A construction−based analysis of the English modal *be to**

Kyungchul Chang

(Catholic University of Daegu)

Chang, Kyungchul. 2012. A construction-based analysis of the English modal *be to*. *Linguistic Research* 29(3), 579-597. This article presents a construction-based analysis of the English modal *be to*, as in *John is to stay in town*. Drawing on standard and novel arguments and evidence, it is argued that sentences with the *be to* are not bi-clauses but mono-clauses. It is also contended that the combination is a semantic and grammatical unit whose parts are syntactically separable. While the *be* part undergoes various grammatical operations, the whole unit denotes a deontic modality such as necessity. The article proposes an analysis of the unit as a construction that is stored in the lexicon and is combined with a main verb phrase at phrasal syntax. It also addresses a couple of advantages over previous accounts. **(Catholic University of Daegu)**

Keywords modal *be to*, mono-clause, deontic modality, grammatical operations, construction, the lexicon, phrasal syntax

1. Introduction

The type of linguistic expression we investigate in this paper is the combination between one of the tensed forms of *be* and infinitival *to* (*be to* hereafter) which has traditionally been called a (semi- or quasi-) modal or modal auxiliary (see Collins (2009) for a terminology).[1] The *be to* combination has been known to express various meanings such as plan/prearrangement, destiny, order and so forth. This construction as in (1a) clearly differs from the sequence of *be* and *to* in clauses containing a so-called 'non-catenative internal complement' with regards to 'its specifying and ascriptive senses' as in (1b) (Huddleston & Pullum 2005: 214).

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[1] The notation *be to* is used in this paper though the first part is always tensed in the Present-day English. See Huddleston & Pullum (2002: 114, fn. 24) and Goldberg & Auwera (2012: 2, fn.3).

(1) a. John is to stay in town tonight.

    b. His plan is to stay in town tonight.

The main problem is that the *be to* combination in (1a) is internally complex. The combination behaves like modal verbs such as *must*, in that it usually comes first when combining with other auxiliaries such as perfect *have*, progressive *be* and passive *be* (see Palmer (1990)). On the other hand, the combination looks like other semi-or quasi-modals such as *be going to*. They share a tensed form of *be* and infinitival *to*, and the *be* part alone undergoes the so-called NICE properties, such as subject-auxiliary inversion for question, *e.g. Is he to stay?* and *Is he going to stay?*[2]

One way of dealing with this problem is to take Kayne's (2007) approach.[3] In this approach, it is suggested that the *be to* combination is a passive predicate or clause, such as *is expected to*, the main verb of which is merely silent. That is to say, a sentence with the *be to* combination is basically a bi-clause in which one clause is subordinate to the other.

This paper sets out an alternative to the bi-clause approach. In line with Goldberg & Auwera (2012), it is argued that sentences containing the *be to* combination are not bi-clauses but mono-clauses.[4] It is also contended that the combination is a semantic and grammatical unit that has syntactically separable parts. While only the *is* part undergoes grammatical operations including subject-auxiliary inversion, the whole unit denotes a deontic modality such as necessity. The article proposes an analysis of the unit as a construction that is stored in the lexicon with the modal meaning and is combined with a main verb phrase at phrasal syntax. It also addresses theoretical advantages over previous accounts.

The remaining sections are organised as follows. Section 2 presents an overview of mono-clausal, semantic and grammatical properties of the *be to* combination. Section 3 presents a review of the literature which leads to a constructionist perspective. Section 4 outlines and offers a more restricted analysis of the *be to* construction with some theoretical advantages. Section 5 provides a summary of the paper.

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2 The term 'NICE' is the acronym of negation, inversion, code and emphasis.

3 Kayne's (2007) work is indirectly quoted from Goldberg & Auwera (2012).

4 Goldberg & Auwera (2012) is the final draft of their latest publication in *Folia Linguistica 46(1), 109-132*. It is available at *http://webh01.ua.ac.be/vdauwera/Thisistocount%20Fol-12-Aug11.pdf*. Any quotes are from this draft.

2. Preliminaries

2.1 Mono-clausal properties

A sentence with the *be to* combination is not a bi-clause where one clause is subordinate to the other. There is a good deal of evidence for this. Some pieces are reproduced below from Goldberg & Auwera (2012), who argue against Kayne's (2007) analysis, as shown in (2), of the combination as a passive:

(2) a. She is to be home at midnight.
    b. She is EXPECTED to be home at midnight.

<div align="right">(Goldberg & Auwera 2012: 17)</div>

First, as cited in (3), sentence (2a) cannot take a *by*-phrase that could have appeared in passives:

(3) *She is to be home at midnight by me/by her parents. (ibid.)

Secondly, as contrasted in (4), a passive can be an infinitive clause of a main verb, but this is not possible with the *be to* combination:

(4) a. She wanted to be expected to aim high.
    b. *She wanted to be to aim high. (ibid.)

Thirdly, the sentences in (5) do not have the same meaning:

(5) a. She was expected to become President in 2012.
    b. ≠ She was to become President in 2012. (ibid.)

This contrast becomes clearer when tested for contradiction. According to Goldberg & Auwera (ibid.), (6a) is fine but (6b) is contradictory:

(6) a. She was expected to become President in 2012, but Smith won.
    b. #She was to become President in 2012, but Smith won. (ibid.)

This is because the first conjunct in (6b) does, but the same in (6a) does not, entail that she became President (see also Huddleston & Pullum (2002: 114))

Another piece of counterevidence for the passive analysis is what I wish to call a control restriction. According to Hewings (2005: 24), the *be to* combination can be used in a clause, only when the future event denoted by that clause can be 'controlled by people' (cf. Sugayama (2005). He shows that (7a) is unacceptable because 'the movement of the comet cannot be controlled' (ibid.):

(7) a. *The comet is to return to our solar system in around 500 years.
    b. The comet will return to our solar system in around 500 years.

(Hewings 2005: 24)

On the contrary, the assumed passive counterpart of (7a) in (8) would not be subject to this control restriction:

(8) The comet is expected to return to our solar system in around 500 years.

This shows that the *be to* combination is not a passive predicate, nor is a sentence with it a bi-clause. It then naturally follows that sentences with the combination are mono-clauses.

2.2 Modal meaning

The fact that sentences with the *be to* combination are not bi-clausal also suggests that the combination is not completely determined by its parts. Rather, the combination stands on its own and denotes a single meaning. This meaning usually exceeds the sum of the meanings of *be* and *to*.

This is the case in which the *be to* combination can possibly be replaced by a single modal verb in a certain context. According to Bergs (2010: 226-227), *will* can take the place of *be to*, sharing a sense of futurity. Both can, as reproduced in (9) from him, appear in the same context; the first in the headline and the second in the full text:

(9) a. The Prince of Wales is to marry his long-term partner Camilla Parker
Bowles.

(BBC News, 11 May 2005, http://news.bbc.co.uk/1/hi/uk/4252795)

b. The Prince Charles will marry his long-term partner Camilla Parker
Bowles on 8 April, Clarence House says.

(BBC News, 11 May 2005, http://news.bbc.co.uk/1/hi/uk/4252795) (ibid.)

This also suggests that the *be to* combination is not only a semantic but also lexical unit.

In fact, the *be to* combination is known to express a good range of meanings. The range usually includes plan/arrangement, destiny/fate, order/command, and the like. Even pedagogical textbooks indicate this. Some of the examples from Swan (1999: 87) are quoted in (10):

(10)   a. We are to get a 10 per cent wage rise in June. (arrangement)
b. I thought we were saying goodbye for ever. But we were to meet
again, many years later, under very strange circumstances. (fate)
c. You are to do your homework before you watch TV. (order)

The range of meanings just mentioned is not however definite. The number of meanings for the *be to* combination differs from author to author. Whereas Goldberg and Auwera (2012) demarcate four meanings such as prearrangement, predetermination, indirect command and suitability, Sugayama (2005) handles seven senses such as arrangement, obligation, predestined future, future in the past, possibility, purpose, and hypothetical condition. These senses are also further detailed in Declerck (2010).

Such various senses are not however the core meaning of the *be to* combination. They are rather determined by contexts in which that combination appears. According to Sugayama (2005: 103), for instance, the same clause with in (11) below can be interpreted differently in accordance with the following contexts; it is an 'order' in (11a) while having an 'epistemic predictive sense' in (11b):

(11)   a. You aren't to marry him, and that's an order.
b. You aren't to marry him, as I read it in the cards. (ibid.)

On the other hand, the *be to* combination seems somewhat biased for deontic modality. Huddleston & Pullum (2002: 206) remark that the combination is 'commonly used for deontic necessity'. Sugayama (2005: 102) also explicitly defines the basic meaning of the combination, as cited in (12), as obligation of that kind:

(12) The agent has been set or scheduled to do something by some external
     (outside) forces, and is thus obliged. However, the agent's commitment
     to the obligation is left open.

This bias turns out clearer when the combination is ambiguously used. According to Aarts (2010: 304-5), for example, though the sentence in (13) may be ambiguous, the deontic reading in (14a) is 'most likely':

(13) Judges are to take far less account of the offender's past record.
                                                      (Aarts 2011: 304-305)
(14)   a. 'Judges must take far less account of the offender's past record'
       b. 'Judges will be taking far less account of the offender's past
          record'

                                                                      (ibid.)

Taken together, the present study assumes that deontic necessity is the core meaning of the *be to* combination. Our example *John is to stay in town* can thus be paraphrased in (15) below, no matter what contexts the reading follows from, including official arrangement, order, destiny, and the like:

(15) It is necessary for John to stay in town.

It is also posited that various senses are actually contextually inferred or derived from that meaning.

2.3 Grammatical status

The modal *be to* combination is not only a semantic but also grammatical unit. Simple evidence is that neither of its parts can be deleted for its intended meaning:

(16) a. John is to stay in town.
      b. *John is stay in town.
      c. *John to stay in town.

In addition, the whole combination behaves like ordinary modal verbs, particularly in the Present-day English (Palmer 1990). It does not occur with other modal verbs but usually comes first when combining with other auxiliary verbs like perfective *have*, progressive *be* and passive *be*. The combination is thus seldom used in the bare form *be*, but rather in one of the tensed forms of the verb. This is illustrated in (17) and (18):

(17) a. He was to have stayed.
      b. He was to be arrested.
      c. He was to be leaving.
(18) a. *He will be to stay.
      b. *He has been to stay.
      c. *He was being to stay.

In fact, the *be to* combination differs from ordinary modal verbs in many other respects (Goldberg & Auwera 2012; Huddleston & Pullum 2002; Sugayama 2005). While modal verbs participate in inversion for question, negation by and contraction with *not*, tag question and so forth, the whole *be to* fails to undergo these grammatical operations, as illustrated in (19) (see also Goldberg & Auwera (2012)):

(19) a. *Is to she visit the island?
      b. *She is ton't visit the island.
      c. *She isn't to visit the island, is to she?

Only the *be* part is involved in inversion, *not*-contraction and tagging, as shown in (20) (see also Goldberg & Auwera (2012)):

(20) a. Is she to visit the island?
      b. She isn't to visit the island.
      c. She isn't to visit the island, is she?

In addition, as given in (21), the *be to* unit can be interrupted by an adverbial.

(21) She is never to visit the island.

Drawing on the data in (19) to (21), one might argue that the whole *be to* combination is not a modal verb (Sugayama 2005). Only the *be* part should be taken to be that category (Huddleston & Pullum 2002). The *to* part might then be treated as an element that makes a mere contribution to the modal meaning of the whole combination (Sugayama 2005).

Indeed, the above tests are those grammatical operations which usually work on the *be* part, but not the whole combination. These are nevertheless patterns to which auxiliary verbs (AUX) conform in general, whether or not an affix or a clitic is attached to them. For example, when progressive *be* is used with *not* for question, as shown in (22) below, both are not allowed before the subject; the former alone always precedes the subject, the latter remaining behind:

(22)   a. Is she not coming back?
       b. *Is not she coming back?

The only way we can make a grammatical *yes-no* interrogative with *is* and *not* together, as displayed in (23), is to use the contracted form *isn't*, namely a '(complex) word':

(23)   a. She isn't coming back.
       b. Isn't she coming back?

A similar pattern is further observed in auxiliary reduction, too. As illustrated in (24), only the reduced form *could've* can be inversed with the subject *she* for question:

(24)   a. Could've she come back?
       b. *Could have she come back?

Since the *be to* combination is usually a two-word manifestation (not having any

contracted form), the operations just given are not sufficient to disprove the unithood of that combination.

On the other hand, arguably, the modal *be to* can be a combination of an auxiliary verb (AUX) and a verb (V) in a purely categorial sense. As already observed, the *be* part is an auxiliary verb because it can undergo grammatical operations like subject-auxiliary inversion. It is also not entirely absurd to see the *to* part as a verb. This is because infinitival *to* has often been treated as a verb in the literature such as Pullum (1982) and, more recently, Kim & Sells (2008).

If this is the case, then the on-going argument can be supported by independent evidence. The evidence is a set of complex words such as *would-be*, *maybe* and *must-see*. These are best understood as AUX-V compounds that consist of the (modal) auxiliary verb *would/may/must* and the verb *be/see*. It is also widely admitted that such compounds are best treated in the domain of morphology rather than syntax (Carstairs-McCarthy 2002).[5]

In this regard, the present investigation considers the modal *be to* combination as an AUX-V compound. It is also posited that this compound is a grammatical, more specifically morphological unit. This stance is outlined and pursued in Section 4 after a brief review of the relevant literature in Section 3.

3. Previous studies

3.1 Conservative account

The idea that the *be to* combination is a semantic and grammatical unit of that sort is not entirely new. Palmer (1990: 164) already regards the unit as a 'modal verb' in that it 'has no non-finite forms', as observed above, such as **be to*, **being to* and **been to*. He then makes a distinction between the temporal and modal uses of the unit; the former mostly concerns plan/arrangement and the latter reasonability and command.

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[5] An anonymous reviewer points out that the grammaticalisation of *be to* could be much stronger evidence for the current argument. One source we would mention for this is Rhee & Myung's (2005) study. According to this study (Rhee & Myung 2005: 244ff.), *be to* has been developed over historical time, as a 'proximative' meaning 'on the verge of V-ing'.

Palmer's account however requires some clarification with regards to categories. The whole *be to* unit is not a word category or verb but a phrase-like expression. In addition, regardless of the *to*, only the *be* part, but not the whole unit, is inflected for tense, such as *am to, is to, are to, was to* and *were to*. This is the departure for Sugayama (2005)

3.2 Word-based account

In the framework of Word Grammar, Sugayama (2005: 67ff.) argues that the *be to* combination is neither a lexical nor syntactic unit. He treats the *be* part as an 'instance of modal verb' or simply a 'modal' in that it shares most of the morphological, syntactic and semantic properties with prototypical modal verbs. He also suggests that the meaning of the combination is determined by that of *to*. For this, he provides evidence like headlines, which are reproduced in (25) (see also Goldberg & Auwera (2012)):

(25)   a. Hayward Gallery to be refurbished and extended.
        b. Woman to head British Library

                                        (Sugayama 2005: 103)

It is however difficult to envisage that the modal meaning of the *be to* combination is solely determined by that of the *to* part. Even if Sugayama presents the headlines in (21), these are not sufficient to support his position. As Goldberg & Auwera (2012: 14) remark, they are headlines that 'have their own peculiar properties that serve to override certain otherwise strict constraints'. This is the case where *A* or *The* is also deleted in (25b). In addition, the *be to* unit cannot exist without either one of its parts in ordinary sentences, as observed above such as *John is to stay/*John is stay/*John to stay*. This is the starting point from which Goldberg & Auwera (2012) carry out their constructionist account.

3.3 Construction-based account

Goldberg & Auwera (2012) propose a construction-based account of sentences with the *be to* combination. In this account, it is posited that the combination with

the following main verb phrase complement is a 'construction' that syntactically forms a larger verb phrase (VP). The semantics of this construction concerns the subject-raising property of *seem to VP*, as in *There's to be a meeting tomorrow*. It also contains meanings such as prearrangement, indirect command, predetermination, and suitability (PrIPS), which are related to one another forming a continuum with other ambiguous or overlapping cases. The authors further incorporate into the pragmatics of the construction the formal register for indirect command and suitability (I-S); the speaker normally has a higher status that the addressee, notated (>:--I). Their analysis is illustrated in (26):

(26) Syntax: [BE$_{tense}$ [VP$_{to}$]]$_{VP}$
Semantics: "subject raising" PrIPS
Pragmatics: Formal register; I-S >:--I

Though we adopt most of Goldberg & Auwera's ideas, we pursue a more restricted form of analysis in two respects. First, the syntax of the *be to* combination, *[BE$_{tense}$ [VP$_{to}$]]$_{VP}$*, is revised in such a way that without the following main verb phrase, the combination itself forms a construction. This is because the combination between the Aux and V parts is almost fixed; only the former part is available for a limited range of irregular tensed forms of *be*. On the other hand, the V part and the following VP are in almost free combination as long as the semantic role of the subject is permitted by that VP under the control restriction suggested above.

Second, subject raising and PrIPS are not assumed for the semantics of the *be to* construction in our analysis. The reason is that subject raising is not a unique characteristic of the construction, but a general property that is shared by auxiliary verbs and some lexical verbs, as in *There will be a meeting/There seems to be a meeting*. PrIPS is also, as discussed, a mere subset of contextual meanings rather than the basic meaning underlying them. Instead, we capture these two properties assuming the grammatical category AUX and the modal meaning of necessity such as MODAL(ITY)$_{necessity}$, respectively. This is outlined and pursued in the following section.

4. A proposed analysis

4.1 Basic assumptions

The notion of construction adopted here comes from the approaches of Chang (2011), Culicover & Jackendoff (2005), Goldberg (1995) and Jackendoff (2002). In these approaches, it is assumed that constructions are basically semantic units that denote a single meaning, called a 'constructional meaning'. They also form a larger class from fully idiomatic through highly productive types; that is called a 'family of constructions'. They are thus listed in the lexicon as fully specified or partly underspecified, or even unspecified, forms with a constructional meaning.

A model of the lexicon to be first considered here is Culicover & Jackendoff's (2005) version, which is originally form Jackendoff (2002). In this version, it is assumed that constructions are lexical items that have a tertiary structure of sound, category and meaning in terms of 'representational modularity'. The sound of a lexical item forms its own phonological structure (PS), the category its own syntactic structure (SS) and the meaning its own conceptual structure (CS); this is called a 'lexical conceptual structure'(LCS). It is also posited that those modular structures are associated with one another by means of mapping.

Culicover & Jackendoff's (2005) LCS has been moderately revised by Chang (2009; 2010; 2011). To the LCS, Chang adds morphological structure (MS) and predicate structure (PredS) for inflectional and derivational morphology and specific semantic forms of a lexical item, respectively. Following Goldberg (1995), he also assumes that argument and participant roles are separate but connected by means of mapping. He further considers an array of grammatical functions (GF) as a component that links those semantic roles to the noun phrase(s) of a sentence via mapping. This revision is illustrated in (27) with the idiom *kick the bucket*:

(27) Lexical Conceptual Structure for *Kick the Bucket*

Conceptual Structure (CS)	[DIE]$_1$	(THEME$_4$)
Predicate Structure (PredS)	[KICK$_2$ THE-BUCKET$_3$]$_1$	<_____$_4$>
Morphological Structure (SS)	kick$_2$ the-bucket$_3$	[GF]$_4$
Syntactic Structure (SS)	[$_{VP}$ V$_2$ NP$_3$]$_1$	
Phonological Structure (PS)	kick$_2$ the-bucket$_3$	
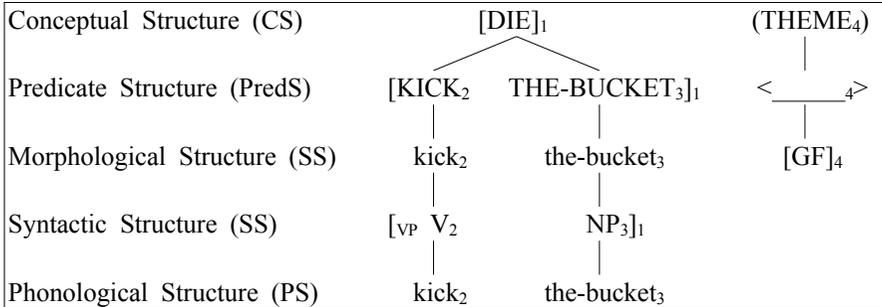
It is noted that the unithood of the idiom is now indicated by the identical number 1 through the CS, PredS and SS.

4.2 As a lexical construction

The *be to* combination is very much like the above idiom, *kick the bucket*. Though the combination expresses various senses depending on contexts it appears, these senses can be reduced to the core meaning of necessity, as argued above. This modal meaning is clearly greater than the sum of the ordinary meanings, if any, of *be* and *to*. In this regard, the combination can be seen as, in Quirk et al.'s (1985: 137) term, a 'modal idiom' and thus should be stored in the lexicon.

If the notion of construction and the model of the lexicon outlined above are adopted, then the modal idiom *be to* is a lexical construction denoting a constructional meaning. It is fully listed in the lexicon with the modal meaning of necessity. This lexical construction is thus the lexical entry illustrated in (28):

(28) Lexical Entry for the *Be To* Construction[6]

CS	$[MODAL_{necessity}]_1$		$([Predicate]_4$ $([Argument]_5, ...)$
MS	$[[AUX]_2$	$[V_{to}]_3]_1$	
PS	be_2	to_3	
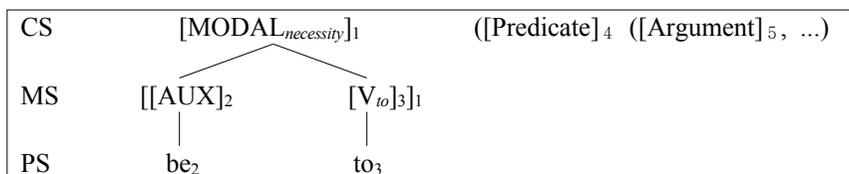
There are several notes to be made on the LCS in (28). First, this LCS is divided into two components. One is the domain of modality on the left, and the other is the standard predicate-argument structure on the right. Second, the *be to* construction is dealt with in the modal domain. This is because the construction, as observed above, has the semantic and grammatical status of modal verbs. On the other hand, main verbs like *stay*, as widely admitted, are dealt with in the predicate-argument structure, and are thus notated *([Predicate]₄ ([Argument]₅,...)*. Third, the CS of the construction, notated *[MODAL_necessity]₁*, represents the modal meaning of necessity. Fourth, the AUX and V in the MS reflect the auxiliary status of the *be* part and the treatment of the *to* as a verb. This categorial information also helps capture AUX-V compounds like *would-be*. Fifth, the PS indicates the sounds of the two parts. Here, for typographical convenience, the standard orthography is used rather than phonetic transcriptions. Sixth, all these modular structures are connected by mapping, which is notated by subscript numbers. In particular, the discrepancy in subscript number between 1 and 2, and 3 across the modular structures shows that the construction is a semantic and morphological unit, on the one hand, and that its parts are also separate units on the other. The separable parts of this lexical construction are then plugged into phrasal syntax by ordinary phrase structure (PS) rules.

4.3 Constituency and linearisation constraints at phrasal syntax

The set of PS rules adopted here is Aarts's (2008) version (see also Culicover

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6   Another alternative would be the analysis that an anonymous reviewer suggests for various and more specific types of epistemic and deontic modality. The analysis is *[MODALx]*, where x is either possibility/probability or necessity/obligation. For this model, as the reviewer also points out, a corpus-based study could be considered. We leave this approach for future research.

(2009)). In this version, a sentence (S) is a flat structure that is branched into a noun phrase (NP), an auxiliary verb (Aux) and a verb phrase (VP). This structure is more or less the rewriting rule given in (29):

(29) S → NP Aux VP

Along with (29), another PS rule is required for the *to* part. As assumed above, the *to* is a verb that can take a bare infinitive form of a verb phrase (Pullum 1982; Kim & Sells 2008). The VP rule thus looks like the one in (30):

(30) VP → V VP

This rule is useful because it can also capture those verbs like *help* which can take a bare infinitive verb phrase, as in *This helps improve health*.[7]

Such PS rules have however been developed in two distinct ways. One is to elaborate on the rules using detailed layers like vP (Radford 2009). The other is to consider them as constraints on constituency and linearisation (Culicover & Jackendoff 2005).

We adopt the second view here. The PS rules in (29) and (30) are thus considered as constituency and linearisation constraints. That is, a head verb, when forming a larger verb phrase with a verb phrase via constituency constraints, is followed by that verb phrase through linearisation constraints. Likewise, a (modal) auxiliary verb, when forming a full sentence with an NP and a VP via constituency constraints, is preceded by the former and followed by the latter via linearisation constraints.

The *be to* construction in (28) above is then represented in phrasal syntax to combine with a main verb and its argument(s) in the ways just described. To take *John is to stay* for example, the *to* part, forming a larger verb phrase with *stay* via constituency constraints, is followed by that main verb via linearisation constraints. Simultaneously, the *be* part, forming a sentence with *John* and *to stay* via constituency constraints, is preceded by that subject noun phrase and followed by that verb phrase through linearisation constraints. The result is the sentence structure

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7 Another example is *He made do with a sandwich for lunch*.

illustrated in (31) below:

(31) Sentence Structure for *John is to stay*

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\begin{array}{llll}
\text{CS} & [\text{MODAL}_{necessity}]_1 & ([\text{STAY}]_4\ ([\text{JOHN}]_5)) \\
\text{MS} & [[\text{AUX}_{present}]_2\ \ [\text{V}_{to}]_3]_1 & [\text{V}]_4 \quad [\text{GF}]_5 \\
\text{SS} & [_S\ \text{NP}_5\ \text{AUX}_2\ [_{VP}\ \text{V}_3\ [_{VP}\ \text{V}_4]_4]_3]_1 \\
\text{PS} & \text{John}_5\ \ \text{is}_2 \quad\quad \text{to}_3 \quad \text{stay}_4
\end{array}
$$
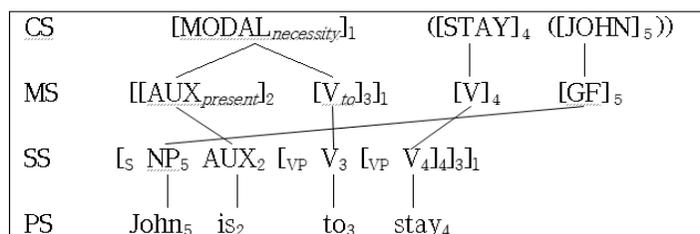
Here the subscript number 1 in the SS also indicates that the sentence is built out of the *be to* construction.[8]

4.4 Theoretical advantages

The proposed analysis has three theoretical advantages. First, the analysis provides a more restricted account of the meaning of the *be to* construction than Goldberg & Auwera's (2012). Our model is not limited to the set of PrIPS, but extensible from the core meaning of necessity. This will enable an extended account of those senses and contexts which have not yet been mentioned or detailed here.

Second, relative to the first, the proposed analysis offers a more restricted account of the form of the *be to* construction. The suggested form of the construction is not a full verb phrase but a compound that strictly consists of the auxiliary verb *be* and the verb *to*. This nicely captures both the restrictive or fixed combination of these two parts and the relatively free combination of the *to* and the following main verb phrase. The division of labour in combination between the lexicon and phrasal syntax also permits the former combination to occur in the lexicon, and the latter to work at phrasal syntax.

Third, related to the second, the proposed analysis supplies a more flexible account of the grammatical properties of the *be to* construction. The division of the

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[8] An anonymous reviewer questions how to analyse the sentence *John is never to stay*. If we see *never* as a VP modifier in line with Kim & Sells (2008), it should be adjoined to the VP node *to stay*.

modal and auxiliary attributes of the construction between the lexicon (or semantics and morphology) and phrasal syntax permits the whole unit to behave as a modal verb in word order on the one hand, and its auxiliary part to undergo grammatical operations like subject-auxiliary inversion, on the other.

5. Concluding remarks

We have examined the nature of the so-called modal *be to*. Drawing on standard and novel evidence, it is argued that sentences with the combination are not bi-clauses but mono-clauses. It is also contended that the combination is a semantic and grammatical unit that has the syntactically separable parts, *be* (Aux) and *to* (V). The notion of deontic necessity is considered for the core meaning of the combination. A small set of Aux-V compounds like *would-be* is also provided for the grammatical, more specifically morphological unity of that combination.

We have also offered a construction-based analysis of the *be to* unit. The analysis shows that the unit is a construction that is listed in the lexicon with the modal meaning of necessity for its constructional meaning, notated $MODAL_{necessity}$. In particular, the proposed modular structures enable a unified account of the semantic and grammatical (or morphological) unity of the lexical construction and of the syntactic separability of its AUX and V parts. A constraint-based version of ordinary PS rules permits the Aux and V to form a tertiary sentence structure with a main verb phrase and a subject noun phrase. The paper also notes some theoretical advantages over previous accounts.

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Kyungchul Chang
Department of English Education
Catholic University of Daegu
Hayang-ro 13-13, Hayang-eup, Gyeongsan-si
Gyeongbuk 712-702, Korea
Tel: (053) 850-3118
E-mail: loncamed@gmail.com