

## Chapter 19

# Negation

Jong-Bok Kim

Kyung Hee University, Seoul

Change epigram in chapters/03.tex  
or remove it there

Change the abstract in chapters/03.tex Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

### 1 Modes of Expressing Negation

Each language has its own way of expressing negation with grammatical restrictions in its surface realizations. This chapter aims to provide an investigation of morpho-syntactic aspects of negation in natural languages, encompassing both empirical and theoretical issues concerning negation as well as related phenomena in question.

There are four main ways of expressing negation in the languages: morphological negative, auxiliary negative verb, adverbial negative, and clitic-like negative (see Dahl (1979), Payne (1985), and Dryer (2005)). Each of these types is illustrated in the following:



- (1) a. Turkish:  
Ali elmalar-i ser-me-di-Ø.  
Ali apples-ACC like-NEG-PST-3SG  
'Ali didn't like apples.'
- b. Korean:  
sensayng-nim-i o-ci anh-usi-ess-ta  
teacher-HON-NOM come-CONN NEG-HON-PST-DECL  
'The teacher didn't come.'
- c. French:  
Dominique (n')écrivait pas de lettre.  
Dominique wrote NEG of letter  
'Dominique did not write a letter.'
- d. Italian:  
Gianni non legge articoli di sintassi.  
Gianni NEG reads articles of syntax  
'Gianni doesn't read syntax articles.'

As shown in (1a), languages like Turkish have typical examples of morphological negatives where negation is expressed by an inflectional category realized on the verb by affixation. Meantime, languages like Korean employ a negative auxiliary verb as in (1b).<sup>1</sup> The negative auxiliary verb here is marked with the basic verbal categories such as agreement, tense, aspect, and mood, while the lexical verb remains in an invariant, participle form. The third major way of expressing negation is to use an adverb-like particle. This type of negation, forming an independent word, is prevalent in English and French, as given in (1c). In these languages, negative markers behave like adverbs in their ordering with respect to the verb. The fourth type is to introduce a clitic-like element in expressing sentential negation. The negative marker in Italian in (1d), preceding a finite verb like other types of clitics in the language, belongs to this type.

This chapter provides a construction-based HPSG analysis of these four main types of negation we find in natural languages and further answers the following three questions:

- What are the main ways of expressing sentential negation or negating a sentence or clause?

---

<sup>1</sup>Korean is peculiar in that it has two ways to express sentential negation: a negative auxiliary (a long form negation) and a morphological negative (a short form negation) for sentential negation. See Kim (2000; 2016) and references therein for detail.

- What are the distributional possibilities of negative markers in relation to other main constituents of the sentence?
- What do the answers to these two questions imply for the theory of grammar?

This chapter addresses these questions, based on empirical data, theoretical issues, and analyses of negation.

## 2 Derivational Views

The derivational view has claimed that the positioning of all of the four types of negatives is basically determined by the interaction of movement operations, a rather large set of functional projections including NegP, and their hierarchically fixed organization.

English and French display systematic differences with respect to negation, adverb position, and subject-aux inversion, as illustrated in the following:

### Position of Negation:

- (2) a. \* Kim likes not Lee.  
b. Kim does not like Lee.
- (3) a. Robin n'aime pas Stacey.  
Robin (n')likes NEG Stacey  
'Robin does not like Stacey.'  
b. \* Robin ne pas aime Stacey.

### Position of Adverbs:

- (4) a. \* Kim kisses often Lee.  
b. Kim often kisses Lee.
- (5) a. \* Robin embrasse souvent Stacey.  
b. Robin souvent embrasse Stacey.

### Subject-Verb Inversion in Questions:

- (6) a. \* Likes he Sandy?  
b. Does he like Sandy?

- (7) a. \* Likes Lou Sandy?  
b. Aime-t-il Sandy?

The examples illustrate that in English, the negator *not* and adverb *often* need to precede a lexical verb, while in French, the corresponding negator *pas* and adverb *souvent* follow a lexical verb. In addition, only French allows main or lexical verb inversion. Drawing on the earlier insights of Emonds (1978), Pollock (1989; 1994) and a number of subsequent researchers have interpreted these contrasts as providing critical motivation for the process of head movement and the existence of functional categories such as MoodP, TP, AgrP, and NegP (see Belletti (1990), Zanuttini (1991; 1997; 2001), Chomsky (1991; 1993; 1995), Lasnik (1995), Haegeman (1995; 1997), Vikner (1997), Zeijlstra (2015), inter alia). It has been widely accepted that the variation between French and English illustrated here can be explained only in terms of the respective properties of verb movement and its interaction with a view of clause structure organized around functional projections. For example, in Pollock (1989)'s proposal, all verbs in French move to a higher structural position, whereas this is possible in English only for the auxiliaries *have* and *be*, as shown in Figure 1.

The analytical motivations for such V-movement have been looked for in diverse (and sometimes inconsistent) ways in the literature (see Pollock (1989; 1994; 1997b,a), Vikner (1994; 1997)). In Pollock (1989), it is the strength of the Agr feature that determines V-movement: unlike French, English non-auxiliary verbs cannot undergo V-movement because Agr in French is 'transparent' (or 'strong') whereas Agr in English is 'opaque' (or 'weak'). The richness of French verbal morphology is assumed to provide the motivation for the strength of French Agr, in consequence of which the raised verb in French can transmit theta roles to its arguments through AGR, thus avoiding any violation of the theta criterion. But the weakness of English Agr (assumed to follow from the paucity of English verbal morphology) is what blocks lexical verbs from assigning theta roles once they have moved to Tns. Hence movement of a theta-assigning verb in English would result in a violation of the theta criterion.

The basic spirit of Pollock's analysis—that 'morphology determines syntactic movement'—has remained essentially unchanged for the last decades though what triggers V-movement has varied considerably in subsequent work (see, among others, Zanuttini (2001), Bošković (2014), Zeijlstra (2015)). As far as we are aware, there is no agreed upon movement-based analysis of either the English or French systems. In fact, as Lasnik (2000) stresses, the Minimalist Program as articulated in Chomsky (1993; 1995; 2000) not only fails to deal with the ungrammaticality of simple examples like \**John left not* or \**John not left*, it also provides no basis for



Figure 1: Derivational structures of English and French negative sentences

explaining the French/English contrasts in adverb position discussed by Pollock (1989) and Cinque (1999) (e.g., *embrasse souvent* vs. *often kisses*).

The derivational view summarized here has focused on adverbial negatives in English and French. This view with movement operations in the hierarchy of functional projections has been extended to account for the other types of negation as well, which we will note in due course.

### 3 Nonderivational Views

Departing from the derivational view, the non-derivational, lexicalist view requires no uniform syntactic category (e.g., Neg or NegP) for the different types of negatives. The view allows negation to be realized in different grammatical categories, e.g., a morphological suffix, an auxiliary verb, or an adverbial expression. For instance, the negative *not* in English is taken to be an adverb as other negative expressions in English (*never*, *barely*, *hardly*). This view has been suggested by Jackendoff (1972); Baker (1991); Ernst (1992); Kim (2000). In particular, Kim &

Sag (1996); Kim (2000); Kim & Sag (2002) develop analysis of sentential negation in English, French, Korean, and Italian within the framework of HPSG, showing that the postulation of Neg and its projection NegP creates more empirical and theoretical problems than it solves (see Newmyer (2006) for this point).

In addition, there have been substantial work for negation within the framework HPSG, which does not resort to the postulation of functional projections as well as movement operations to account for the various distributional possibilities of negation. For the account of English negation, Warner (2000), further developing the analyses of Kim & Sag (1996); Kim (2000), characterizes negation within the English auxiliary system without the use of lexical rules, explores inheritance hierarchies in interpreting the distributional possibilities of negation in various environments. For instance, Warner (2000) classifies auxiliaries into two subtypes with respect to negation and inversion, each of which is again subclassified in terms of being negated and inverted.

As for the research on the negation in other languages, Przepiórkowski & Kupść (1999) and Przepiórkowski (2000; 2001) discuss aspects of Polish negation which is realized as the prefix *nie* to a verbal expression. Przepiórkowski (2000) focuses on non-local genitive of negation in Polish where the object argument is not accusative but genitive marked with the presence of negative as in 8a. The assignment of genitive case to the object is also effective in the unbounded relation as shown in 8b:

- (8) a. Nie lubię            Marii/\*Marię  
      not like-1st.SG Mary-GEN/Mary-ACC  
      'I don't like Mary.'
- b. Mogę            nie chcieć        tego            napisać  
          may-1st.SG not want-INF this-GEN write-INF  
          'I may not want to write this.'

To account for this kind of phenomena, Przepiórkowski (2000) develops an HPSG-based analysis with the assumption that the combination of the negative marker with the verb stem introduces the feature NEG. This feature tightly interacts with the mechanism of argument composition and construction-based case assignment (or satisfaction).

Borsley & Jones (2000) offer an HPSG-based analysis of negation in Welsh. In Welsh, negation is formally in the preverbal position, as shown in 9a. In addition, Welsh has negative concord where multiple expressions of negation agree to express a single semantic negation as in 9b:

- (9) a. Ni chaf sefyll yma  
NEG can stand here  
'I can't stand here.'
- b. Ni soniodd neb am y digwyddiad  
NEG mention.PAST.3SG noone about the event  
'No one mentioned the event.'

With treating the negative particle to form a negative word with the following stem, Borsley & Jones (2000) offer a selectional analysis of negation. That is, the finite negative verb selects two complements (e.g., subject and object) while the nonfinite negative verb selects a VP.

Borsley (2006), adopting Kathol's (2000) topological approach, provides a linear-based approach to capture the distributional possibilities of negation in Swedish, Italian, and Welsh. In Italian, negation is realized in a preverbal position as shown in 10a while in Swedish negation is in a postverbal position, as given in 10b. The VSO language Welsh also has a preverbal negation but allows the multiple realizations of negation, as in 10c (data from Borsley (2006))

- (10) a. Gianni non telefona a nessuno (Italian)  
Gianni NEG telephones to noone  
'Gianni does not call anyone.'
- b. Jag kysste henne inte (Swedish)  
I kissed her not  
'I didn't kiss her.'
- c. Dw i ddim wedi gweld neb (Welsh)  
am I NEG PERF see nobody  
'I haven't seen anybody.'

Borsley (2006) introduces the notion of topological fields and assumes that a negative clause in these languages has a negative element (bearing the feature NEG) in the specified field. Different from BJ:05 selectional approach where a negative expression selects its own complement, this linear-based approach tries to offer a unified approach to the distributional possibilities in three different languages. by assigning the negative expression in each language to a specified topological field.

Crowgey & Bender (2011) explore the interplay of sentential negation and word order in Basque. Basque has a morphological negative *ez* prefixed to a finite verb stem (data from Crowgey & Bender (2011)):

- (11) a. ez-ditu                      irakurri    liburuak  
         NEG-3PLO.PRES.3SGS read.PERF book.ABS.PL  
         ‘has not read books’

To differentiate such negative sentences from positive sentences where the positive auxiliary follows a main verb, they introduce the feature NEGATED as well as a verb complex structure (similar to the Head-LEX Construction).

Borsley & Krer (2012) discuss negation in Libyan Arabic. The language has a bipartite realization of negation, the proclitic *ma-* and the enclitic *š*:

- (12) a. la-wlaad ma-mšuu-š                      li-l-madrsa  
         the-boys NEG-go.PST.3.PL-NEG to-the-school  
         ‘The boys didn’t go to the school.’

Borsley and Krer explores a morphology-based analysis with the introduction of the feature POL (polarity) to identify strong and weak negative words in the language.

In addition to these work focusing on the distributional possibilities of negation, there have also been work on negative concord and scope possibilities of negation. De Swart & Sag (2002) investigates negative concord in French where multiple occurrences of phonologically negative constituents express a single negation:

- (13) a. Personne (n’)a    rien    fait  
         Noone    NE-has nothing done  
         ‘No one had done anything.’

With the semantic assumption that the contribution of negation in a concord context is semantically empty, they formulate an HPSG analysis for negativeness concord. This analysis is adopted to account for negative concord in Welsh by BJ:05 Meantime, Warner (2000) and Bender & Lascarides (2013) explores an HPSG analysis with the mechanism of MRS (Minimal Recursion Semantics) to for the scopal interaction of negation with auxiliaries (modals) and quantifiers.

## 4 A Construction-based HPSG Analysis

Departing from the derivational view, the HPSG literature have offered a surface-oriented, lexicalist view in which the distributional possibilities of negatives are drawn from the interplay among the lexical properties of each negative marker



and from the interaction of elementary, independently motivated morphosyntactic and valence properties of syntactic heads, and constructional properties (see Kim (2000), Kim & Sag (2002), Crowgey (2012)).

#### 4.1 Morphological Negation

As noted earlier, languages like Turkish and Japanese employ morphological negation in which the negative marker behaves like a suffix. Consider Turkish and Japanese examples:

- (14) a. *Git-me-yeceğ-Ø-im*  
           go-NEG-FUT-COP-1SG  
           ‘(I) will not come.’  
       b. *kare-wa kinoo kuruma-de ko-na-katta.*  
           he-TPC yesterday car-INST come-NEG-PST  
           ‘He did not come by car yesterday.’

As the examples illustrate, the sentential negation of Turkish and Japanese employ morphological suffixes *-me* and *-na*, respectively. It is possible to state the ordering of these morphological negative markers in configurational terms with assigning an independent syntactic status to them. But it is too strong a claim to take the negative suffix *-me* or *-na* to be an independent syntactic element, and to attribute its positional possibilities to syntactic constraints such as verb movement and other configurational notions (see Kelepir (2001) for Turkish and Kato (1997; 2000) for Japanese). In these languages, the negative affix acts just like other verbal inflections in numerous respects. The morphological status of these negative markers comes from their morphophonemic alternation. For example, the vowel of the Turkish negative suffix *-me* shifts from open to closed when followed by the future suffix, as in *gel-mi-yece* ‘come-NEG-FUT’. Their strictly fixed position also indicates their morphological constituenthood. Though these languages allow rather a free permutation of syntactic elements (scrambling), there exist strict ordering restrictions among verbal suffixes including the negative suffix, as can be seen from the following examples:

- (15) a. *tabe-sase-na-i/\*tabe-na-sase-i*  
           eat-CAUS-NEG-NPST  
       b. *tabe-rare-na-katta/\*tabe-na-rare-katta*  
           eat-PASS-NEG-PST

- c. *tabe-sase-rare-na-katta*/\**tabe-sase-na-rare-katta*  
eat-CAUS-PASS-NEG-PST

The ordering of the negative affix is a matter of morphology. If it were a syntactic concern, then the question would arise as to why there is an obvious contrast in the ordering principles of morphological and syntactic constituents, i.e., why the ordering rules of morphology are distinct from the ordering rules of syntax. The simplest explanation for this contrast is to accept the view that morphological constituents including the negative marker are formed in the lexical component and hence have no syntactic status (see Kim (2000) for detailed discussion).

This being noted, it is more reasonable to assume that the placement of a negative affix is regulated by morphological principles, i.e. by the properties of the morphological negative affix itself. In the construction-based HPSG, we could take this as an inflectional construction. The negative marker, as we have seen in Turkish and Japanese, is realized as a suffix attached to the verb root. The resulting combination is not a word-level entity but a verb stem to which an aspectual or tense marker can be attached. We could thus take such a morphological process as an inflectional one. For instance, Figure 2 could be a morphological construction in Turkish.<sup>2</sup>

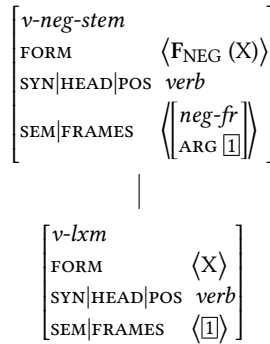


Figure 2: Negative-Infl Construction ( $\uparrow infl\text{-}cxt$ )

This inflectional construction ( $\uparrow infl\text{-}cxt$ ) allows us to generate a Turkish inflection construct like *ser-me* ‘like-NEG’ (in (1a)) from the *v*-lexeme *ser-* with the change in the root’s meaning into a sentential negation. The morphological function  $F_{NEG}$  could ensure that the vowel of the negative affix *me* is subject

<sup>2</sup>See Sag (2012) and Hilpert (2016) for a construction-based approach to inflectional as well as derivational processes.

to phonological changes depending on its environment. If it is followed by a consonant-initial morpheme, it undergoes vowel harmony with the vowel in the preceding syllable (e.g., *yika-n-ma-di* ‘wash-REFL-NEG-PST’). If it is followed by a vowel-initial morpheme, its vowel drops (*gel-m-iyor* ‘come-NEG-PROG’) (see Kelepir (2001)).<sup>3</sup>

The construction-based analysis sketched here has been built upon the thesis that autonomous (i.e. non-syntactic) principles govern the distribution of morphological elements Bresnan & Mchombo (1991). The position of the morphological negation is simply defined in relation to the verb stem it attaches to. There are no syntactic operations such as head-movement or multiple functional projections in forming a verb with the negative marker.

## 4.2 Negative Auxiliary Verb

Another way of expressing sentential negation, as noted earlier, is to employ a negative auxiliary verb. Some head-final languages like Korean and Hindi employ negative auxiliary verbs. Consider a Korean example:

- (16) John-un ku chayk-ul ilk-ci anh-ass-ta.  
 John-TPC that book-ACC read-CONN NEG-PST-DECL  
 ‘John did not read the book.’

The negative auxiliary in head-final languages typically appears clause-finally, following the invariant form of the lexical verb. In head-initial SVO languages, however, the negative auxiliary almost invariably occurs immediately before the lexical verb (see Payne (1985)). Finnish exhibits this property (Mitchell 1991):

- (17) Minä e-n puhu-isi.  
 I-NOM NEG-1SG speak-COND  
 ‘I would not speak.’

These negative auxiliaries have syntactic status: they can be inflected, above all. Like other verbs, they can be marked with verbal inflections such as agreement, tense, and mood.

In dealing with auxiliary negative constructions, most of the derivational approaches have followed Pollock’s and Chomsky’s analyses in factoring out grammatical information (such as tense, agreement, and mood) carried by lexical items into various different phrase-structure nodes (see, among others, Hagstrom (1997;

---

<sup>3</sup>As for a way of capturing the ordering of suffixes within this kind of system, see Kim (2016).

2002), Han et al. (2007) for Korean and Vasishth (2000) for Hindi). This derivational view has been appealing, in that the configurational structure for English-type languages could be applied even for languages with different types of negation. However, issues arise how to address the grammatical properties of auxiliary negative which are quite different from those of morphological or adverbial negatives (see ???).

In the construction-based HPSG analysis, the negative auxiliary is taken to be an independent lexical verb whose grammatical (syntactic) information is not distributed over different phrase structure nodes, but incorporated into its precise lexical specifications. The Korean negative auxiliary displays all the key properties of auxiliary verbs in the language. For instance, the typical auxiliary verbs as well as the negative auxiliary all require the preceding lexical verb to be marked with a specific verb form (VFORM), as illustrated in the following:

- (18) a. ilk-ko/\*ci siph-ta.  
           read-CONN would.like-DECL  
           ‘(I) would like to read.’  
       b. ilk-ci anh-ass-ta.  
           read-CONN not-PST-DECL  
           ‘(I) did not read.’

The auxiliary verb *siph-* in (18a) requires the *-ko* marked lexical verb while the negative auxiliary verb *anh-* in (18b) asks for the *-ci* marked lexical verb.

In terms of syntactic structure, there are at least possible analyses. One is to assume that the negative auxiliary takes a VP complement and the other is to claim that it forms a verb complex with the preceding lexical verb, as represented in Figures 3a and 3b, respectively ((Kim 2016)).<sup>4</sup>

The distributional properties of the negative auxiliary in the language, however, support the complex predicate structure (cf. Figure 3b) in which the negative auxiliary verb forms a syntactic/semantic unit with the preceding lexical verb. For instance, no adverbial expression, including a parenthetical adverb, can intervene between the main and auxiliary verb, as illustrated by the following Korean example:

- (19) Mimi-nun (yehathun) tosi-lul (yehathun) ttena-ci (\*yehathun)  
       Mimi-TPC anyway city-ACC anyway leave-CONN anyway

<sup>4</sup> Another possibility is to assume that the auxiliary verb are in the sisterhood relationship with the following lexical verb and its putative complement(s). For this option, see ???

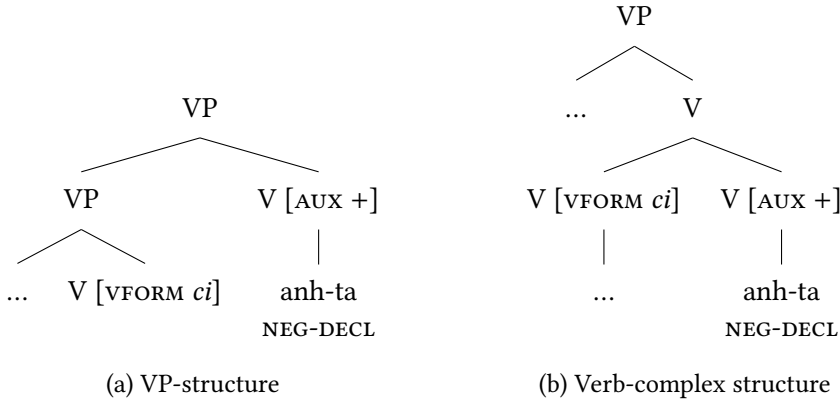


Figure 3: Two possible structures with the auxiliary negative

anh-ass-ta.

NEG-PST-DECL

‘Anyway, Mimi didn’t leave the city.’

Further, in an elliptical construction, a verb complex always occurs together:

- (20) a. Kim-i hakkyo-eyse pelsse tolawa-ss-ni?  
 Kim-NOM school-SRC already return-PST-QUE  
 ‘Did Kim return from school already?’
- b. ka-ci-to anh-ass-e  
 go-CONN-DEL NOTP-PST-DECL  
 ‘(He) didn’t even go.’
- c. \* ka-ci-to. go-CONN-DEL
- d. \* anh-ass-e NEG-PST-DECL

Neither the lexical verb nor the auxiliary verb alone can serve as the fragment answer to the polar question. The two verbs must occur together.

These constituent tests indicate that the negative auxiliary forms a syntactic unit with a preceding lexical verb in Korean. Following Bratt (1996), Chung (1998), and Kim (2016), we then could assume that an auxiliary verb forms a complex predicate, licensed by the following construction:

- (21) HEAD-LEX CONSTRUCTION:  

$$\left[ \begin{array}{c} hd\text{-}lex\text{-}cxt \\ COMPS\ L \end{array} \right] \rightarrow \boxed{1} \left[ \begin{array}{c} LEX\ + \\ COMPS\ L \end{array} \right], H \left[ COMPS\ \langle \boxed{1} \rangle \right]$$

This construction rule means that a lexical head expression combines with its lexical (LEX) complement. When this combination happens, there is a kind of argument composition: the COMPS value ( $L$ ) of this lexical complement is passed up to the resulting mother. The constructional constraint thus induces the effect of argument composition at syntax, as illustrated by the following example:<sup>5</sup>

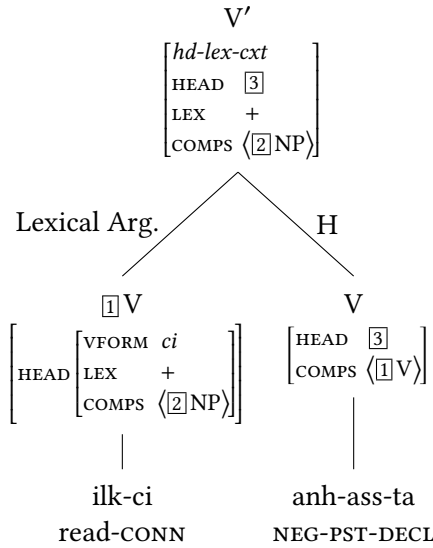


Figure 4: An instance (construct) of the HEAD-LEX CONSTRUCTION

The auxiliary verb *anh-ass-ta* ‘NEG-PST-DECL’ combines with the matrix verb *ilk-ci* ‘read-CONN’, forming a well-formed head-lex construct.<sup>6</sup> Note that the resulting construction metaphorically inherits the COMPS value from that of the lexical complement *ilk-ci* ‘read-CONN’ in accordance with the structure-sharing imposed on by the HEAD-LEX CONSTRUCTION in (21). That is, the HEAD-LEX CONSTRUCTION licenses the combination of an auxiliary verb with its lexical verb, while inheriting the lexical verb’s complement value as argument composition. The present system thus allows the argument composition at the syntax level, rather than in the lexicon.<sup>7</sup>

One important property of the auxiliary construction is that there is no limit

<sup>5</sup>The  $V'$  is just a notational variant to indicate that it is a syntactic complex predicate.

<sup>6</sup>The negative auxiliary verb selects two arguments, a subject and a lexical verb. See Kim (2016) for a detailed analysis.

<sup>7</sup>??? With respect to the argument composition, we could it happens at the lexical level. Bender and Adam

for auxiliary verbs to occur in sequence as long as each combination observes the morphosyntactic constraint on the preceding expression. Consider the following:

- (22) a. sakwa-lul mek-ci anh-ta.  
apple-ACC eat-CONN NEG-DECL  
'do not eat the apple'
- b. sakwa-lul mek-ko siph-ci anh-ta.  
apple-ACC eat-CONN wish-CONN NEG-DECL  
'would not like to eat the apple'
- c. sakwa-lul mek-ko siph-e ha-ci anh-ta.  
apple-ACC eat-CONN wish-CONN do-CONN NEG-DECL  
'do not like to eat the apple'
- d. sakwa-lul mek-ko siph-e ha-key toy-ci anh-ta.  
apple-ACC eat-CONN wish-CONN do-CONN become-CONN NEG-DECL  
'do not become to like to eat the apple.'

As seen from each of these examples, we can add one more auxiliary verb to the existing construction, with an appropriate connective marker on the preceding one. Theoretically, there is no upper limit to the possible number of auxiliary verbs we can add.

Within the present complex-predicate analysis with the supposition of HEAD-LEX CONSTRUCTION in the language, we could license all these examples. Figure 5 is a simplified structure for (22c).

The bottom structure indicates that the auxiliary verb *siph-e* wish-CONN forms a HEAD-LEX CONSTRUCTION through the combination with the lexical verb *mek-ko* eat-CONN. This resulting complex predicate, which is still a LEX expression, inherits the lexical verb's COMPS value as well as the *ae* VFORM head feature from the auxiliary.<sup>8</sup> Meanwhile, the auxiliary verb *ha-ci* also requires a LEX level expression with the VFORM value *ae*, combining with the preceding complex predicate in a legitimate way. This combination, forming a HEAD-LEX CONSTRUCTION, again inherits the COMPS value. The final negative auxiliary then combines this resulting complex predicate, yielding a final complex predicate that can combine with the object. Each combination thus forms a well-formed complex predicate, licensed by the lexical projection of each auxiliary verb and the HEAD-LEX CONSTRUCTION.<sup>9</sup>

<sup>8</sup>Instead, we can adopt the feature LIGHT to a lexical expression, as suggested for the French Auxiliary Construction by Abeillé & Godard (1997).

<sup>9</sup>As hinted here, the present system does not allow the final negative auxiliary *anh-ta* 'NEG-

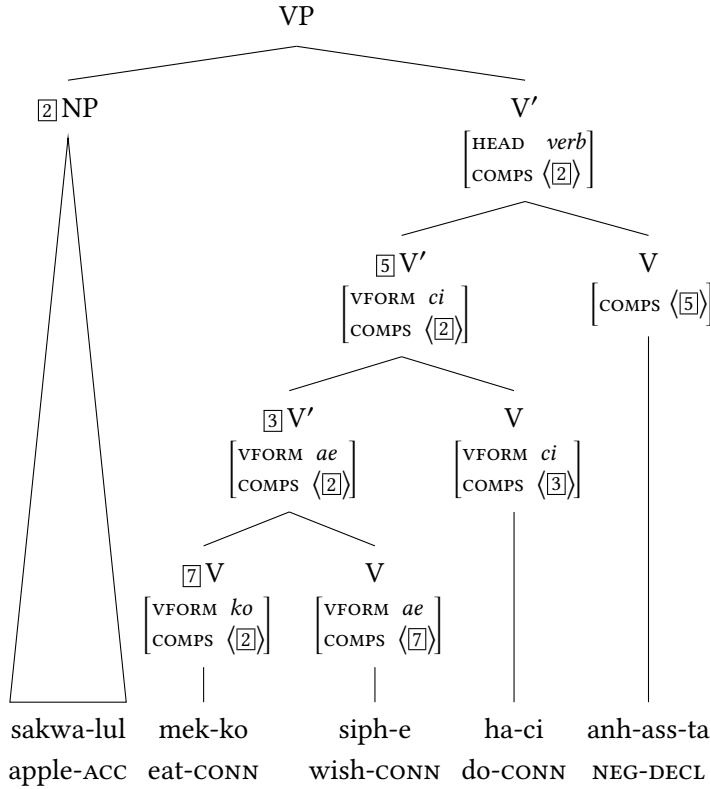


Figure 5: Partial structure of (22c)

The present analysis has taken the negative auxiliary *ahn-ta* NEG-DECL to select the lexical verb and form a verb complex with it. This verb complex treatment has been supported from constituent tests including adverb intervention and elliptical constructions. Further, the analysis, exploiting the mechanism of argument composition, allows us to capture the properties of this negative auxiliary. The conclusion we can draw from here is that the distribution of a negative auxiliary verb is determined by independent constructional constraints that regulate the placement of other similar verbs.

---

DECL' to combine with the preceding auxiliary *ha-ci* 'do-CONN' at first. This is because the resulting verb-complex *ha-ci anh-ta* 'do-CONN NEG-DECL' then cannot have the information that its preceding verbal expression (*siph-e*) must have the specified form value, which is coming from the following auxiliary verb *ha-ci*. See Kim (2016) for details.



### 4.3 Adverbial Negation

#### 4.3.1 Two Key Factors

The third main type of negation is the adverbial negative marker which most of the Indo-European languages employ. There are two main factors that determine the position of an adverbial negative: finiteness of the verb and its intrinsic properties, namely, whether it is an auxiliary or lexical verb (see Kim (2000), Kim & Sag (2002)).<sup>10</sup>

The first crucial factor that affects the position of adverbial negatives in English and French concerns the finiteness of the lexical verb. French shows us how the finiteness of a verb influences the surface position of the negative marker *pas*.

- (23) a. Robin n'aime pas Stacey.  
           Robin (n')likes NEG Stacey  
           'Robin does not like Stacey.'
- b. \* Robin ne pas aime Stacey.
- (24) a. Ne pas parler Français est un grand désavantage en ce cas.  
           ne NEG to.speak French is a great disadvantage in this case  
           'Not to speak French is a great disadvantage in this case.'
- b. \* Ne parler pas Français est un grand désavantage en ce cas.

The negator *pas* cannot precede the finite verb but must follow it. But its placement with respect to the nonfinite verb is the reverse image. The negator *pas* should precede the infinitive verb. English is not exceptional in this respect (Baker 1989; 1991; Ernst 1992). The negation *not* precedes an infinitive verb, but cannot follow a finite lexical verb.<sup>11</sup>

- (25) a. Jon skjønte aldri dette spørsmålet.  
           Jon understood never this question  
           'John never understood this question.'
- b. Han hadde foresatt seg aldri å slå hunden.  
           He had decided himself never to beat the.dog  
           'He had decided himself never to beat the dog.'

<sup>10</sup>German also employs an adverbial negative *nicht*, which behaves quite differently from the negative in English and French. See Müller (2016) for a detailed review of the previous, theoretical analyses of German negation.

<sup>11</sup>A similar contrast between finiteness and nonfiniteness can be observed in the Scandinavian language like Norwegian (see Platzack 1986; Holmberg & Christer 1988; Vikner 1994; 1997).

- (26) a. Kim does not like Lee.  
b. \* Kim not likes Lee.  
c. \* Kim likes not Lee.
- (27) a. Kim is believed [not [to like Mary]].  
b. \* Kim is believed to [like not Mary].

The second important factor that determines the position of adverbial negatives concerns the presence of an auxiliary or lexical verb. Modern English displays a clear example where this intrinsic property of the verb influences the position of the English negator *not*: the negator cannot follow a finite lexical verb but when the finite verb is an auxiliary verb, this ordering is possible.

- (28) a. \* Kim left not the town.  
b. Kim has not left the town.  
c. Kim is not leaving the town.

The placement of *pas* in French infinitival clauses also illustrates that the intrinsic property of the verb affects the position of the adverbial negative *pas*:

- (29) a. Ne pas avoir de voiture dans cette ville rend la vie difficile.  
'Not to have a car in this city makes life difficult.'  
b. N'avoir pas de voiture dans cette ville rend la vie difficile.
- (30) a. Ne pas être triste est une condition pour chanter des chansons.  
'Not to be sad is a prerequisite condition for singing songs.'  
b. N'être pas triste est une condition pour chanter des chansons.

The negator *pas* can either follow or precede the infinitive auxiliary verb in French, though the acceptability of the ordering in (29b) and (30b) is restricted to certain conservative varieties.

In capturing the distributional behavior of such negatives in English and French, as we have noted earlier, the derivational view (exemplified by Pollock (1989) and Chomsky (1991)) has relied on the notion of verb movement and functional projections. The most appealing aspect of this view (initially at least) is that it can provide an analysis of the systematic variation between English and French. By simply assuming that the two languages have different scopes of verb movement – in English only auxiliary verbs move to a higher functional projection whereas all French verbs undergo the same process, the derivational view could explain why the French negator *pas* follows a finite verb, unlike the English negator. In

order for this system to succeed, nontrivial complications are required in the basic components of the grammar, e.g. rather questionable subtheories. For example, the introduction of Pollock's theta and quantification theories has been necessary to account for the obligatory verb movement.<sup>12</sup> However, when these subtheories interact with each other, they bring about a 'desperate' situation, as Pollock (1989: 398) himself concedes: his quantification theory forces all lexical verbs in English to undergo verb movement, but his theory blocks this. This contradictory outcome has forced him to adopt an otherwise unmotivated mechanism, a dummy nonlexical counterpart of *do* in English (which Chomsky (1989) tries to avoid by adopting the notion of LF re-raising). Leaving the plausibility of this mechanism aside, as discussed by Kim (2000) and Kim & Sag (2002), a derivational analysis such as that of Pollock (1989) fails to allow for all the distributional possibilities of English and French negators as well as adverb positioning in various environments

#### 4.3.2 Constituent Negation in English and French

The construction-based, lexicalist analysis we offer here also recognizes the fact that finiteness plays a crucial role in determining the distributional possibilities of negative adverbs. Its main explanatory resource has basically come from the proper lexical specification of these negative adverbs. The lexical specification that *pas* and *not* both modify nonfinite VPs has sufficed to predict their occurrences in nonfinite clauses.

When English *not* negates an embedded constituent, it behaves much like the negative adverb *never*. The similarity between *not* and *never* is particularly clear in nonfinite verbal constructions (participle, infinitival and bare verb phrases), as illustrated in (30) and (31) (Klima (1964), Baker (1989; 1991)).

- (31) a. Kim regrets [never [having read the book]].  
       b. We asked him [never [to try to read the book]].  
       c. Duty made them [never [miss the weekly meeting]].
- (32) a. Kim regrets [not [having read the book]].  
       b. We asked him [not [to try to read the book]].  
       c. Duty made them [not [miss the weekly meeting]].

---

<sup>12</sup>His theta theory says only nonthematic verbs move up to the higher functional position, whereas his quantification theory says [+fin] is an operator that must bind a variable.

French *ne-pas* is no different in this regard. *Ne-pas* and certain other adverbs precede an infinitival VP:

- (33) a. [Ne pas [repeindre sa maison]] est une négligence.  
           ne not paint one's house is a negligence  
           'Not to paint one's house is negligent.'  
       b. [Régulièrement [repeindre sa maison]] est une nécessité.  
           regularly to.paint one's house is a necessity

To account for these properties, we regard *not* and *ne-pas* not as heads of their own functional projection, but rather as adverbs that modify nonfinite VPs. The lexical entries for *ne-pas* and *not* include the information shown in (34).<sup>13</sup>

$$(34) \left[ \begin{array}{l} \text{FORM } \langle \text{not/ne-pas} \rangle \\ \text{SYN|HEAD } \left[ \begin{array}{l} \text{POS } \textit{adv} \\ \text{MOD } \langle \text{VP } [\textit{nonfin}]: \boxed{2} \rangle \end{array} \right] \\ \text{SEM } \left[ \text{FRAMES } \left\langle \left[ \begin{array}{l} \textit{neg-fr} \\ \text{ARG } \boxed{2} \end{array} \right] \right\rangle \right] \end{array} \right]$$

The lexical entry in (34) specifies that *not* and *ne-pas* modifies a nonfinite VP and that this modified VP serves as the semantic argument of the negation. This simple lexical specification correctly describes the distributional similarities between English *not* and French *ne-pas*: neither element can separate an infinitival verb from its complements.<sup>14</sup> And both *ne-pas* and *not*, like other adverbs of this type, precede the VPs that they modify:

- (35) a. [Ne pas <sub>VP[inf]</sub> [parler français]] est un grand désavantage en ce  
           ne not to.speak French is a great disadvantage in this  
           cas.  
           case  
       b. \* Ne parler pas français est un grand désavantage en ce cas.

<sup>13</sup>Here we assume that both languages distinguish between *fin(ite)* and *nonfin(ite)* verb forms, but that certain differences exist regarding lower levels of organization. For example, *prp* (*present participle*) is a subtype of *fin* in French, whereas it is a subtype of *nonfin* in English.

For ease of exposition, we will not treat cases where the negation modifies something other than VP, e.g. adverbs (*not surprisingly*), NPs (*not many students*), or PPs (*not in a million years*). Our analysis can accommodate such cases by generalizing the MOD specification in the lexical entry for *not*. In addition, we need to have a construction-based account for the pattern 'not X but Y' (as similar to 'both X and Y' or 'neither X nor Y') in which *not* must cooccur with the particular coordinator *but* (e.g., \**Kim likes not beer*. vs. *Kim likes not beer but wine*.)

<sup>14</sup>The exception to this generalization, namely cases where *pas* follows an auxiliary infinitive (*n'avoir pas d'argent*), is discussed in section 5.2 below.

- (36) a. [Not [speaking English]] is a disadvantage.  
 b. \* [Speaking not English] is a disadvantage.

Independent principles guarantee that modifiers of this kind precede the elements they modify, thus ensuring the grammaticality of (35) and (36a), where *ne-pas* and *not* are used as VP[*nonfin*] modifiers. (35b) and (36b) are ungrammatical, since the modifier fails to appear in the required position—i.e. before all elements of the nonfinite VP.

The lexical properties of *not* thus ensures that it cannot modify a finite VP, as shown in (37), but it can modify any nonfinite VP:

- (37) a. \* Pat [not<sub>VP[fin]</sub> [left]].  
 b. \* Pat certainly [not<sub>VP[fin]</sub> [talked to me]].  
 c. \* Pat [not<sub>VP[fin]</sub> [always agreed with me]].

And much the same is true for French, as the following contrast illustrates:

- (38) a. \* Robin [(ne) pas<sub>VP[fin]</sub> [aime Stacey]].  
           Robin [(ne) not           likes Stacey]  
 b. Il veut [ne pas publier dans ce journal].  
       ‘He wants not to publish in this journal.’

Note that head-movement transformational analyses stipulate: (1) that negation is generated freely, even in preverbal position in finite clauses and (2) that a post-negation verb must move leftward because otherwise some need would be unfulfilled—the need to bind a tense variable, the need to overcome some morphological deficiency with respect to theta assignment, etc. On our account, no such semantic or morphosyntactic requirements are stipulated; instead, what is specified is a lexical selection property. There is no a priori reason, as far as we are aware, to prefer one kind of stipulation over the other. It should be noted, however, that our proposal only makes reference to selectional properties that are utilized elsewhere in the grammar.

#### 4.3.3 Sentential Negation in English

As just illustrated, the analysis of *not* and *ne-pas* as nonfinite VP modifiers provides a straightforward explanation for much of their distribution. We may simply assume that French and English have essentially the same modifier-head construction and that *not* and *ne-pas* have near-identical lexical entries. With respect

to negation in finite clauses, however, there are important difference between English and French.

It is a general fact of French that *pas* must follow the finite verb, in which case the verb optionally bears negative morphology (*ne*-marking):

- (39) a. Dominique (n')aime pas Alex.  
b. \*Dominique pas aime Alex.

In English, *not* must follow the finite verb, which must in addition be an auxiliary verb:

- (40) a. Dominique does not like Alex.  
b. \*Dominique not does like Alex.  
c. \*Dominique likes not Alex.

In contrast to the distribution of *not* in nonfinite clauses as constituent negation, its distribution in finite clauses concerns sentential negation. The need to distinguish the two types of negation comes from scope possibilities in an example like (41) (Klima 1964), (Baker 1989), and (Warner 2000).

- (41) The president could not approve the bill.

Negation here could have the two different scope readings paraphrased in (42).

- (42) a. It would be possible for the president not to approve the bill.  
b. It would not be possible for the president to approve the bill.

The first interpretation is constituent negation; the second is sentential negation. As noted, sentential *not* may not modify a finite VP, different from the adverb *never*:

- (43) a. Lee never/\*not left. (cf. Lee did not leave.)  
b. Lee will never/not leave.

The contrast in these two sentences shows one clear difference between *never* and *not*. The negator *not* cannot precede a finite VP though it can freely occur as a nonfinite VP modifier.

Another distributional difference between *never* and *not* is found in the VP ellipsis construction. Observe the following contrast:

- (44) a. Mary sang a song, but Lee never could \_.

- b. \* Mary sang a song, but Lee could never \_.
- c. Mary sang a song, but Lee could not \_.

The data here indicate that *not* behaves differently from adverbs like *never* in finite contexts, even though the two behave alike in nonfinite contexts. The adverb *never* is a true diagnostic of a VP-modifier, and we use contrasts between *never* and *not* to reason about what the properties of the negator *not* must be.

We saw the lexical representation for constituent negation *not* in (34) above. Sentential *not* typically appears linearly in the same position – following a finite auxiliary verb – but shows different syntactic properties (while constituent negation need not follow an auxiliary as in *Not eating gluten is dumb*). As a way to deal with the sentential negation in English, we follow Bresnan (2001) and Kim & Michalies (2018) in assuming that the sentential negation forms a unit with the preceding finite auxiliary verb. This can be supported from the fact that English sentential negation requires the proximity of a finite auxiliary or modal auxiliary on its left and that it can function as synthetic negation as *n't*.<sup>15</sup>

With this assumption, the present analysis, in particular, assumes that the combination of a finite auxiliary verb with the sentential negation *not* is licensed by the HEAD-LEX CONSTRUCTION (similar to the one in Korean), which licenses the combination of two lexical expressions such as verb and particle (e.g., *figure out*, *give up*, etc), as well (see Kim & Michalies (2018)). The construction, along with the assumption that the sentential negator *not* bears the LEX feature, projects a structure like in Figure 6.

Just as a particle combines with the preceding lexical verb, forming a head-lex structure, expressions like the negator *not*, *too*, *so* and *indeed* combine with a preceding auxiliary verb:

- (45) a. Kim will not read it.
- b. Kim will too/so/indeed read it.

Expressions like *too* and *so* are used to reaffirm the truth of the sentence in question and follow a finite auxiliary verb. We assume that the negator and these reaffirming expressions form a unit with the finite auxiliary, resulting in a lexical-level construction. Since the sentential negator is not a modifier of the following

<sup>15</sup>Zwicky & Pullum (1983) note that the contracted negative *n't* more closely resembles word inflection than it does a 'clitic' or 'weak' word of the kind that often occurs in highly entrenched word sequences (e.g., *Gimme!*). For example, as Zwicky and Pullum observe, *won't* is not the fused form one would predict based on the pronunciation of the word *will*, and such idiosyncrasies are far more characteristic of inflectional endings than clitic words.

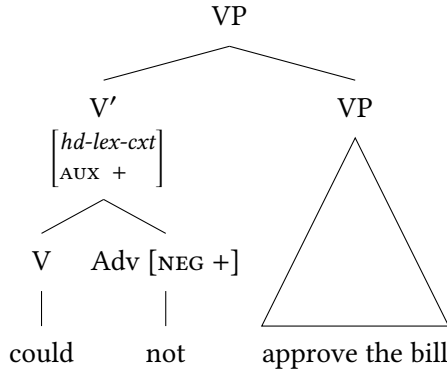


Figure 6: Structure of English sentential negation

VP-type expression, we take it to be selected by a finite auxiliary verb, as a lexical verb selects a particle. This means a finite auxiliary verb (*fin-aux*) can be projected into a corresponding NEG-introducing auxiliary verb (*neg-fin-aux*), as in Figure 7.

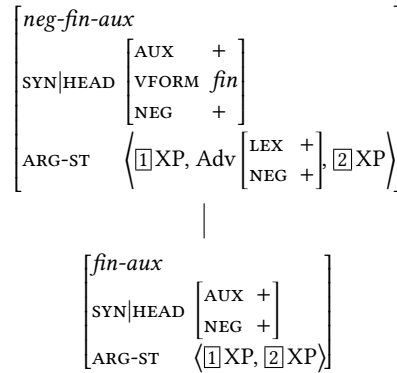


Figure 7: Negative Auxiliary Construction ( $\uparrow$ post-infl-cxt)

This is a post-inflection construction that allows for words to be derived from other words. We can take this mother-daughter relation as a kind of derivation whose input is a finite auxiliary verb (daughter) and whose output is a neg-finite auxiliary (*fin-aux*  $\rightarrow$  *neg-fin-aux*). That is, the finite auxiliary verb selecting just a complement XP can be projected into a NEG finite auxiliary that selects the negator as its additional lexical complement that bears the feature NEG as well as the feature LEX. The output construction then licenses the structure in Figure 8



for sentential negation.

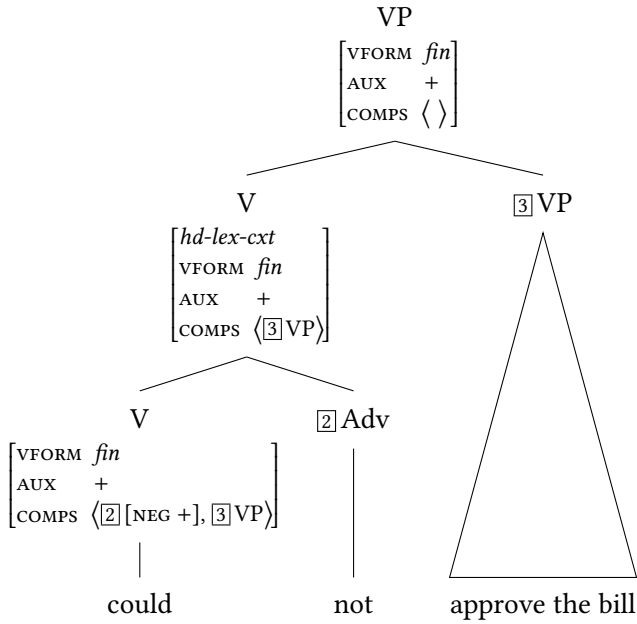


Figure 8: Detailed structure of English sentential negation

As shown in Figure 8, the negative finite auxiliary verb *could* selects two complements, the negator *not* and the VP *approve the bill*. The finite auxiliary then first combines with the negator, forming a well-formed head-lex construct. This construct then can combine with a VP complement, forming a Head-Complement construct.

By treating *not* as both a modifier (constituent negation) and a lexical complement (sentential negation), we can account for the scope differences in (41) as well as double negation examples like the following:

- (46) a. You [must not] simply [not [work]].  
 b. He [may not] just [not [have been working]].

In these examples, the first negator *not* is a sentential negation forming a head-lex construct, while the second one is modifying the following VP, forming a head-mod construct.<sup>16</sup>

<sup>16</sup>The present analysis has an issue with dealing with examples like the following:

The present analysis can also offer us a simple way to account for various other phenomena including VP ellipsis we discussed in (44). The point was that unlike *never*, the sentential negation can host a VP ellipsis. The VP ellipsis after *not* is possible, given that any VP complement of an auxiliary verb can be unexpressed, as specified by the construction in Figure 9: What the construction in (9) tells

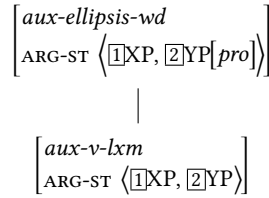


Figure 9: Aux-Ellipsis Construction

us is that an auxiliary verb selecting two arguments can be projected into an elided auxiliary verb whose second argument is realized as a small *pro*. Note that this argument is not mapped onto the syntactic grammatical function COMPS. This construction would license Figure 4.3.3: As represented in Figure 4.3.3, the auxiliary verb *could* forms a well-formed head-complement construct with *not* while its VP[*bse*] is unrealized (see Kim (2000), Kim & Sells (2008) for detail.).

The sentential negator *not* can ‘survive’ VPE because it can be licensed in the syntax as the complement of an auxiliary, independent of the following VP. However, an adverb like *never* is only licensed as a modifier of VP. Thus if the VP were

- 
- (i) a. They will obviously not have time to change.
  - b. You are usually not thinking about the right problem.

The sentential negation *not* in such examples has a wide scope reading, as seen from the possible tag question:

- (ii) a. They will obviously not have time to change, will/??won’t they?
- b. You are usually not thinking about the right problem, are/??aren’t you?.

The sentential negation with a wide scope reading can be separated by a variety of intermediate constituents (see Warner (2000)):

- (iii) a. They should, though, I suggest, not expect me to grant it immediately, should they?
- b. They could, frankly, however, not have anticipated the problems that would arise, could they?

To account for such data, we need to allow a mechanism ....???

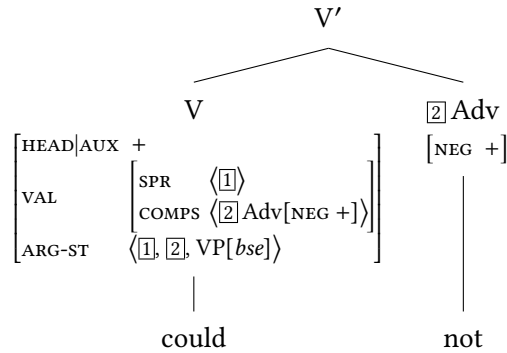


Figure 10: A licensed VPE structure

elided, we would have the hypothetical structure like the one in Figure 11:

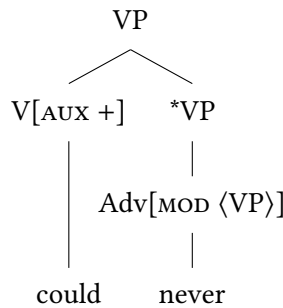


Figure 11: Ill-formed structure of the Head-Mod Construction

In Figure 11, the adverb *never* modifies a VP through the feature MOD, which guarantees that the adverb requires the head VP that it modifies. In an ellipsis structure, the absence of such a VP means that there is no VP for the adverb to modify. In other words, there is no rule licensing such a combination – predicting the ungrammaticality of *\*has never*, as opposed to *has not*.

#### 4.3.4 Sentential Negation in French

My analysis in which the negator *not* and *pas* are taken to modify a nonfinite VP and select it through the head feature MOD, provides us with a clean and simple way of accounting for their distribution in infinitive clauses. But at stake is their placement in finite clauses:

- (47) a. Lee does not like Kim.  
 b. \* Lee not likes Kim.  
 c. \* Lee likes not Kim.
- (48) a. \* Robin ne [pas<sub>VP[fin]</sub> [aime Stacey]].  
           Robin ne NEG               likes Stacey  
 b. Robin (n')aime pas Stacey.  
      Robin likes       NEG Stacey

Unlike the English negator *not*, *pas* must follow the finite verb. Such a distributional contrast has motivated verb movement analyses (see Pollock 1989; Zanuttini 2001).

By contrast, the present analysis is cast in terms of a lexical rule that maps a finite verb into a verb with a certain adverb like *pas* as an additional complement, as I did for English *not*. The idea of converting modifiers into complements has been independently proposed by Miller (1992) and Abeillé & Godard (1994) for French adverbs including *pas* also. Building upon this previous work, I also assume that the modifier *pas* can be converted to a syntactic complement of a finite verb for French via the lexical rule given in Figure 12.<sup>17</sup>

$$\begin{array}{c}
 \left[ \begin{array}{l}
 \text{neg-fin-v} \\
 \text{FORM} \quad \langle (ne) + [2] \rangle \\
 \text{SYN|HEAD} \quad \left[ \begin{array}{l} \text{VFORM} \quad fin \\ \text{NEG} \quad + \end{array} \right] \\
 \text{ARG-ST} \quad \langle [1] \text{XP} \rangle \oplus \langle \text{Adv}_I \rangle \oplus L
 \end{array} \right] \\
 | \\
 \left[ \begin{array}{l}
 \text{fin-v} \\
 \text{FORM} \quad \langle [2] \rangle \\
 \text{SYN|HEAD|VFORM} \quad fin \\
 \text{ARG-ST} \quad \langle [1] \text{XP} \rangle \oplus L
 \end{array} \right]
 \end{array}$$

Figure 12: Negative Verb Construction in French ( $\uparrow$ post-infl-cxt)

The post-inflection construction allows us to build a negative verb from a finite verb in French. That is, a finite verb can give rise to a negative finite verb that selects an  $\text{Adv}_I$  adverb including *pas* as the second argument.  $\text{Adv}_I$  includes only a small subset of French negative adverbs such as *pas*, *plus* ‘no more’, *jamais*

<sup>17</sup>Following Miller (1992), I take *ne* to be an inflectional affix which can be optionally realized in the output of the lexical rule in Modern French.

‘never’, and *point* ‘not’. This derivational construction has a semantic effect: the negative verb taking *pas* as an additional argument takes the meaning of the input verb ([2]) as its argument.

One direct consequence of adopting this construction-based approach is that it systematically expands the set of basic lexical entries. For example, the construction maps lexical entries like *aime* into its negative counterpart (*n'*)*aime*, as shown in Figure 13.

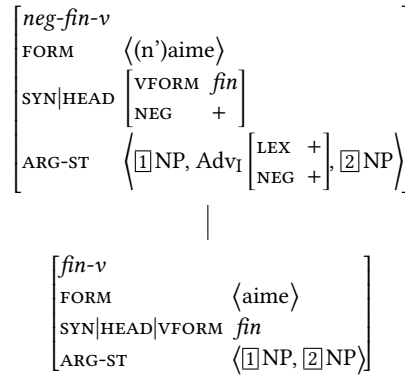


Figure 13: Post-Inflection of (*n'*)*aime*

This output verb *neg-fin-v* then allows the negator *pas* to function as the complement of the verb *n'aime*, as represented in Figure 14.

The analysis also explains the position of *pas* in finite clauses:

- (49) a. \*Jean ne [pas<sub>VP[fin]</sub> [aime Jan]].  
 b. Jean<sub>VP[fin]</sub> [V[fin] [(n')aime]<sub>Adv</sub> [pas]<sub>NP</sub> [Jan]].

The placement of *pas* in (49a) is unacceptable since *pas* here is used not as a nonfinite VP modifier, but as a finite VP modifier. But due to the present analysis which allows *pas*-type negative adverbs to function as the complement of a finite verb, *pas* can function as the sister of the finite verb *aime*.

Given that the conditional, imperative, and subjunctive, and even present participle verb forms in French are finite, the construction analysis also predicts that *pas* cannot precede any of these verb forms:

- (50) a. Si j'avais de l'argent, je ne achèterais pas.  
           'If I had money, I would not buy a car.'  
 b. \* Si j'avais de l'argent, je ne pas achèterais.

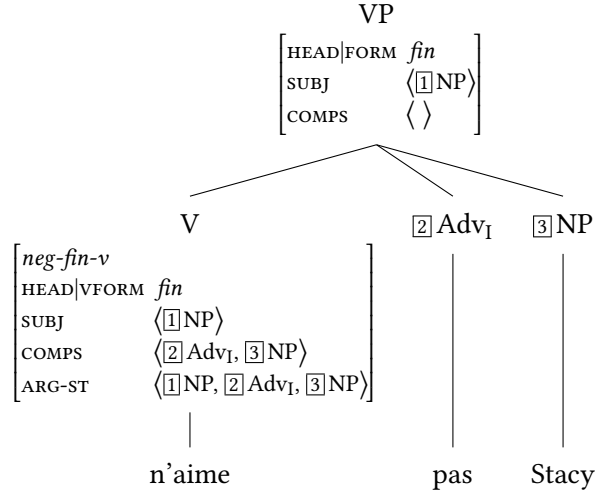


Figure 14: Add caption

- (51) a. Ne mange pas ta soupe.  
'Don't eat your soup!'  
b. \* Ne pas mange ta soupe.
- (52) a. Il est important que vous ne répondiez pas.  
'It is important that you not answer.'  
b. \* Il est important que vous ne pas répondiez.
- (53) a. Ne parlant pas Français, Stacey avait des difficultés.  
'Not speaking French, Stacey had difficulties.'  
b. \* Ne pas parlant Français, Stacey avait des difficultés.

Another important consequence of the present construction-based analysis is that it allows us to reduce the differences between French and English negation to be a matter of lexical properties. The negators *not* and *pas* are identical in that they both are VP[*nonfin*] modifying adverbs. But they are different with respect to which verbs can select them as complements. A comparison between the French Negative Construction and the English Negative Construction shows that *not* can be the complement of a finite auxiliary verb, whereas *pas* can be the complement of any finite verb. So the only difference is the morphosyntactic value [AUX +] and this induces the difference in positioning the negators.

This surface-oriented approach is in a sense similar to Pollock's viewpoint that the verb's finiteness plays a crucial role in the distribution of adverbs and negation. But there is one fundamental difference. I claim that it is not the interaction of verb movement and its subtheories such as the theta theory and 'quantification theory' but the morphosyntactic value (VFORM value) of the verb and lexical rules that affect the position of adverbs including *pas* and *not*. All surface structures are directly generated by a system of phrase types and constraints. The conclusion we can draw from these observations is that the position of adverbial negatives is determined not by the respective properties of verb movement, but by their lexical properties, the morphosyntactic (finiteness) features of the verbal head, and independently motivated Linear Precedence constraints.

#### 4.4 Clitic-like Negative Verb

As we have seen, the negative markers *non* and *no* are the main way of expressing negation in Italian and Spanish. These negative markers always precede the lexical verb, whether finite or non-finite, as can be observed from the repeated Italian examples:<sup>18</sup>

- (54) a. Gianni non legge articoli di sintassi.  
Gianni NEG reads articles of syntax  
'Gianni doesn't read syntax articles.'
- b. Gianni vuole che io non legga articoli di sintassi.  
Gianni wants that I NEG read articles of syntax.
- c. Non leggere articoli di sintassi è un vero peccato.  
NEG to.read articles of syntax is a real shame
- d. Non leggendo articoli di sintassi, Gianni trova la linguistica noiosa.  
NEG reading articles of syntax, Gianni finds linguistics boring

Various properties of the negator *non* in Italian and *no* in Spanish are shared with those of pronominal clitics. Like pronominal clitics, the Italian negator *non* must occupy the pre-auxiliary position:

- (55) a. Gianni non ha parlato.  
Gianni NEG has talked  
'Gianni has not talked.'
- b. \* Gianni ha non parlato. (Belletti 1990: 12)

<sup>18</sup>Languages like Welsh also employ a clitic-like negative. See Borsley & Jones (2000) for detailed discussion of Welsh negation.

However, one key difference from pronominal clitics is that negators *non* in Italian and *no* in Spanish can appear alone, especially in ellipsis-like constructions. Consider Spanish examples from Crowgey (1994).

- (56) a. \*Juan no ha comido, pero Susana ha.  
          Juan NEG has eaten but Susana has  
          ‘John has not eaten, but Susana has.’  
      b. \*Juan ha comido, pero Susana no ha.  
          Juan has eaten but Susana NEG has  
      c. Juan ha comido pero Susana no.  
          Juan has eaten but Susana NEG

The derivational view again attributes the distribution of this negative marker to the reflex of verb movement and functional projections (see Belletti (1990), Zanuttini (1991)). This line of analysis also appears to be persuasive in that the different scope of verb movement application could explain the observed variations among typologically and genetically related languages. Such an analysis, however, fails to capture unique properties of clitic-like negators from inflectional negators, negative auxiliaries, or adverb negatives.

The analysis which I defend here is to take *non* to be an independent lexical head element though it is a clitic. This claim follows the spirit of Monachesi (1993; 1998)’s analysis claiming that there are two types of clitics, affix-like clitics and word-like clitics: pronominal clitics belong to the former, whereas the bisyllabic clitic *loro* ‘to-them’ to the latter. The present analysis thus suggests that *non* also belongs to the latter group.<sup>19</sup> One key difference from pronominal clitics is thus that it functions as an independent word. Treating *non* as a word-like element will allow us to capture its word-like properties such as the possibility of stress on the negator and its separation from the first verbal element. But it is not a phrasal modifier, but a clitic, which combines with the following lexical verb. Adopting the treatment of English expressions like *than*, *as*, *of*, *a/an*, *the* as functor expressions that select a head expression (Van Eynde 2007; Kim & Sells 2011; Sag 2012), the present analysis takes *non* as a functor, as represented by the following lexical specifications:

- (57) Lexical specifications for *non*:

---

<sup>19</sup>But one main difference between *non* and *loro* is that *non* is a head element, whereas *loro* is a complement XP. See Monachesi (1993; 1998) for further discussion of the behavior of *loro* and its treatment.



$$\left[ \begin{array}{l} \text{FORM } \langle \text{non} \rangle \\ \text{SYN } \left[ \begin{array}{l} \text{HEAD} | \text{POS } \textit{clitic} \\ \text{SEL } \left\langle \begin{array}{l} \text{HEAD} | \text{POS } \textit{verb} \\ \text{FRAMES } \langle [1] \rangle \end{array} \right\rangle \end{array} \right] \\ \text{SEM } \left[ \begin{array}{l} \text{FRAMES } \left\langle \begin{array}{l} \textit{neg-fr} \\ \text{ARG } [1] \end{array} \right\rangle \end{array} \right] \end{array} \right]$$

This lexical entry roughly corresponds to the entry for Italian auxiliary verbs (and restructuring verbs with clitic climbing), in that the negator selects for a verbal complement. The combination of these two expressions is licensed by the HEAD-FUNCTOR CONSTRUCTION:

(58) HEAD-FUNCTOR CONSTRUCTION:

$$\left[ \begin{array}{l} \textit{hd-functor-cxt} \\ \text{SEM } [2] \end{array} \right] \rightarrow \left[ \begin{array}{l} \text{SEL } \langle [1] \rangle \\ \text{SEM } [2] \end{array} \right], [1] \text{H}[\text{POS } \textit{verb}]$$

The construction allows a functor expression to combine with a head expression, whose resulting semantics is identical to the functor. This then licenses the combination of the clitic *non* with the following verb. In order to see how this system works, let us consider an example where the negator combines with a transitive verb as in (69).

- (59) Gianni non legge articoli di sintassi.  
 Gianni NEG reads articles of syntax  
 ‘Gianni doesn’t read syntax articles.’

The negator *non* combines with the finite verb *legge*, whose lexical entry is given in (60):

- (60) Lexical specifications for the word *legge*:

$$\left[ \begin{array}{l} \text{FORM } \langle \textit{legge} \rangle \\ \text{SYN } \left[ \begin{array}{l} \text{HEAD} | \text{POS } \textit{verb} \\ \text{VAL } \left[ \begin{array}{l} \text{SUBJ } \langle [1] \text{NP} \rangle \\ \text{COMPS } \langle [2] \text{NP} \rangle \end{array} \right] \end{array} \right] \\ \text{ARG-ST } \langle [1] \text{NP}, [2] \text{NP} \rangle \\ \text{SEM } \left[ \begin{array}{l} \text{FRAMES } \langle \textit{legge-fr} \rangle \end{array} \right] \end{array} \right]$$

This lexical construction will license the following structure, interacting with the HEAD-FUNCTOR CONSTRUCTION (cf. Figure 15).

add  
glosses  
to tree

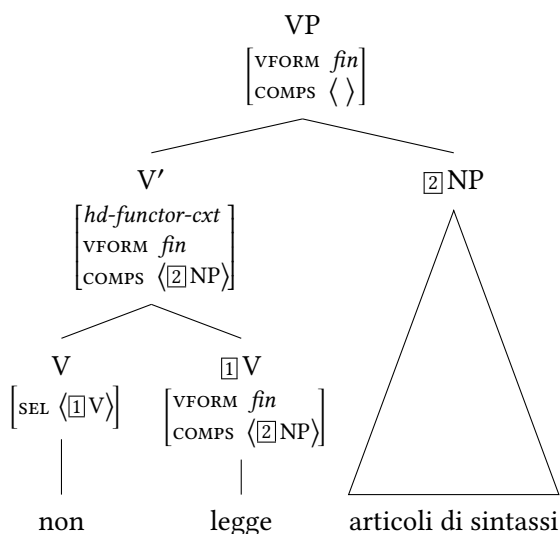


Figure 15: Add caption

The HD-FUNCTOR CONSTRUCTION licenses the combination of the functor *non* with the following finite verb. The resulting combination inherits the subcategorization value of the head verb *legge*, but the meaning is identical to that of the functor.

Given that a functor in Italian precedes the head it selects, the functor treatment of *non* can easily account for the fact that the negator *non* precedes an auxiliary verb either in finite or infinitive clauses, but cannot follow it in either clause-type .

- (61) a. Maria non ha sempre pagato le tasse.  
 Maria NEG has always paid the taxes  
 ‘Maria hasn’t always paid taxes.’  
 b. \* Maria ha sempre non pagato le tasse. (Zanuttini 1991: 123)
- (62) a. Gianni sostiene di non essere uscito.  
 Gianni claims to NEG have gone.out  
 ‘Gianni claims not to have gone out.’  
 b. \* Gianni sostiene di essere non uscito.  
 Gianni claims to have NEG gone.out (Belletti 1990: 90)

In the nonderivational, lexicalist analysis just sketched here, the negator is

taken to be a functor clitic that combines with a following verb. This analysis not only allows us to capture its dual properties – clitic-like and word-like properties, but also correctly predicts the positioning of *non* in various contexts. The conclusion we can draw from Italian type of sentential negation is that the distribution of a clitic-like negator is determined in relation to the head that this negative selects.

## 5 Concluding Remarks

The types of negation we have seen are identical in that they negate a sentence or clause in the given language. Does this entail that there is a universal functional category Neg that, interacting with other grammatical constraints such as movement operations, allows all their distributional possibilities? My answer to this question is no.

One of the most attractive consequences of the derivational perspective has been that one uniform category, given other syntactic operations and constraints, explains the derivational properties of all types of negation in natural languages, and further can provide a surprisingly close and parallel structure among languages, whether typologically related or not. However, this line of thinking, first of all, runs the risk of missing the peculiar properties of each type of negation. Each individual language has its own way of expressing negation, and further has its own restrictions in the surface realizations of negation which can hardly be reduced to one uniform category. The supposition of a uniform syntactic category notion abstracts away only the common denominator (presumably a semantic notion), sweeping the particular lexical or syntactic characteristics of each type of negation under the carpet. This uniform NegP analysis has eventually forced nontrivial complications of other grammatical components in order to allow all the surface possibilities of each type of negation. For instance, by placing morphological negation in the realm of syntax, we miss the fundamental generalization that the formation and distribution of word and sentence are subject to different principles and operations and correspond to different modules of the grammar, namely, morphology and syntax.

In the nonderivational analysis, there is no uniform syntactic element, though a certain universal aspect of negation does exist, viz. its semantic contribution. Languages appear to employ various possible ways of negating a clause or sentence. Negation can be realized as different morphological and syntactic categories. By admitting morphological and syntactic categories, we have been able to capture their idiosyncratic properties in a simple and natural manner. Further

this theory has been built upon the lexical integrity principle, the thesis that the principles that govern the composition of morphological constituents are fundamentally different from the principles that govern sentence structures. The obvious advantage of this perspective is that it can capture the distinct properties of morphological and syntactic negation, and also of their distribution, in a much more complete and satisfactory way.

One can view the difference between the derivational view and the nonderivational, lexicalist view as a matter of a different division of labor. In the derivational view the syntactic components of grammars bear almost all the burden of descriptive as well as explanatory resources. But in the nonderivational view, it is both the morphological and syntactic components that carry the burden. It is true that a derivational grammar whose chief explanatory resources are functional projections including NegP and syntactic movement, also has furthered our understanding of negation and relevant phenomena in certain respects. But in so doing it has also brought other complexities into the basic components of the grammar. The present research strongly suggests that a more conservative division of labor between morphology and syntax is far more economical and feasible.

## References

- Abeillé, Anne & Danièle Godard. 1994. The syntax of french auxiliaries. Ms. UFR and CNRS, Université Paris 7.
- Abeillé, Anne & Danièle Godard. 1997. The syntax of french negative adverbs. In M.-L. Rivero (ed.), *Negation and polarity: syntax and semantics*, 1–27. Amsterdam: John Benjamins.
- Baker, Curtis L. 1989. *English syntax*. Cambridge, MA: The MIT Press.
- Baker, Curtis L. 1991. The syntax of english *not*: the limits of core grammar. *Linguistic Inquiry* 22. 387–429.
- Belletti, Adriana. 1990. *Generalized verb movement*. Torino: Rosenberg & Sellier.
- Bender, Emily & Alex Lascarides. 2013. On modelling scope of inflectional negation. In Philp Hofmeister & Elisabeth Norcliffe (eds.), chap. On modelling scope of inflectional negation, 101–124. Stanford, CA: CSLI Publication.
- Borsley, Robert. 2006. A linear approach to negative prominence. In Stefan Müller (ed.), *Proceedings of the hpsg06 conference*, 60–80. Stanford, CA: CSLI Publication.
- Borsley, Robert & Bob Jones. 2000. The syntax of welsh negation. *Transactions of the Philological Society* 98(1). 15–47.

- Borsley, Robert & Mohamed Krer. 2012. An hpsg approach to negation in libyan arabic. *Essex Research Reports in Linguistics* 61(2). 1–24.
- Bošković, Željko. 2014. Now i'm a phase, now i'm not a phase: on the variability of phases with extraction and ellipsis. *Linguistic inquiry* 45(1). 27–89.
- Bratt, Elizabeth Owen. 1996. *Argument composition and the lexicon: lexical and periphrastic causatives in korean*. Stanford University, MA PhD Dissertation.
- Bresnan, Joan. 2001. Explaining morphosyntactic competition. In Mark Baltin & Chris Collins (eds.), *Handbook of contemporary syntactic theory*, 11–44. Oxford: Blackwell Publishers.
- Bresnan, Joan & Sam A. Mchombo. 1991. The lexical integrity principle: evidence from bantu. *Natural Language and Linguistic Theory* 13. 181–254.
- Chomsky, Noam. 1989. Some notes on economy of derivation and representation. In I. Laka & A. Mahajan (eds.), *Mit working papers in linguistics*, 43–74. Cambridge: Department of Linguistics & Philosophy, MIT.
- Chomsky, Noam. 1991. Some notes on economy of derivation and representation. In R. Friedin (ed.), *Principles and parameters in comparative grammar*, 417–454. Cambridge, MA: The MIT Press.
- Chomsky, Noam. 1993. A minimalist program for linguistic theory. In Kenneth Hale & Samuel Keyser (eds.), *The view from building*, 1–52. Cambridge, MA: MIT Press. Reprinted in Chomsky 1995.
- Chomsky, Noam. 1995. *The minimalist program*. Cambridge, MA: The MIT Press.
- Chomsky, Noam. 2000. Minimalist inquiries: the framework. In D. Michaels R. Martin & J. Uriagereka (eds.), *Step by step: essays on minimalist syntax in honor of howard lasnik*, 89–155. Cambridge, MA: The MIT Press.
- Chung, Daeho. 1998. Wh-scope identification via quasi-binding. *Japanese/Korean Linguistics* 7. 293–309.
- Cinque, Guglielmo. 1999. *Adverbs and functional heads: a cross-linguistic perspective*. Oxford: Oxford University Press.
- Crowgey, Joshua. 1994. The syntactic licensing of vp=ellipsis: a comparative study of spanish and english. In Frank Drijkoningen (ed.), *Issues and theory in roman linguistics: selected papers from the linguistic symposium on romance languages xxiii*.
- Crowgey, Joshua. 2012. An a priori typology of sentential negation from an hpsg perspective. In Stefan Müller (ed.), *The proceedings of the 19th international conference on head-driven phrase structure grammar*.
- Crowgey, Joshua & Emily Bender. 2011. Analyzing interacting phenomena: word order and negation in basque. In Stefan Müller (ed.), *Proceedings of the hpsg 2011 conference*, 46–59. Stanford, CA: CSLI Publication.

- Dahl, Östen. 1979. Typology of sentence negation. *Linguistics* 17. 79–106.
- De Swart, Henriette & Ivan Sag. 2002. Negation and negative concord in romance. *Linguistics and Philosophy* 25. 373–417.
- Dryer, Matthew S. 2005. Negative morphemes. *The World Atlas of Language Structures*. 454–457.
- Emonds, Joseph. 1978. The verbal complex V'-v in french. *Linguistic Inquiry* 9. 151–175.
- Ernst, Thomas. 1992. The phrase structure of english negation. *Linguistic Review* 9. 109–144.
- Haegeman, Liliane. 1995. *The syntax of negation*. Cambridge University Press, Cambridge.
- Haegeman, Liliane. 1997. The syntax of n-words and the neg criterion. In F. Martineau D. Forget P. Hirschbuhler & M.-L.Rivero (eds.), *Negation and polarity: syntax and semantics*, 115–137. John Benjamins, Amsterdam.
- Hagstrom, Paul. 1997. Scope interactions and phrasal movement in korean negation. *Harvard studies in Korean linguistics* 7. 254–268.
- Hagstrom, Paul. 2002. Implications of child errors for the syntax of negation in korean. *Journal of East Asian Linguistics* 11(3). 211–242.
- Han, Chung-hye, Lidz Jeffrey & Julien Musolino. 2007. V-raising and grammar competition in korean: evidence from negation and quantifier scope. *Linguistic Inquiry* 38(1). 1–47.
- Hilpert, Martin. 2016. Change in modal meanings. *Constructions and Frames* 8(1). 66–85.
- Holmberg, Anders & Christer. 1988. On the role of inflection in scandinavian syntax. *Working Papers in Scandinavian Syntax* 42. 25–42.
- Jackendoff, Ray. 1972. *Semantic interpretation in generative grammar*. The MIT Press.
- Kathol, Andreas. 2000. *Linear syntax*. New York, Oxford: Oxford University Press.
- Kato, Yasuhiko. 1997. Review of the syntax of negation by l.haegeman. *Language* 73. 391–394.
- Kato, Yasuhiko. 2000. Interpretive asymmetries of negation. In L. R. Horn & Y. Kato (eds.), *Negation and polarity: syntactic and semantic perspective*, 62–87. Oxford: Oxford University Press.
- Kelepir, Meltem. 2001. *Topics in turkish syntax: clausal structure and scope*. MIT dissertation.
- Kim, Jong-Bok. 2000. *The grammar of negation: a constraint-based grammar*. Stanford: CSLI Publications.

- Kim, Jong-Bok. 2016. *The syntactic structures of korean: a construction based perspective*. Cambridge: Cambridge University Press.
- Kim, Jong-Bok & Laura Michalies. 2018. *Syntactic constructions in english*. Cambridge: Cambridge University Press. To appear.
- Kim, Jong-Bok & Ivan Sag. 1996. French and english negation: a lexicalist alternative to head movement.
- Kim, Jong-Bok & Ivan A. Sag. 2002. Negation without head movement. *Natural Language and Linguistic Theory* 20(2). 339–412.
- Kim, Jong-Bok & Peter Sells. 2008. *English syntax: an introduction*. Stanford: CSLI Publications.
- Kim, Jong-Bok & Peter Sells. 2011. The big mess construction: interactions between the lexicon and constructions. *English Language and Linguistics* 15. 335–362.
- Klima, Edward S. 1964. Negation in english. In J. A. Fodor & J. J. Katz (eds.), *The structure of language: readings in the philosophy of language*, 246–323. Englewood Cliffs, NJ: Prentice-Hall.
- Lasnik, Howard. 1995. Verbal morphology: syntactic structures meets the minimalist program. In H. Campos & P. Kempchinsky (eds.), *Evolution and revolution in linguistic theory: essays in honor of charlos otero*, 251–275.
- Lasnik, Howard. 2000. *Syntactic structures revisited: contemporary lectures on classic transformational theory*. Cambridge, MA: The MIT.
- Miller, Philip H. 1992. *Clitics and Constituents in Phrase Structure Grammar*. New York. Published version of 1991 Ph. D. thesis, University of Utrecht, Utrecht.
- Mitchell, Erika. 1991. Evidence from finnish for pollock's theory of ip. *Linguistic Inquiry* 22. 373–379.
- Monachesi, Paola. 1993. Object clitics and clitic climbing in italian hpsg grammar. In *Proceedings of the sixth conference on european chapter of the association for computational linguistics*, 437–442. Association for Computational Linguistics.
- Monachesi, Paola. 1998. Italian restructuring verbs: a lexical analysis. complex predicates in nonderivational syntax. *Syntax and Semantics* 30. 313–368.
- Müller, Stefan. 2016. *Grammatical Theory: From Transformational Grammar to Constraint-Based Approaches* (Textbooks in Language Sciences 1). Berlin: Language Science Press. DOI:10.17169/langsci.b25.167
- Newmyer, Fredrick. 2006. Boundaries of Meaning: Neo-Gricean Studies in Pragmatics and Semantics in Honor of Laurence R. Horn. In Betty Birner & Gregory Ward (eds.), chap. Negation and Modularity, 247–268. John Benjamins.

- Payne, John R. 1985. Negation. In Timothy Shopen (ed.), *Language typology and syntactic description 1: clause structure*, 197–242. Cambridge: Cambridge University Press.
- Platzack, Christer. 1986. Comp, infl, and germanic word order. In *Topics in scandinavian syntax*, 185–234. Dordrecht: Springer.
- Pollock, Jean-Yves. 1989. Verb movement, universal grammar, and the structure of ip. *Linguistic Inquiry* 20. 365–424.
- Pollock, Jean-Yves. 1994. Checking theory and bare verbs studies in honor of richard s. kayne. In Gulielmo et al Cinque (ed.), *Paths towards universal grammar*, 293–310. Georgetown University Press.
- Pollock, Jean-Yves. 1997a. *Language et cognition*. Paris: Presses Universitaires de France.
- Pollock, Jean-Yves. 1997b. Notes on clause structure. In Liliane Haegeman (ed.), *Elements of grammar* (Kluwer International Handbooks of Linguistics), 237–279. Dordrecht: Kluwer Academic Publishers. DOI:10.1007/978-94-011-5420-8\_6
- Przepiórkowski, Adam. 2000. Long distance genitive of negation in polish. *Journal of Slavic Linguistics* 8. 151–189.
- Przepiórkowski, Adam. 2001. Optional and multiple long distance genitive of negation in polish. In Gerhild Zybatow, Uwe Junghanns, Grit Mehlhorn & Luka Szucsich (eds.), *Current issues in formal slavic linguistics*, 337–346. Frankfurt: Peter Lang.
- Przepiórkowski, Adam & Anna Kupść. 1999. Eventuality negation and negative concord in polish and italian. In Robert Borsley & Adam Przepiórkowski (eds.), *Slavic in head-driven phrase structure grammar*, 211–246. Stanford, CA: CSLI Publication.
- Sag, Ivan A. 2012. Sign-based construction grammar: an informal synopsis. *Sign-based construction grammar* 193. 69–202.
- Van Eynde, Frank. 2007. The big mess construction. *The Proceedings of the 14th International Conference on Head-Driven Phrase Structure Grammar*. 415–433.
- Vasishth, Shravan. 2000. Word order, negation and negative polarity in hindi. *OSU Working Papers in Linguistics* 53. 108–131.
- Vikner, Sten. 1994. Finite verb movement in scandinavian embedded clauses. In D. Lightfoot & N. Horstein (eds.), *Verb movement*, 117–147. Cambridge: Cambridge University Press.
- Vikner, Sten. 1997.  $V^0$  to  $I^0$  movement and inflection for person in all tenses. In Liliane Haegeman (ed.), *The new comparative syntax*, 189–213. London: Longman.



- Warner, Anthony. 2000. English auxiliaries without lexical rules. In Robert D. Borsley (ed.), *Syntax and semantics*, vol. 32, 167–220. San Diego: Academic Press. DOI:10.1163/9781849500098
- Zanuttini, Raffaella. 1991. *Syntactic properties of sentential negation: a comparative studies of romance languages*. University of Pennsylvania PhD Dissertation.
- Zanuttini, Raffaella. 1997. Negation and verb movement. In L. Hageman (ed.), *The new comparative syntax*, 214–245. London & New York: Longman.
- Zanuttini, Raffaella. 2001. *Negation and clausal structure*. Oxford: Oxford University Press.
- Zeijlstra, Hedde. 2015. The morpho-syntactic realization of sentential negation. In A. Alexiadou & T. Kiss (eds.), *The international syntax handbook*, 275–310. Berlin: Mouton de Gruyter.
- Zwicky, Arnold M. & Geoffrey K. Pullum. 1983. Cliticization vs. inflection: english n't. *Language* 59. 502–513.

