempting to suggest that EN is a way of syntactically encoding the process of implicature cancellation. Consider for instance the Italian counterpart of (11), which quite naturally supports the use of EN, as shown in (11b):

(11) b. Porta il cane dal veterinario prima che *non* muoia

Arguably, what EN expresses in (11b) is that the conversational implicature that might be entertained, according to which the dog will die after your visit to the vet, should not be entertained at all. Technically, this means that EN applies to the implicated proposition *The dog will die after you’ve brought him to the vet*, acting as a truth-reversal operator: *It is not*

⁸ Cf. Krifka (2010), which also presents an original and intriguing analysis of the relation between the asserted and implicated meanings conveyed by *before*-clauses.

the case that the dog will die after you've brought him to the vet. The conceptual advantage of this analysis is that EN preserves the semantics of a real negation, though it shifts its domain of application from the proposition expressing the asserted meaning to the proposition expressing the implicated meaning (cf. Moeschler 2018 for similar ideas concerning metalinguistic negation).

Interestingly, there is a significant intersection with the evaluative analysis of EN. The fact that EN in (11b) encodes implicature denial is perfectly aligned with the undesirability of the state of affairs expressed by the proposition *The dog will die after your visit to the vet.* However, the two analyses are also very different. In the evaluative analysis, EN syntactically (pre-)encodes a specific conventionalized implicature, with respect to a hierarchy of likelihood/desirability. In the implicature-denial analysis, EN applies—as a truth-reversal operator—to the conversational implicature that is independently generated by the *before*-clause that hosts EN. As a consequence, in the evaluative analysis EN does not retain the semantics of a real negation, whereas this is clearly the case in the implicature-denial analysis, in which EN is a truth-reversal operator whose domain of application is the implicated proposition.

Given the conceptual attractiveness of the implicature-denial analysis, the question is now whether there is substantial empirical evidence that might independently support it. Consider in this regard the minimal pair in (12), modeled after a similar contrast discussed in Del Prete (2006):

- (12) a. Mio padre parlerà prima che non lo faccia mia madre
 my father will talk before that not it does-SUBJ my mother
 'My father will talk before my mother does it'
 b. Mio padre è nato prima che (*non) nascesse mia madre
 my father is born before that not was-born-SUBJ my mother
 'My father was born before my mother was born'

The use of EN in (12b) gives rise to utter unacceptability in Italian. Significantly, whereas it makes sense to negate the implicated proposition associated with the *before*-clause in (12a) (i.e. *My mother will talk after my father*), it makes no sense at all to negate the implicated proposition triggered by the *before*-clause in (12b) (i.e. *My mother was born after my father*), since this would give rise to the reading according to which my mother was born neither before nor after my father, that is her birth never took place, a statement conflicting with the standard encyclopedic knowledge that is part of the conditions of utterance of (12b). In plain words, (12b) requires a factual interpretation of the *before*-clause, and this requirement is incompatible with the non-factual interpretation triggered by EN through implicature-denial. This correctly predicts that the use of EN is not legitimate in (12b).

As a point of further empirical corroboration, consider now the *before*-clauses in (13), discussed in Delfitto, Melloni, and Vender (2018):

- (13) a. Se continua così, morirà prima di (*non) fare testamento
 'If he goes on like that, he will die before he makes a will'
 b. Fai testamento, prima di (*non) morire!
 'Make a will, before you die!'

These are also contexts in which EN is sharply ruled out in the *before*-clause.⁹ In (13a), the asserted meaning is that he will not make a will at any time *t* preceding his death. Clearly, there is no implicated meaning to the effect that he will make a will after his death (under the view that conversational implicatures are costly cognitive processes that are triggered only in cognitively supportive contexts).¹⁰ There is thus nothing for EN to apply to, and EN is ruled out as deviant. In (13b), the point about the order/advice expressed is that the interlocutor should avoid dying at any point *t* preceding the moment at which he makes a will. Certainly, he will die at some point after making a will. Therefore, negating the implicated proposition according to which he will die *after* making a will results in awkwardness. In this case, the advice expressed would be to avoid dying both before and after making a will, and this is clearly not what the advice is meant to express. These observations can be further elucidated by comparing (13b), where EN is ruled out, with (11b), where EN is fully legitimate in the *before*-clause. The whole point reduces to the remark that EN negates the implicated proposition triggered by the *before*-clause, a reasonable move in (11b) (we intend, and in fact wish, that the dog does not die for a long time after the visit to the vet) but an utterly unreasonable move in (13b) (the addressee is not urged to avoid dying after making a will, he is simply urged to make a will before his death).

15.3.2. Exclamative clauses

Let us consider now EN in exclamative clauses, on which there is a rich literature (cf. Eilam 2007 for Hebrew, Meibauer 1990 and Roguska 2007 for German, Zanuttini and Portner 2000 for Paduan). Here, I will concentrate on the evaluative approach, according to which realizing EN in exclamatives is tantamount to strengthening the surprise effect independently expressed by the exclamative. The Italian *wh*-exclamative in (8b), for instance, is supposed to strengthen the surprise effect triggered by the things Gianni did by emphasizing the unlikelyhood of the relevant propositional content, as a function of the semantics of EN. The phenomenon is also attested in other kinds of exclamative sentences, as shown by (14) in English, featuring two negation markers (Yoon 2011):

(14) Aw, you didn't not call the plumber!

Suppose (14) is uttered in a context in which someone expected her interlocutor to call the plumber to fix a broken sink. According to the evaluative approach, the surprise effect is

⁹ An anonymous reviewer suggests that the (non-)acceptability of EN might simply be sensitive to the alternation between infinitival and subjunctive forms. Arguably, this is not the case. For instance, EN in (11b) remains acceptable even in the infinitival variant of (11b): 'Se fossi in te, proverei a vedere un medico prima di non morire' (If I were you, I'd try to see a doctor before you don't die). Conversely, EN in (13a) remains awkward even in the subjunctive variant of (13a): 'Se continui così, morirai prima che tu (??non) riesca a fare testamento' (If you go on like this, you'll die before you don't succeed to make a will).

¹⁰ Here and in the rest of the present chapter, I will assume a post-Gricean model of conversational (scalar) implicatures, along the lines of Relevance Theory (Sperber and Wilson 1995).

compounded in (14) by the presence of EN, which further underlines the unlikelihood of the relevant negative proposition, that is, *You didn't call the plumber*.

Let's go back to the *wh*-exclamative in (8b). According to the standard approach to the semantics of *wh*-exclamatives, based on the semantics of questions, the relevant exceptional sentence (the particular exceptional thing that Gianni did) must be selected within a set of algebraically structured propositional candidates, which are hierarchically ordered in terms of informativity (cf. Delfitto and Fiorin 2014, and the references cited therein). To exemplify, suppose that in the context of (8b) there are basically three propositions expressing what Gianni may have done: *p, q, z*. This leads to the propositional hierarchy in (15):

- (15) Gianni did *p, q, z*
 Gianni did *p, q*; Gianni did *p, z*; Gianni did *q, z*.
 Gianni did *p* (or *q*, or *z*)

In uttering the variant of (8b) without EN ('*Che cosa ha fatto Gianni!*'), the speaker is asserting that there are one or more things that Gianni did, corresponding to exceptional/surprising propositions. The speaker is also presumably *implicating* that the stronger options expressed by the hierarchy in (15) are not selected (these correspond to the more informative, hence less likely, propositional variants). In other words, though asserting the variant of (8b) without EN is truth-conditionally compatible with the fact that Gianni did *p, q, z* (i.e. everything), it is implicated that this is not the case: as in the traditional analysis of scalar implicatures, the stronger options are denied. Suppose now further that the role of EN in (8b) consists in negating the conversational implicature triggered by a *wh*-exclamative, as was the case, by hypothesis, with *before*-clauses. In the case of (8b), the implicature consists in the denial of the stronger options within the propositional hierarchy in (15) (Gianni did *p, q* . . . Gianni did *p, q, z*), to the effect that negating the implicature is tantamount to lifting this denial: in uttering (8b), the speaker is asserting that Gianni did one and possibly all the things expressed by the propositions in (15) (all of them corresponding to exceptional/surprising propositions). In plain words, EN lifts the negative implicature triggered by the variant without EN (he did some but *not all* the things he might have done), and as a result (8b) gets the universal flavor according to which the speaker is expressing surprise for the fact that Gianni virtually did *all* the amazing things one might conceive of. In this way, the strengthened surprise effect yielded by EN in (8b) is simply a by-effect of the core semantics of EN (i.e. implicature denial).

15.3.3. Comparative clauses

Can this analysis be extended to comparative clauses? Interestingly, the first influential analysis of EN in Italian comparatives (Napoli and Nespor 1976; cf. also Donati 2000) is quite close to the spirit (if not to the letter) of the evaluative approach, since it takes a sentence like (1), reproduced here as (16) for the reader's convenience, to involve the presupposition, on the part of the speaker, that it is unlikely that Carlo's height comes close to Mary's:

- (16) Maria è più alta di quanto non sia Carlo

If we assume that this insight is empirically well-motivated, the question that arises is whether this interpretive effect can be derived from the core semantics of EN as an implicature denial operator, extending the analysis proposed above to the case of comparatives.¹¹ At first sight, this seems problematic, since implicature cancellation is somehow inherent to the semantics of comparatives, to the effect that there should be nothing for EN to apply to. This is shown by the contrast between the utter unacceptability of (17a) and the perfect status of (17b):

- (17) a. #Mary is tall, though she is in fact short
 b. Mary is taller than Carlo, though both of them are in fact short

The asserted meaning of *Mary is tall* is the hardly informative proposition that there is a degree d such that Mary is d -tall. Informativity is thus plausibly achieved by adding the implicated meaning according to which d is higher than the (contextually determined) average. When asserting that she is tall, the speaker implicates in fact that she is taller than the average, and that's the reason why (17a) sounds contradictory.¹² Conversely, the comparative structure in (17b) does not need any implicated meaning to achieve informativity: what matters is the comparative judgment according to which the degree d such that Mary is d -tall is higher than the degree d' such that Carlo is d' -tall, independently of the further piece of information concerning the relation of the degrees d and d' with the average. This explains why (17b) is perfectly acceptable: the information according to which d is higher than d' stands even in contexts where both d and d' are low in the scale.

If implicature cancellation is part and parcel of the semantics of comparative clauses, there is no implicated proposition. So, what does EN apply to? We might propose, as is usually the case within the evaluative approach to EN, that EN simply has a strengthening effect with respect to an independently present reading: in this case, it would syntactically (pre-)encode implicature cancellation. However, strengthening an independent process of implicature cancellation is not the same as performing implicature denial, and EN in temporal and exclamative clauses arguably does the latter, not the former.

This last observation suggests in fact a more explanatory and principled analysis. In a nutshell, the basic insight is that the difference between the variant of (16) without EN and (16) is that the variant without EN simply involves implicature cancellation, at a *global* level; whereas EN in (16) encodes the denial of the implicated proposition, at a *local* level.¹³

¹¹ See Delfitto, Melloni, and Vender (2018) for a different empirical generalization.

¹² Clearly, this is tantamount to deriving the 'evaluative' interpretation of *tall* in terms of a conversational implicature.

¹³ For a *localist* view of scalar implicatures see e.g. Chierchia, Fox, and Spector (2012). The difference between calculating a scalar implicature 'globally' or 'locally' can be conveniently illustrated by considering the example in (i), where the scalar term triggering implicature calculation is in italics:

- (i) Every student passed *some* of the exams

When the implicature is calculated 'globally', the result obtained is (ii):

- (ii) It is not the case that every student passed all the exams

When the implicature is calculated 'locally', the result obtained is (iii):

- (iii) Every student passed some but not all the exams

Clearly, (ii) and (iii) have different truth-conditions.

Implicature denial at the local level is something different than implicature denial at a global level. In other words, the meaning of EN in (16) is that of performing a special kind of implicature denial (locally) rather than that of strengthening the cancellation of an already existing implicated meaning (globally). The relevant difference is shown in (18):

- (18) a. The degree d such that Maria is d -tall is higher than the degree d' such that Carlo is d' -tall, and it is not the case that d and d' are higher than the average.
b. The degree d such that Maria is d -tall is higher than the degree d' such that Carlo is d' -tall, and it is not the case that d' is higher than the average.

This means that EN, as realized in embedded comparative clauses, brings about a process of *local* implicature denial, according to which what is negated is the implicature according to which the degree associated with the embedded clause is higher than the average. This analysis has many advantages. First, it explains the presuppositional flavor we were interested in (Carlo's height is unlikely to come close to Maria's height), through the proposed 'local' process of implicature denial: since the implicated proposition that Carlo is taller than the average is (locally) negated, the odds are clearly not in favor of Carlo being taller than Maria. Second, EN has not simply a strengthening effect with respect to the global process of implicature cancellation, since in fact EN applies locally (i.e. it applies to a distinct propositional content). This is compatible with the proposal concerning the core semantics of EN that has been defended in the present section, according to which EN is a polarity-reversal operator that applies at the level of implicated meaning.

Third, and perhaps more noticeably, the account proposed for EN in comparatives opens the possibility that local implicature denial applies in entirely different syntactic contexts featuring EN. A case in point might be the complements of verbs of fear, exemplified by the French structure in (19), where fear is expressed for the eventuality that he comes:

- (19) Je crains qu'il ne vienne
I am afraid that he not comes
'I'm afraid that he comes'

According to the evaluative approach, the use of EN in (19) triggers the canonical unlikelihood/undesirability scale. Here, what is expressed is that I am afraid for the eventuality that he comes, a highly undesired eventuality. What about the analysis of EN in terms of implicature denial? A reasonable implicature associated with verbs of fear is that if someone is afraid of something, it is because there is a certain degree of probability, or even of likelihood, that that something takes place. The implicated proposition is thus (20a), whereas its denial corresponds to (20b):

- (20) a. It is likely that he comes
b. It is unlikely that he comes

Interestingly, the operation of global implicature denial shown in (20b) exactly corresponds to the interpretive effects linked to the use of EN with verbs of fear in Korean, according to Yoon (2011), from which (21) below is drawn:

- (21) John-un Mary-ka o ci-anh-ul-ci kekcengha-koissta
John-TOP Mary-NOM come-NEG-FUT-NFCOMP fear-ASP
'John fears that Mary might come (*although it is unlikely to happen*)'

However, there is no clear intuition that this interpretive effect can be generalized to French structures like (19). There, there is no sense that the introduction of EN corresponds to the implicated meaning that the feared event is unlikely. Rather, the only detectable effect of EN on interpretation seems to be an effect of strengthening of the fear expressed, that is, a sort of emphatic effect with respect to the asserted meaning. Notice now that the semantic meaning of the implicated proposition (20a) is more accurately represented as (20c) below, and that (20c) has in turn a pragmatic counterpart represented in (20d):

- (20) c. It is likely and possibly certain that he comes
d. It is likely but not certain that he comes

Suppose now that the operation of implicature denial encoded by EN does not apply in French to the first-level implicated proposition, that is (20c), producing (20b) (the correct result for Korean), but more locally to the second-level implicated proposition, that is (20d), basically recovering and even strengthening the original *semantic* meaning in (20c), as can be seen in (20e):

- (20) e. It is likely and in fact certain that he comes

This would immediately explain the strengthening/emphatic effect detected in French (19): the fear expressed is likely to be more robust if the feared event is virtually certain to happen. At the same time, what is going on here is still, in some sense, a process of 'local' implicature denial. Since this process applies to the second-order conversational implicature triggered by the implicated proposition, there is a strong resemblance with the locality effects detected with EN in comparative clauses: in comparatives, EN applies at the level of an embedded sentence, whereas with French verbs of fear it applies at the level of an embedded implicated proposition.

We conclude that there is substantial evidence for the claim that EN is a polarity-reversal operator applying to implicated meaning and that this hypothesis may provide some new important avenues for future research.¹⁴

¹⁴ Of course, what I am suggesting is that a possible generalization of the Italian data and analysis to other languages might result in a valuable conceptual alternative to the expressive-evaluative analysis of EN, and result in an interesting research program for those who are inclined to believe that EN is not simply homophonous to real negation but constitutes a peculiar manifestation of real negation. Clearly, it is future comparative research that has to tell us to what extent implicature-denial can be generalized.

15.4. CONCLUSIONS

In spite of the remarkable challenges it (still) poses, it is fair to say that the phenomenon of EN has already been elucidated along a number of syntactic and semantic dimensions.

Syntactically, it has been argued that formal EN-licensing exhibits a significant intersection with NC-licensing (section 15.2).¹⁵

Semantically, it has been proposed that EN should be analyzed as a special sort of conventionalized implicature, triggering the activation of the evaluative layer of semantic meaning (section 15.2). A different hypothesis, according to which EN, as a form of syntactically encoded negation, interacts with the layer of implicated meaning (as distinguished from the asserted meaning), has been explored in section 15.3. and has been shown to give rise to many intriguing questions.¹⁶ Some of these questions are not entirely new.

For instance, Krifka 2010 offers a captivating analysis of a different sort of EN, exemplified in (2) above, which is licensed by *before*-clauses in some varieties of German, and involves double-negation structures, with one instance of negation in the main-clause (interpreted as a polarity-reversal operator) and another instance of negation in the embedded temporal clause (interpreted as a complement-set operator defined on times). Krifka interprets this instance of EN in German in incremental compositional terms, by making use of two-dimensional semantic representations (representing both the asserted and the implicated meaning). He shows that this incremental interpretive procedure makes either the assertion or the implicature informationally irrelevant, arguably producing the correct empirical results.

From this perspective, it is worth noticing that the widespread use of EN that we have explored in the present chapter (in structures that usually involve only one instance of negation) suggests a non-incremental interpretation of negation, according to which negation dynamically interacts with the contextual determinants of implicated meaning. In fact, the very existence of EN as a syntactically encoded operator that reverses the polarity of some implicated proposition strongly suggests that syntax dynamically interacts with the enriched meaning that is created by perceptually and cognitively exploring the context in which the relevant syntactic structure is put to use. There is a potential parallelism to be drawn with the non-incremental models of negation in language processing, though there is no reason to believe that the ‘enriched’ semantics of negation envisaged here directly supports the existing models of non-incremental negation processing, such as the so-called “two-step simulation hypothesis” (Kaup, Zwaan, and Lüdtkke 2007). What *is* clear, I believe, is that an enriched semantics of negation necessarily calls for a view of the syntax/semantics interface in which we do not simply compositionally interpret syntax, in a relatively context-independent way; rather, we apply at least some of the interpretive instructions encoded in the morpho-syntax of language to the representations produced in a much richer cognitive setting of which language is only a part.

¹⁵ Moreover, there is convincing evidence (which I have not reviewed here for reasons of space) to the effect that EN is a negative head filling a dedicated position within clausal structure, distinct from the position filled by real negation (Zanuttini and Portner 2000; Roguska 2007; Krifka 2010).

¹⁶ Some of these questions, which will not be addressed here for reasons of space, concern the status of metalinguistic negation (for a discussion, see especially Moeschler 2018 and Delfitto, Melloni, and Vender 2018).