This is to count as a construction 1

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This is to count as a construction[1]

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Abstract

This paper investigates the syntactic, semantic, and pragmatic properties of utterances such as *This is to count as a construction*. It is argued that a *construction* is required to capture certain semi-idiosyncratic syntactic, semantic, and pragmatic aspects of the pattern. We call this construction the *is-to* construction. At the same time, its properties are *motivated* by relating the construction to other well-known constructions via a default inheritance hierarchy. The paper also discusses a non-productive "object-related" construction and suggests a diachronic relationship between the two. The proposal is contrasted with word-based, semantic, and purely syntactic accounts.

Key words

is-to construction, constructionist approach, inheritance, copula, *to* infinitive, compositionality, modality

1. Introduction

Although there has been a growing interest in constructionist approaches to language, much of the discussion has surrounded a quite limited range of constructions. Moreover, much work has analyzed one particular construction or alternation in isolation, without attempting to motivate its properties by relating it to other existing constructions (but cf. e.g., Boas 2003, Fried 2005, Gonzalvez Garcia 2000, Jackendoff 1997, Michaelis 2001).

This paper attempts to broaden the discussion by focusing on a relatively understudied case that involves interesting pragmatic as well as syntactic and semantic properties. In particular, we argue that a construction is required to account for examples like those in (1)-(4), in that such examples convey certain semantic, syntactic and pragmatic restrictions that do not follow compositionally from any of the lexical items involved. Unless otherwise noted, here and below, all attested examples−indicated by quotes−come from the 400+ million word Corpus of Contemporary American English (COCA).[2]

(1)   The match is to begin at 11 pm.

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[2] We are very grateful to Mark Davies for making this corpus freely available at http://www.americancorpus.org/. The corpus includes equal amounts of spoken, fiction, popular magazines, newspapers, and academic texts.

(2) "Arguments are to be avoided; they are always vulgar and often convincing." (Oscar Wilde)
(3) "You are to recall each detail about the dancer you saw who has no shadow."
(4) "Junior was to become a lawyer and then Chairman of the Board of Deco Industries"

The constructionist account proposed here builds on many of the insights of previous accounts (Dik 1983, Goossens 1992, Sugayama 2005, Palmer 1979, Declerck 2010). The present account differs from these accounts in positing a construction in lieu of assigning the non-compositional meaning to just *to* or *be* or to a complex form *is to*. Moreover, we argue that positing a construction allows us to *motivate* various semi-idiosyncratic aspects of the construction. That is, while the properties are not strictly predictable, neither are they completely arbitrary. Instead, almost all of the construction's properties can be motivated by other, independently needed constructions. More generally, a given language is a system, not an idiosyncratic list of factoids; its overall conformity to internal regularities and subregularities is impressive. To take a simple lexical example, de Saussure (*CLG* 181) famously noted that the word in *dix-neuf* is motivated; the same is true of *nineteen*. A (synchronically) unique morpheme could have been used for the concept (cf. *eleven*), so the form is not strictly predictable, but at the same time the word is clearly not arbitrary.

Motivation is made explicit in the current context via a default inheritance hierarchy (Lakoff 1987, Hudson 1990, 2007, Goldberg 1995, cf. also Sugayama 2005 for an analysis of the present construction within a default inheritance hierarchy). Specifically, a daughter construction is *motivated* by its mother construction(s) to the extent that shared form and function are inherited from the mother construction(s). In this way, the daughter construction is argued to be more natural, more easily interpretable without prior exposure, and easier to learn than a fully *sui generis* construction.

In order to offer a full account of the construction exemplified in (1)-(4), we detail certain semantic relationships and pragmatic restrictions that have not been observed previously, as well as formal and temporal properties. Each of these are discussed in turn below in sections 2-5. We then motivate the construction's various properties in section 6. We discuss a non-productive but superficially related construction in section 7, and address the interaction of the *is-to* construction with other constructions in section 8. In section 9, we briefly review alternative proposals.

2. Formal properties

One striking constraint on the construction is that the copula must be finite, as is clear from the infelicity of examples (5)-(9) (cf. also Kayne 2007a,b, Sugayama 2005):[3]

(5) *He will be to become President.
(6) *He had been to become President.
(7) *He has been to become president.

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[3] Declerck (2010: 289) found untensed *If I had been to* +INF examples on the web. Our search for this type of example indicates that all instances appear to be pre-20th century.

(8)   *He was being to become President.
(9)   *She is being to become President.

Evidence that the finiteness restriction is an idiosyncratic fact comes from the observation by Visser (1963-1973) that it did not always hold, as illustrated in (10) and (11):

(10)   "this young lady…instead of being to marry Frederick, is to marry James Benwick"
         (Jane Austen 1815, quoted in Visser 1969: 1449)
(11)   "You will be to visit me in prison with a basket of provisions."
         (Jane Austen 1814, quoted in Visser 1969: 1450)

If the finiteness restriction were predictable from other general facts, we wouldn't expect to find nonfinite examples of the construction currently *or* in the fairly recent past.
        At the same time, in other ways, like many other constructions and idioms, the syntax of the *is-to* construction is unremarkable. The copula behaves as an auxiliary, as it does generally. For example, it is inverted in subject-auxiliary inversion (12) and it can be directly followed by negation (13) (Declerck 2010, Huddleston & Pullum 2002, Kayne 2007a,b, Sugayama 2005):

(12)   "am I to be charged?"

(13)   "You are not to kill this pup, smallwolf."

We can represent the form of the construction as in (14):

(14) $[BE_{tense} [VP_{to}]]_{vp}$

That is, the construction is a recursive verb phrase (VP) construction headed by tensed *be* with an infinitive marked VP complement.

3. Semantic properties

One of the most general aspects of the semantics of the construction is that the main clause subject must be interpreted as the subject of the lower clause (cf. also Kayne 2007a, b). That is, example (1), repeated below as (15a) can be paraphrased roughly by (15b):

(15)   a. The match is to begin at 11 pm.
         b. The match begins at 11 pm.

The copula can be considered a "subject-raising" verb, because it does not semantically restrict the subject argument (i.e., it does not "assign a semantic role") (Sugayama 2005). That is, only the lower verb semantically constrains what types of arguments can

appear. This is apparent from the fact that the semantically bleached existential *there* can appear as subject.

(16)   "There are to be no unlawful assemblies or disorderly demonstrations."

Since *be* is a subject raising verb in its regular use (cf. 17), no stipulation beyond the fact that *be* is involved is required for this fact.

(17)   There are no unlawful assemblies or disorderly demonstrations.

There do exist certain semantic restrictions on the construction that cannot be predicted by *be* or *to* or by other constructions, although in section 6 we motivate these properties as well. In particular, instances of the construction imply that the event designated by the lower clause has been prearranged, predetermined, or is suitable or appropriate, and the construction can be used as an indirect command (cf. also Palmer 1979: 146-148, Declerck 2010, Sagayama 2006 for discussion of multiple senses).
The range of senses for the *is-to* construction are discussed below and ultimately diagrammed in Figure 1.

A. Prearrangement

The most common use of the construction conveys that some official arrangement is in place for an event to take place or a state to hold at some point of time subsequent to the reference time. When the copula is in the present tense, the reference time is the speech time and the event or state has been arranged to hold in the future.

(18)   "Egypt and Jordan…are to receive $1.3 billion and $250 million each."
(19)   "the six witnesses … are to be available at nine this morning."

When the copula is in the past tense, the reference time is in the past, and the state or event that was arranged must be subsequent to that time. A past perspective on a subsequent arrangement is motivated in two contrasting situations. The past tense can be used to imply that the prearranged event did *not* take place.

(20)   He was to be here by now.   (implicates that he is not here)

The counterfactual interpretation is a pragmatic implicature: if the speaker intended to say that the event took place, then he would have; since he only conveyed that the event was prearranged, an implicature arises that the event did not take place. Notice that the same implication arises when other expressions of prearrangement are asserted:

(21)   He was supposed to be here by now. (implicates that he is not here)
(22)   He said that he would be here by now. (implicates that he is not here)

There is another motivation for taking a past perspective on a future occurrence and that is that the speaker is foreshadowing a future event that he knows *will* take place. This

use is common when the speaker adopts a narrator's perspective, in which he is omniscient. This leads us to a second sense of the construction.

B. Predetermination

The narrator's perspective or predetermination interpretation of the construction appears in the following examples:

(23)   "Considering he was to become one of the two principal rulers of the Empire in a matter of months"

(24)   "It was nothing to her, that an innocent man was to die for the sins of his forefathers"

This interpretation is also possible in the present tense, as long as there is an assumption that the speaker believes she can see into the future, as, for example, in (25):

(25)   "It is to rain tomorrow", said the fortune teller.

Without the idea of an omniscient observer, the predetermination use is infelicitous.

(26)   #Billy said it is to rain tomorrow.

C. Indirect command

Another immediate extension of the prearrangement sense is a use of the construction as an indirect command. That is, if the arrangement is understood to be created by the speaker at the time of the utterance, a command interpretation may arise as in (27):

(27)   "You are to be discharged from this jury."

D.   Suitability or Advisability

A further sense simply expresses the suitability or general advisability of a state or event as in (28) and (29):

(28)   "Some books are to be tasted, others to be swallowed, and some few to be chewed and digested." (Francis Bacon)

(29)   "Wilma is to be congratulated on her exemplary effort."

This sense overlaps with the indirect command interpretation. Note, for example, that (29) could be used as an indirect command if spoken by Wilma's coach as an indication to begin a round of applause.

As is typical in the case of constructional polysemy, expressions are often ambiguous or vague as to which sense they instantiate; in fact, this is how multiple senses often arise historically (e.g. Heine 2002). One sense can be interpreted as an

instance of another sense and the latter sense becomes recognized as a possible extension. Although we do not have diachronic evidence to suggest a particular pattern of development, a suggestion for how to relate the four senses synchronically is offered in Figure 1. In representing the semantics of the construction, we will refer to the possibility of prearrangement (Pr), indirect command (I), predetermination (P) or suitability (S) senses as PrIPS.[4]
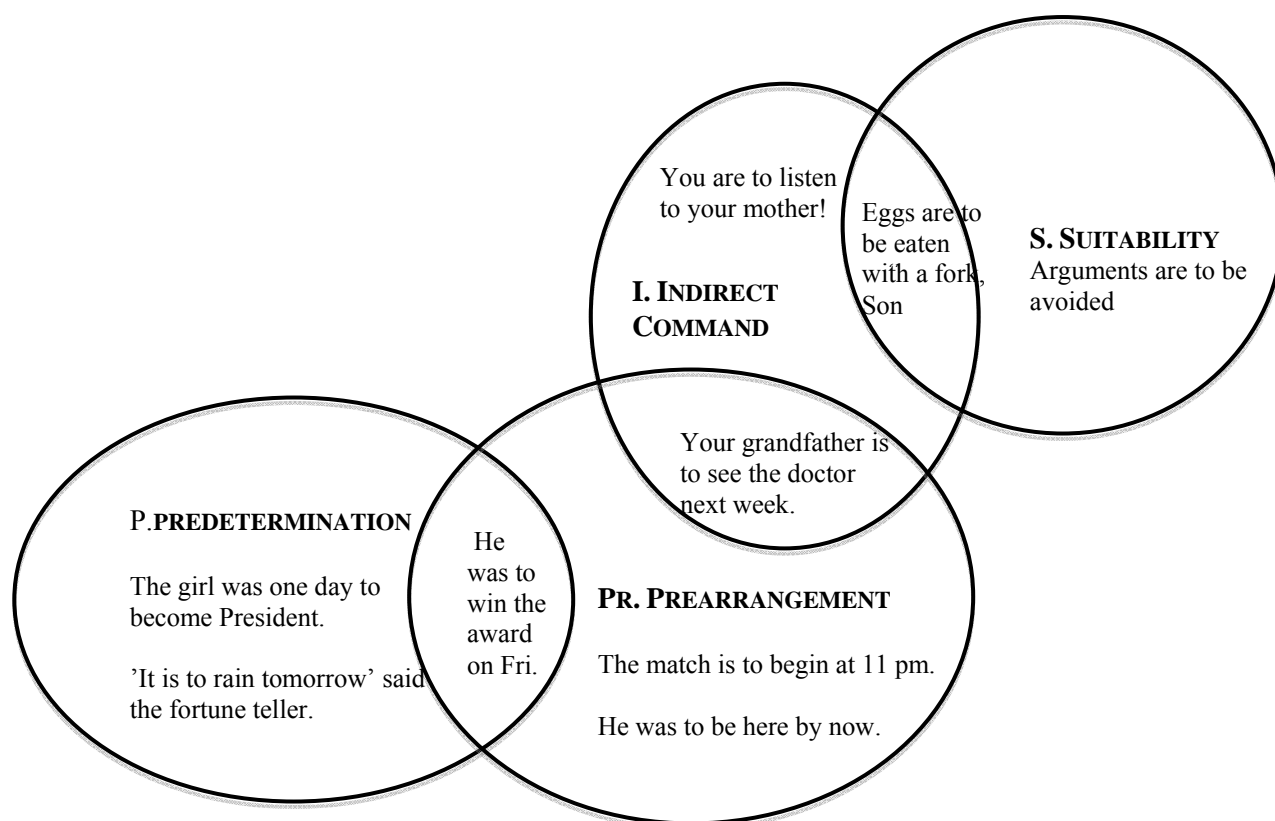

Figure 1: Distinct senses (with ambiguous and non-ambiguous examples) of the *is-to* construction

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[4] Palmer (1979: 146-148) would classify prearrangement and predetermination as temporal senses, and suitability and indirect command as modal ones. We do not elaborate on the relation between futurity and modality, which is a long-standing debate on its own (e.g. Salkie 2010) (cf. also Bergs 2010, who briefly touches upon *is-to* in a Construction Grammar account of English expressions of future and takes the *is-to* construction to be fundamentally temporal). We will, however, stress in section 6.3 that the *is-to* construction is similar in some ways to modal auxiliaries, as is future-modal English *will* for that matter.

4. Register and relative status restriction

The *is-to* construction is subject to special pragmatic requirements, in that it has a slightly formal or higher register flavor to it.[5] This register restriction explains why one child is not likely to scream at another:

(30)   #You are to stay away from my toys![6]
(31)   #Candy gushers are to be eaten one at a time!

A related constraint is that the indirect command and suitability senses are only felicitous if the speaker assumes authority over the listener. For example, it would be considered rude for a son or daughter to use the construction when speaking to a parent, even if fully grown, or for a student to use it to address a teacher.

            Adult son or daughter to parent (indirect command):
(32)   #You are to arrive at the concert at 9.

            Adult son or daughter to parent (suitability interpretation):
(33)   #Cars are to drive on the right side of the street.

This is not always true of indirect commands, as the following paraphrases demonstrate:

            Adult son or daughter to parent (indirect command):
(34)   You're supposed to arrive at the concert at 9.

            Adult student to teacher (future-oriented use):
(35)   Cars are supposed to drive on the right side of the street.

Therefore it seems to be a special constraint on the *is-to* construction. We will represent the constraint that the speaker assumes a higher status than the addressee with the following diacritic: >:--| . This authority constraint does not hold of the prearrangement sense, as the following example can be uttered by a student to a professor without any ill-formedness.

(36)   Professor, my sister is to be on Oprah tomorrow!

The authority constraint is also not relevant to the predetermination sense.

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[5] The construction sounds more archaic in American English than in British English where *is-to* is declining at a slower rate (Leech 2003: 229, Nesselhauf 2006: 518, Robberechts 2008: 47).
[6] The construction is even less commonly used by younger speakers with the predetermination construal (a), but this is likely due to the fact that younger speakers are less likely to take a narrator's omniscient perspective:

(a)   #Who knew my little brother was to become taller than me?!

5. Temporal dimension

The construction evokes three distinguishable times: 1) the speech time, 2) a past reference time at which some prearrangement or determination of the future was made and 3) a situation that is potentially realized at a subsequent point in time (cf. Reichenbach 1947). When the copula is in the present tense, the temporal dimension can be diagrammed as in Figure 2:
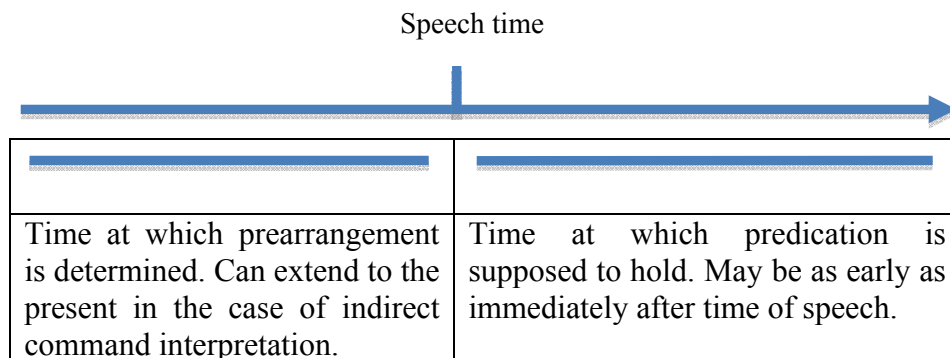
Speech time

Time at which prearrangement is determined. Can extend to the present in the case of indirect command interpretation.	Time at which predication is supposed to hold. May be as early as immediately after time of speech.

Figure 2: Time periods evoked by the is-to construction in the present tense

When used in the past tense, the interpretation of the construction requires reference to a distal past reference time (see Figure 3). The time at which the predication is supposed to hold can be before the speech time (37a), the time of speech (37b) or after the time of speech (37c):

(37)   a.   He was to be here yesterday.
        b.   He was to be here now.
        c.   He was to be here tomorrow.

Speech time

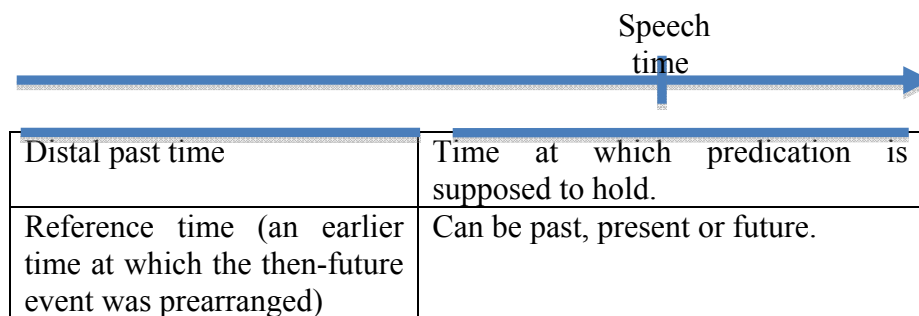| Distal past time	Time at which predication is supposed to hold.
Reference time (an earlier time at which the then-future event was prearranged)	Can be past, present or future.

Figure 3: Time periods evoked by the *is-to* construction in past tense

6. Motivation the form and function of the construction

We can represent the construction as follows:

(38) Syntax: *[BE_{tense} [VP_{to}]]_{vp}*
        Semantics: *"subject raising" PrIPS*
        Pragmatics: Formal register; *I-S >:--/*

The construction inherits its syntactic and properties from the more general recursive VP construction that involves VP complements. In this way, the recursive potential of the construction is captured quite simply. The recursive VP construction is instantiated with several intransitive "subject-raising" verbs such as *seem* and *appear*, as well as other verbs that take infinitive complements (cf. Gisborne 2008).   However, unlike these verbs, the *is-to* construction must specify the additional special semantic, formal, and pragmatic properties detailed above. In what follows, we motivate many of these properties by appealing to independently needed constructions; aspects of the *is to* construction that are motivated are indicated by italics in 38.

6.1 The copula predicative construction

The copula predicative construction (e.g., *Elena is a doctor)* is distinct from the *is-to* construction, even though the predicate may be an infinitival verb phrase as it is in (39) and (40). Notice that in these regular copula examples, the grammatical subject, *the hope* or *the goal* is not the semantic subject of the lower clause. For instance, example (40) does not imply that the hope itself will reintroduce bison; rather it is understood that people would be the ones to reintroduce bison.

(39)   "The hope is to reintroduce bison to the landscape one day"
(40)   "The goal is to overwhelm them with the visual experience."

Further evidence that these examples are not instances of the special *is-to* construction comes from the fact that predicative instances readily allow the copula to be nonfinite:

(41)   Steve wants the goal to be to overwhelm them with the visual experience.

At the same time that the two constructions are distinguishable, they are clearly related. *In fact, the copula predicative construction helps motivate the is-to construction. Notice that the semantic interpretation of these predicative constructions is that the predicate holds of the subject argument. We can represent this in the very simple predicate-argument structure in (42):*

(42)   a.   Doctor (Elena) : Elena is a doctor.
        b.   Count-as-a-construction (This): This is to count as a construction.

In the case of the is-to construction, we see that the range of possible semantic interpretations are quite close to predication. What could it possibly mean to predicate a

state or activity of an entity? The entity would be interpreted to perform the activity or be in the state. The semantic aspects that are not strictly predicted by the simple predication construction are a) the fact that the situation is to hold at a subsequent point of time, and b) the specific PrIPS interpretations (recall Figure 1).   It is possible to motivate the fact that the construction is typically used to convey an attitude toward future events with the regular infinitive marked construction.

6.2 The to-infinitive construction

The *is-to* construction by hypothesis involves both the normal copula and the normal *to*-marked infinitive. Wierzbicka (1988: 217ff) points out that the latter, the *to*-marked infinitive, is often associated with a future orientation (cf. also Duffley 1992). For example, she observes the difference between the following two sentences:

(43)   He thought about falling down.
(44)   He thought to fall down.

The future orientation of *to* infinitives is also evident in adjuncts with an "in order to" interpretation:

(45)   He stopped to see her.

In both (44) and (45) the event designated by the infinitive is subsequent to the event designated by the main verb. When the order of events is reversed, the *to* infinitive is typically not allowed:

(46)   *She regretted to go.
(47)   She regretted going. (the regretting follows the going)

(48)   She was condemned to go. (the condemning precedes the going)
(49)   She was condemned for going. (the condemning follows the going)

Thus the [V[VP$_{to}$] construction *inherits* its future orientation from the [VP$_{to}$] construction. The more specific aspects of its semantic possibilities (recall Figure 1) nonetheless require stipulation.

6.3. Relationship to modals

In all of its uses the *is-to* construction has a modal-like meaning and the requirement that *be* must be tensed is reminiscent of other modal verbs such as *must* or *should* (cf. also Suragayama 2005, Declerck 2010):

(50)   a.   She must/should go.
        b.   *She was musting/shoulding to go.
        c.   *She will must/should go.
        d.   *She did must/should go.

Ultimately there is likely an explanation for this fact about modals often being tensed, but for our purposes, we simply note the shared characteristic. An abstract Modal auxiliary construction captures this characteristic as well as the fact that modals inherit "NICE" properties (Huddelston 1976: 333) from a general Auxiliary construction.

(51) NICE Properties of Auxiliaries
    a. Negation: they can be directly followed by negation.
    b. Inversion: they invert in subject-auxiliary inversion.
    c. "Code": they can serve as answers to questions with their VPs elided.
    d. Emphasis: they can be used for emphasis.

All of these properties hold of the *is* in the *is to* construction as well.

At the same time, *unlike* most modal verbs. the *is-to* construction requires its infinitival complement to appear with the marker *to*:

(52) a. *She is go.
    b. She is to go.

Kayne (2007a, b) takes this fact to conclusively indicate that *be* is not a modal. However, it is difficult to state categorical properties of the whole category of modals, which is currently undergoing changes that extend to the presence of the *to* infinitive marker (Krug 2000). As Kayne acknowledges, *ought*, uncontroversially a modal, does optionally allow the infinitive marker, *to:*

(53) She ought to go.

Considering the various related constructions together, we can represent the *is-to* construction within a default (non-monotonic) inheritance hierarchy (Flickinger 1985, Goldberg 1995) as a daughter node that inherits all non-conflicting information from the related constructions, represented as mother nodes. Following Lakoff (1987) and Goldberg (1995), the inheritance relationship is used to capture the notion of motivation: i.e., the existence of the mother nodes motivates the daughter node, making it more likely to exist and presumably easier to learn and use. A diagram of related constructions is provided in Figure 4.
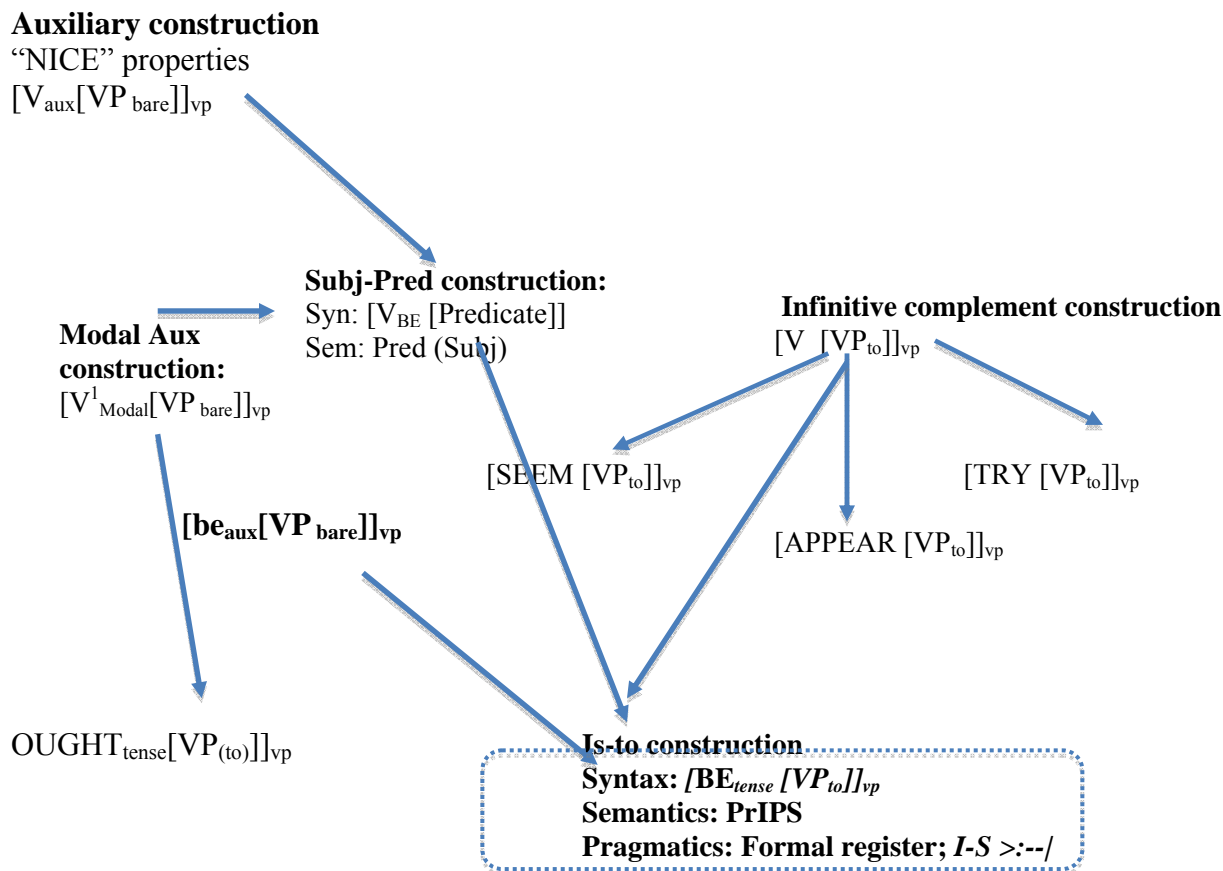
Auxiliary construction
"NICE" properties
$[V_{aux}[VP_{bare}]]_{vp}$

Subj-Pred construction:
Syn: $[V_{BE} [Predicate]]$
Sem: Pred (Subj)

Infinitive complement construction
$[V\_[VP_{to}]]_{vp}$

Modal Aux construction:
$[V^1_{Modal}[VP_{bare}]]_{vp}$

$[SEEM [VP_{to}]]_{vp}$

$[TRY [VP_{to}]]_{vp}$

$[be_{aux}[VP_{bare}]]_{vp}$

$[APPEAR [VP_{to}]]_{vp}$

$OUGHT_{tense}[VP_{(to)}]]_{vp}$

Is-to construction
Syntax: *[BE_{tense} [VP_{to}]]_{vp}*
Semantics: PrIPS
Pragmatics: Formal register; *I-S >:--/*

Figure 4: The constructions that motivate the various properties
of the *is-to* construction

There's no getting around the fact that the *is-to* construction is a quirky construction of English with particular synchronic formal, semantic and pragmatic properties. In this way, the construction can be established as an *encoding* "idiom" (Makkai 1972), in the sense that it would be difficult to know that English encodes the particular range of meanings with this particular form. At the same time, its form-function mapping is strongly motivated by its relation to the general copula predication construction, the *to*-infinitive complement construction, and the modal construction. In this way, encoding idioms contrast with *decoding* idioms that are difficult to decode (as well as encode) since they are relatively unmotivated (e.g., *kick the bucket, by and large* are decoding idioms). It would be possible to further support the idea that the form/function combination of the *is to* construction is motivated by investigating whether young children or second language learners who do not use the construction and who have rarely witnessed it, can nonetheless figure out what its intended meaning is.

7. The "object-raising" *be-to* construction

The *is-to* construction under discussion must be distinguished from a number of other constructions. The first is a superficially similar, highly restricted construction, in which the subject argument is semantically the *object* of an active lower clause verb (54a). Notice that there is no tense restriction (54b) in this case:

(54)　a.　　　He is to blame for the failure.
　　　　b.　　　He has always been to blame for the failure.

In English the object-raising construction is essentially a relic (Jespersen 1961: 233, Visser 1969: 1459). It is only possible with certain lower verbs, such as *blame*:

(55)　*He is to criticize for the failure.
(56)　*He is to praise for the success.

Interestingly, there may be reason to speculate that the *is-to* subject-raising construction may have played a role in the demise of the *is-to* object raising construction. That is, the two constructions largely fill the same semantic niche when the lower clause of the subject-raising construction is an agentless passive as in (57):

(57)　He is to be blamed for the failure.　　*is-to* construction with passive lower verb
(58)　He is to blame for the failure.　　　　Object-raising construction (relic)

And it turns out that passive lower clauses are unusually common in the *is-to* construction. In a study of written British and American English, based on random samples of 100 instances from the LOB, FLOB, BROWN and FROWN corpora, Robberechts (2008: 14) found that passive infinitives accounted for a full 40% of occurrences. It may also be relevant that while the English subject-raising *is-to* construction is productive, and the object-raising construction is not, the reverse situation exists in Dutch and German. In the latter languages, it is the object-raising construction that is productive, and they do not have the subject-raising construction (cf. Kayne 2007a, b). At least in West Germanic, therefore, languages would seem to have one or the other (as a productive construction), but not both. This idea predicts that passivized lower verbs may also be unusually frequent in Dutch and German, which remains to be tested.

In addition to uses involving the verb, *blame,* there are a few other highly restricted subcases of the object-raising *be to* construction. The construction exists as the *What's to VP?* construction as in (59), which has a Yinglish (Yiddish-English) ring to it.

(59)　"With everyone so darned nice, what's to report?"

There are also a few other fixed phrases such as *this is (not) to say*, as in (60).

(60)　"This is not to say that the dialogue in a Hitchcock film is incidental"

In (60) the subject of *is-to,* i.e. *this*, is neither the subject nor the object of *say.* Visser (1969: 1464-1465) points out that *is to say* may be a loan translation from French. Another fixed phrase is *is to do with*, as in (61).

(61)   "Good science journalism is to do with sharing information about and providing an understanding of science."

According to Visser (1969: 1471) this phrase is fairly recent (20th century), and it is due to analogy to or confusion with *has to do with*. Consistent with Visser's observation, *is to do with* sounds decidedly marked to us.

These other types of examples are distinct from the *is-to* construction that is the focus of the present work; they also need to be represented in a complete network of constructions, but we leave them aside for present purposes.

8. Predicting how the construction interacts with other constructions

The current account of the *is to* construction allows for certain properties that have been stipulated in other accounts. For example, we can allow for the fact that the copula is not present in certain utterances by appealing to predictable interactions with other independently needed constructions. In particular, the prearrangement semantics of the *is-to* construction is evoked by the following attested headlines:

(62)   a.   Obama to Visit New Orleans for Hurricane Katrina Anniversary
             (Voice of America, Aug 27, 2010)
       b.   Chelsea Clinton To Host Bike Ride For Haiti Charity
             (Huffington Post, August 23, 2010)

But of course, headlines quite generally allow the omission of the copula and other inferable items, as the following examples demonstrate:

(63)   a.   Cabbie-slash suspect taken to psych ward
             (MSN.com August 27, 2010)
       b.   Kim Kardashian Reggie Bush vacationing in Las Vegas
             (globalgrind.com/ August 27, 2010)

In (63b), not only is the copula omitted, but the conjunction, *and*, is omitted as well. Presumably no one would want to say that *and* is not a critical part of the general conjunction construction. Clearly, headlines (and telegrams) have their own peculiar properties that serve to override certain otherwise strict constraints.

Similarly, there exist infinitive relative clause uses that share properties with the *is-to* construction, but that lack the copula verb (Akiyama 2010). But then postnominal modifiers generally do not require a tensed verb, whether they are instances of the *is-to* construction (64-65) or some other predicative construction (66-67).

(64)   "Fritz Henderson is the right person to assume this role."

(65)   John is the man to wash the dishes.
        (Dik 1983: 138, Goossens 1992: 61)

(66)   She saw a man in the barn.
(67)   She saw a man leaving the theatre.

Therefore, we do not need to base the function of the construction solely on *to* (pace Dik 1983, Goossens 1992). In fact, it is critical to include the copula in a statement of the construction in order to account for the requirement that the copula must be tensed when it is present. The constructionist proposal allows us to assign the function of the construction to the *combination* of *be* and the *to* marked infinitive phrase, as opposed to assigning the special function to either *be* or *to* or the infinitive construction on their own. When the *is-to* construction is combined with certain other independently needed constructions, predictable effects ensue, such as the omission of an otherwise obligatory copula.[7]

9. Some previous accounts

9.1 Word Grammar and Functional Grammar

Sugayama's (2005) offers an account of the construction within the Word Grammar ("WG") framework, a cousin framework of the constructionist approach. Several similarities between the present account and the WG proposal have already been mentioned. These include treating *be* as an instance of the normal (tensed) copula and using a default inheritance hierarchy to relate aspects of the pattern to both the copula and modal constructions.

The main difference between the two approaches stems from the fact that WG attempts to account for all of grammar in terms of asymmetric dependencies between words. WG "basically [makes] no reference to any grammatical unit larger than a word" (Sugayama 2005: 69). In particular, "the sense of the whole construction is determined by the sense of *to*" (Sugayama 2005:81). However, clearly the range of PrIPS interpretations are not evident in other uses of *to*. Moreover, the fact that the regular copula predication construction helps motivate the function of the construction is not captured by an account that posits the entire function in *to*.

The Amsterdam Functional Grammar model is like Word Grammar in that the modal sense is exclusively tied to the *to* infinitive (Dik 1983, Goossens 1992). Their key argument is that infinitival relatives lack *be* (recall examples 64-65). The constructionist account treats this fact as predictable from the combination of the *is-to* and postnominal-modifier constructions.

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[7] We are assuming that it is possible to predict the fact that only the prearrangement interpretation exists in copula-less headlines and only the suitability sense appears in the postnominal modifier construction. If the semantics is not predictable, we would require a special daughter construction that inherits from both the headline (or postnominal modifier) construction and the *is-to* construction but that has a particular semantic requirement of its own.

In addition, the present account extends these and other earlier studies by observing several additional semantic and pragmatic properties of the construction, and by explicitly relating the various senses (see Figure 1).

9.2 *Is-to* as a modal auxiliary

Declerck (2010, combining and refining observations and hypotheses from his 1991 grammar) observes many special semantic properties of the pattern, as cited above. He ultimately suggests eight distinct senses, while we have posited four interrelated ones; this difference is likely due to a greater tolerance for underspecification on our part. There is additionally an excellent discussion of tense, conditionals and negation in Declerck's work, while the present work adds pragmatic restrictions to the construction. The present analysis also adds an explicit discussion of the relationship among the senses.

A more major difference between the two proposals is that Declerck treats *is-to* as a unit, a modal auxiliary, explicitly distinguishing it from the copula plus *to* infinitive (2010: 276) (cf. also Quirk et al 1985: 141). That is, *is-to* is posited as a unitary modal; the *to* is not interpreted as an infinitive marker. In support of this, Declerck notes that *is* does not have the modal meaning when *to* is not present. This latter fact is clearly true, but it follows from a constructionist account in which the special meaning arises from the *combination* of copula plus infinitival verb phrase.

Syntactic evidence suggests that the construction *is* syntactically a copula plus *to*-infinitive (cf. also Sugayama 2005). In particular, adjuncts can intervene just as they can with other similar complements:

(68)   He was never to see her again.
(69)   He hoped never to see her again.

Only the copula is inverted:

(70)   Was he to see her again?
(71)   *Was to he see her again?

And finally, the irregular forms of *be* are the same as the copula, which wouldn't necessarily be true if *be to* were a distinct, unique auxiliary, but is predicted by an account which treats *be* as the regular copula:

(72)   He *is*/They *are*/I *am* to have an appointment tomorrow.

Moreover, as was discussed in section 6.2, the *to* marked infinitive is generally associated with futurity, as it is in the *is-to* construction. Therefore recognizing the pattern as a construction with formal and functional properties allows us to capture its idiosyncratic properties while simultaneously motivating them.

9.3 Kayne's (2007) account of the *is-to* construction as a passive

Kayne (2007a, b) offers an analysis in which the oddity of *is-to* expressions is entirely located in the syntax. He posits a silent past participle EXPECTED and the semantics is assumed to follow from the corresponding passive syntax. That is, (73a) is argued to be identical to (73b), except that the past participle is invisible in (a) and not in (b).

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

This analysis is motivated by an attempt to assimilate this case to the familiar case of passives. If the special properties of the construction did follow from positing this single null word, the analysis might be compelling.

      Unfortunately, neither the formal, nor the semantic, nor the pragmatic properties are accounted for by positing an invisible past participle. Consider first the syntactic properties of the construction. The *by* phrase in Kayne's example is not a passive *by* phrase and no such *by* phrase can appear:

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

This in itself would seem to render a passive analysis untenable. Moreover, the passive is clearly under no obligation to be tensed, unlike the *is-to* construction:

(75)   She wanted to be expected to aim high.
(76)   *She wanted to be to aim high.

      Kayne stipulates additional properties to try to predict the requirement that *be* must be tensed. Briefly, he posits that in addition to the silent EXPECTED, there is also a silent FOR, which moves from one side of the overt *be* to the other. This stipulation, together with some theory-internal assumptions that need not concern us, allows Kayne to avoid stipulating that the copula must be tensed. One might argue that there's no reason to prefer one stipulation (invisible FOR that moves) over another (the copula must be tensed). However, stipulating an indisputable fact (*be* must be tensed) is not on par with assuming that an invisible element is present and must move to a particular landing site. Simplicity favors that we state the tense restriction directly. The historical fact that the construction did not always require that the copula be tensed further supports the surface structure analysis, since while it may be motivated by a relation to modals, since many modals likewise are necessarily tensed, it is not strictly predictable.

      Beyond these arguments from Occam's razor, the argument for a silent FOR is undermined by the fact that no overt *for* is ever possible with passive verbs of the *expected*-type:

(77)   *She was expected for (him) to leave.

The only way to save the notion that an invisible FOR is present is to stipulate that some invisible elements may become visible (EXPECTED), while others may not (FOR). No discussion of this fact or motivation for the distinction is offered.

Additional problems for the passive analysis is that the verb *expected* does not capture the meaning of the construction accurately, as is clear from (78):

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

Notice only in b, is there an implication that she actually becomes President, as illustrated by the examples in (79a, b).

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

Other examples are likewise not semantically equivalent to a passive with *expected*:

(80) a. He is to expect you at 6:00.
      b. ≠ He is expected to expect you at 6:00.

(81) a. He was never again to open his eyes.
      b. ≠ He was never again expected to open his eyes.

(82) a. If I were to offer, would you accept?
      b. ≠ If I were expected to offer, would you accept?

The pragmatic restrictions on the construction (its formality, and the speaker's status vis a vis the addressee) are unaccounted for as well, since these restrictions do not hold of ordinary passives. To summarize, neither the syntactic nor the semantic nor the pragmatic properties of the construction are explained by an appeal to the passive. The account does not account adequately motivate any aspect of the construction.

Finally, there is another important argument against Kayne's account. The proposed *EXPECTED* lexical item is invisible. Therefore learners would have to figure out that it exists. But in order to do so, children would need to realize that there is something special about the element (Jensen 2000, Pinker & Jackendoff 2005): the special properties of form and meaning can instead be directly associated with the surface pattern.

10. Conclusion

We have argued that a *construction* is required to account for examples like that in (1)-(4), because such examples have certain semantic, syntactic and pragmatic restrictions that do not follow compositionally from any of the lexical items involved. That is, independent facts about the individual words involved do not predict the full range of properties of the construction. In particular, the construction requires that the copula be tensed. Also, there is a family of related meanings associated with the construction,

related to the notions of necessity and futurity (cf. also Sugayama 2005, Declerck (2010). Finally, the construction is restricted to a formal register and is used to convey suitability or an indirect command only when the speaker assumes authority over the listener.

At the same time, the construction's form-function mapping is strongly motivated by its relation to the general copula predication construction, the to-infinitive complement construction, and the modal construction. Motivation is captured via the default inheritance hierarchy by relating the *is-to* construction to these other constructions as a shared daughter, as was also done in the Word Grammar proposal. While the constructionist analysis is able to incorporate insights from previous accounts that treat the construction as a special sense of *be* or *to* or *be to*, it is in quite a different spirit than the recent generative proposal to treat the construction as a passive.

The current analysis aims to make clear how constructions can be at once nonpredictable and at the same time, nonarbitrary. Most constructions *make sense* or are motivated by the existence of related constructions with which they share aspects of form and function. Motivational relationships can be made explicit via a default inheritance hierarchy, which represents how our knowledge of language is not a set of unrelated idioms, but rather a network of *related* constructions.

The current analysis also provides an example of a recursive construction, recursion being an important means by which speakers can produce new utterances on the basis of a finite network of constructions. Thus the constructionist approach allows for creativity and regularity, while at the same time providing a full account of the special formal, semantic. and pragmatic properties that can be associated with linguistic patterns: *constructions.*

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