

## Comparative Syntax and English *Is To*\*

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A central aspect of comparative syntax calls for discovering generalizations over cross-linguistic differences and similarities, and then trying to understand, in general UG terms or beyond, why a given cross-linguistic correlation should hold in the first place. The primary importance of this type of comparative syntax work lies in the fact that it provides us with new kinds of evidence bearing on questions concerning the general character of the language faculty. Figuring out what cross-linguistic generalizations hold and why exactly they hold will invariably help us to narrow down the set of hypotheses that we entertain about the language faculty. In this paper, I will be interested in English *is to* (as in *You are to return by midnight*), when *is to* is studied from a (Romance and Germanic) comparative syntax perspective.

### 1. Introduction; silent elements

It will be useful to transpose Chomsky's (1964, 29) notions of observational, descriptive and explanatory adequacy to the realm of comparative syntax. Observational adequacy in the context of comparative syntax can be said to be achieved when one has gotten the facts of comparative syntax right. Facts in comparative syntax necessarily involve more than one language or dialect. (I will use the term 'language' to cover dialects, too.) They typically have the form 'Language A differs syntactically from Language B in the following way' or 'Language A and Language B are syntactically identical in the following respect'. A well-known example of the first sort would be 'French and English differ in that unstressed object pronouns precede the verb in French (apart from positive imperatives), but follow it in English', as in:

- (1) Vous les voyez souvent. ('you them see often')
- (2) You see them often.

A banal example of the second sort would be 'French and English are alike in that definite articles precede the associated nouns in both languages'. In a very large number of cases, such observations are, when the languages in question are both well-studied, completely straightforward.

The preceding examples involve just two languages, but comparative syntax sets no limit in principle on the number of languages to be compared. In practice, one limit is set by the number of languages/dialects currently spoken (plus those that are extinct yet to some extent accessible). A smaller limit is set in practice by our ability to discover and to understand data in large quantities.

'The facts' are of course the facts that one is concerned with, and not 'all the facts' of syntax or comparative syntax, whose order of magnitude lies, as in other sciences, far beyond our reach. This is true even for a single language.<sup>1</sup> Similarly, although syntacticians take as a primary object of study the set of possible human languages, that set is in its entirety far beyond our reach. To one degree or another, we have access to those languages currently

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<sup>1</sup> For example, Gross (1975, 18) estimated that the number of French sentences to be evaluated, even restricting oneself to sentences of 20 words or less, is on the order of  $10^{86}$ .

spoken and to an exceedingly small percentage of those previously spoken. To those not currently spoken but that might be spoken in the future, we have at present no access. This kind of limitation is, within the sciences, not specific to linguistics.

The two French-English comparisons just mentioned may give the impression that the observational side of comparative syntax is easy. It is and it is not. In the case of French and English syntax, two languages among the most widely studied, there are indeed innumerable solid facts that have been accumulated over the years and decades, reaching back to pre-generative syntax work.<sup>2</sup> Word order differences and similarities between French and English are often well-known. Other comparative syntax facts may be less well-known.

For example, French has no exact, word-for-word counterpart of:

(3) At the age of seven, Mary could speak three languages.

French would need to express *years* (= *ans*) overtly:

(4) A l'âge de sept ans, Marie...

Contrary to English, omitting *ans* here would not be possible:

(5) \*A l'âge de sept, Marie...

It seems fair to say that this kind of cross-linguistic difference has been studied appreciably less than word order differences. What languages act like English in (3) and what languages act like French in (4)/(5) is little known. What sort of parameters underlie this kind of difference is not yet well understood.<sup>3</sup> Further cross-linguistic work is certain to lead to an increase in our understanding of such silent elements more generally.

As usual, cross-linguistic work and work internal to one language complement each other. Let us take another example of a silent noun that is available in English in a way that seems fairly close to (3). This particular example arises in the context of the game of baseball. English allows:

(6) Our team won the game with two home runs in the seventh (inning).

Here, *inning* can either be pronounced or left silent. This contrasts with:

(7) Our team won the game with two seventh \*(inning) home runs.

in which *inning* is not allowed to remain silent. The restriction seen in (7) appears to be a kind of 'left-branch' constraint, but that cannot be exactly right, given the fairly acceptable:<sup>4</sup>

(8) ?Our team won the game with two top of the seventh home runs.

in which *inning* can remain silent much more readily than in (7).

It seems, instead, that silent *inning* is favored by the greater amount of syntactic structure associated with *top of the seventh inning* in (8) as compared with just *seventh inning* in (7). This in turn is reminiscent of the well-known pair:

(9) John criticized him.

(10) John criticized himself.

in which the extra structure associated with *self* in (10) makes available an interpretation in which *him* takes *John* as antecedent, which is not possible in (9), where *self* is lacking. Kayne (2002) had proposed that the extra DP structure induced by *self* provides an additional A-bar-

<sup>2</sup> For example to Jespersen (1970-1974) for English or to Martinon (1927) and Grevisse (1993) for French.

<sup>3</sup> For initial proposals, see Kayne (2003) and Cinque and Krapova (2007).

<sup>4</sup> The word *top* in this example modifies a silent counterpart of *half*.

i) two top HALF of the seventh INNING home runs  
(where capital letters indicate silence).

like position in (10) that *John* can avail itself of in the course of moving from within the complex doubling DP containing *him* (but not *self*) up to the subject theta position associated with *criticize*. In partially similar fashion, we can take *top of the seventh* in (8) to make available to silent *inning* a specifier position not available to it in (7), with that specifier position a necessary component of the derivational silence of *inning* (or any other comparable silent element), essentially as in Kayne (2006).

The licensing conditions for silent elements, especially those that lack any obvious antecedent (as with silent *inning* in (6) and (8) and silent *years* in (3)) will be relevant to the derivation of English *is to*, as will become clearer later on.

The most interesting starting point for comparative syntax work<sup>5</sup> is often the observation of differences, often of differences that are ‘surprising’ (against the background of what is known about syntax in general). Subsequently, one can attempt to achieve descriptive adequacy by discovering generalizations over the comparative observations that have been made.

As an example of a (unidirectional) comparative syntax correlation, let us look at the property of having (or not) a transitive verb corresponding to English *need* and the property of having (or not) a transitive verb corresponding to English *have*. Harves and Kayne (2012) discovered that if a language has transitive *need*, then it necessarily has transitive *have* (though not the other way around).

This comparative syntax generalization about *need* and *have*, although finer-grained, is similar to some of Greenberg’s (1966) universals. More specifically, it is similar to those that he put forth as being exceptionless. Just as the Harves and Kayne (2012) generalization can be tested across more and more languages in future work, so have Greenberg’s proposals for exceptionless generalizations been tested to some extent.<sup>6</sup> Our generalization about *need* and *have* is not, however, comparable to those of Greenberg’s ‘universals’ that he put forth as ‘(overwhelming or strong) tendencies’, which are far more difficult to test than those put forth as exceptionless.<sup>7</sup>

In comparative syntax, as in syntax in general, one can and must aim at explanatory adequacy, above and beyond observational and descriptive adequacy. In the case of comparative syntax, we can try to understand, in general UG terms (or perhaps beyond<sup>8</sup>), why a given cross-linguistic correlation should hold in the first place. For example, Harves and

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<sup>5</sup> See, for example, the various papers by different authors in Cinque and Kayne (2005); also the website of the Atlante Sintattico d’Italia/Syntactic Atlas of Italy (<http://asis-cnr.unipd.it>). For an extensive list of projects on dialect syntax, see the Edisyn website at [http://www.dialectsyntax.org/wiki/Projects\\_on\\_dialect\\_syntax](http://www.dialectsyntax.org/wiki/Projects_on_dialect_syntax). For comparative syntax in a historical context, see Longobardi and Guardiano (2009).

As Chris Collins (p.c.) emphasizes, the term ‘comparative syntax’ can also be used to cover work in which cross-linguistic correlations are not central, e.g. work in which the observation that one language has a certain kind of overt morpheme is used to justify positing a comparable morpheme in another language or languages - cf. Rizzi (1997), Kayne (2005a) and especially Cinque (1999).

<sup>6</sup> Especially by Dryer (1992) and in other work of his.

<sup>7</sup> The distinction between ‘tendencies’ and universals is overlooked by Dunn et al. (2011), who in particular misinterpret the proposed universals of generative syntax as ‘tendencies’. Nor is the distinction made sufficiently clear in Boeckx (2010).

<sup>8</sup> See Chomsky (2004).

Kayne (2012) propose that the reason that transitive *need* depends on transitive *have* is that the only way in which the language faculty allows transitive *need* at all is via incorporation of nominal *need* to a silent counterpart of an otherwise existing transitive *have*.<sup>9</sup>

In all such cases, one needs to ask why exactly it is that something found in the syntax of one language is not found in the syntax of the next. It is hardly satisfactory to say (at least not before a great deal of additional work has been done) that ‘that’s just a lexical difference’, and in the case of *need* and *have* saying that would, if Harves and Kayne (2012) are correct, clearly be wrong (in addition to being insufficiently ambitious). One must be as ambitious (in a reasonable way) about properties that we are used to calling ‘lexical’ (e.g. whether a language has a transitive verb *need* or not) as about more familiar syntactic properties. It seems certain that, as in the case of idioms (cf. Nunberg et al. (1994)), what we think of as lexical properties are far from being wholly arbitrary.

It is to be noted that both for comparative syntax and for syntax in general there is no suggestion in any of the preceding discussion that descriptive adequacy must be met in a fully prior way to explanatory adequacy or that descriptive adequacy must fully wait until observational adequacy is met. In practice one must aim at all three simultaneously, and work simultaneously on developing more and more observations, generalizations and explanations.<sup>10</sup>

Nor is there any suggestion in what precedes that comparative syntax is solely interested in delineating the parameters that underlie cross-linguistic syntactic differences.<sup>11</sup> If anything, the primary importance of correlation-based comparative syntax lies in the fact that it provides us with new kinds of evidence bearing on questions concerning the general character of the language faculty. Figuring out what cross-linguistic generalizations hold and why exactly they hold will invariably help us in the critical task of narrowing down the set of hypotheses that we entertain about the language faculty.

## 2. English *is to*

Let me now turn to more detailed questions concerning English *is to* and its absence in other Germanic languages and in Romance languages. What will be at issue are English sentences like:

(11) You are to return home before midnight.

with respect to which Huddleston (2002, 206) speaks of a deontic quasi-modal use of *be*. But we can and must ask:<sup>12</sup>

(12) How could *be* possibly ‘shift’ to a deontic modal interpretation? What theory of syntax/semantics could allow that without allowing all sorts of unwanted, but imaginable ‘shifts’?

<sup>9</sup> In the manner of Hale and Keyser (1993: 2002). As always, there are further questions, e.g., why does the language faculty not have *need* among the set of light verbs?

<sup>10</sup> Despite the fact that the rhetoric of the field sometimes puts disproportionate emphasis on the explanatory frontiers at the expense of the observational and descriptive.

<sup>11</sup> In the realm of parameters, of critical importance is the delineation of what a syntactic parameter can be, i.e. of what the limits are on syntactic variation; for recent important discussion, see Rizzi (2009).

<sup>12</sup> The position I will take concerning *is to* is akin to Bhatt’s (1998) having a covert modal in the *have to* construction.

(13) If *be* were really modal-like in (11), why would *to* be obligatory in (11), contrary to the general case of modals?

This obligatoriness is illustrated in:

(14) \*You are return home before midnight.

A third question is of the comparative syntax type:<sup>13</sup>

(15) Why is *is to* as in (11) limited to English, within the Germanic and Romance languages?

I note in passing, thinking of (13), that English *ought* resembles *is to* only in part. While it is true that in some English *ought* can be followed by *to* while simultaneously showing modal-like behavior, as in:

(16) Ought he to be allowed to appear in public? (example from Pullum and Wilson (1977, 746))

*ought* differs sharply from *is to* in that *ought* can in some English appear without *to* while showing modal-like behavior:

(17) Oughtn't we leave immediately?

This is strongly impossible with *is to*:

(18) \*Isn't he leave immediately?

The third question, i.e. (15), is the one that I will address most directly in this paper. The basic fact is that although (11) is acceptable in English, it is surprisingly the case that word-for-word counterparts of (11) in other Germanic languages are not possible. Nor does (11) have a word-for-word counterpart in any Romance language that I know of.

In reflecting on this comparative fact, it is essential to keep in mind that the absence of (11) in other Germanic and in Romance is not mimicked by 'easy to please' sentences such as:

(19) This book is easy to read.

For example, French has a counterpart of (19), as in:

(20) Ce livre est facile à lire. ('this book is easy to read')

Yet French lacks a direct counterpart of (11), as shown by the unacceptability of:<sup>14</sup>

(21) \*Tu es à rentrer avant minuit. ('you are to return-home before midnight')

Given this, the analysis I will develop for English *is to* will not and should not carry over in any exact way to *easy to please* (though *is to* and *easy to please* might have derivations with something in common). More strikingly, French, even while disallowing (21), does allow:

(22) Ce livre est à relire. ('this book is to reread')

with the key difference being that in (22) there is an object gap within the infinitival embedding (as there is in (20)), rather than the subject gap found in (21) and (11). The analysis to be

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<sup>13</sup> This kind of question is not asked in Goldberg and van der Auwera (to appear).

<sup>14</sup> Replacing *à* in this example by the other French infinitival complementizer *de* would not help:

i) \*Tu es de rentrer avant minuit.

Trask (1995, 219) mentions medieval Romance *Es de venir*, in the apparent sense of 'He is to come'. If the interpretation does match English, the key question (in addition to questions about the associated complementizer system) is probably whether the embedded gap is pre-V or, thinking of Rizzi (1982, chap. 4), post-V, in which case this type of medieval Romance sentence might be more akin to (22) and Perlmutter (1976) would be relevant.

developed shortly will attempt to account for the core fact that *is to* with a following infinitival subject gap is not found in other Germanic or in Romance.

The fact that French (along with various other languages of the Romance and Germanic families) allows (22) and that English normally does not:

(23) \*This book is to reread.

constitutes another comparative syntax fact of potential interest, but I will not try to make progress on it in this paper.

We can take (11) to exemplify a familiar puzzle. A certain type of sentence is found in one language, but is impossible in many others. If it is found in one language, then the language faculty clearly allows for that type of sentence to exist. Why, then, is that type of sentence so rare (relative to the set of languages under consideration), and why (in this case) is it specifically English that allows it? A possible answer in the general case is that the rare type of sentence at issue depends for its existence on another, non-obvious, and rare, property of the specific language in question. Applied to (11), this translates to the idea that the existence of (11) may turn out to depend on the existence in English of something else that English allows but that is rare relative to the rest of Germanic and to Romance.

### 3. English *for*

This something else is, I will suggest, the prepositional complementizer *for* that can in English in certain cases introduce an embedded infinitival sentence with a lexical/pronounced subject, whether that embedded sentence is the complement of a verb (or other predicate), as in:

(24) We would like very much for there not to be any more meetings.

or the subject of a verb (or other predicate), as in:

(25) For there to be more meetings would be a good thing.

In these two cases, *for* cannot be omitted:<sup>15</sup>

(26) \*We would like very much there not to be any more meetings.

(27) \*There to be more meetings would be a good thing.

A familiar way of thinking about these facts is to say that this English *for* has the property that it can make it possible, as in (24) and (25), for an infinitive to have a visible (non-silent) subject, in a range of cases where that infinitive would otherwise not be able to have one (as shown by (26) and (27)).

As far as I know, no other Germanic language and no Romance language has a prepositional complementizer with exactly this property.<sup>16</sup> We therefore have the following correlation, of the comparative syntax type:

<sup>15</sup> Complementizer *for* can be omitted/silent in some cases:

i) We would like there to be more meetings.

This does not directly affect the text discussion.

<sup>16</sup> Prepositional complementizers per se are common in Germanic and in Romance. It is only the property of having a prepositional complementizer able to license a pronounced infinitival subject in the English manner that is at issue.

The diachronic expectation here is that *is to* with a deontic-like interpretation and a subject gap within the infinitive did not enter English until after *for* (with the ECM- and complementizer-like properties that it has in contemporary English) did.

(28) A Romance or Germanic language has *is to* as in (11) only if it has a prepositional complementizer *for* of the sort seen in (24)-(25).

The next question is, why should (28) itself hold? What exactly is it that links *is to* to *for*? A beginning to the most straightforward possible answer is that an *is to* sentence like (11) is linked to *for* because an *is to* sentence must necessarily contain (a silent counterpart of) *for*. Consequently, a language with no *for* will be unable to allow *is to* sentences like (11). Since within Germanic and Romance only English has this sort of *for*, only English has *is to* of the sort found in (11).

In apparent contrast to what was just said in the preceding paragraph, (11) itself displays no overt *for*. It follows that (11) must contain a silent instance of *for*, which I will write as FOR. (It must also be the case that a language can have the necessary silent FOR only if it has visible *for* with the properties seen in (24)-(27).<sup>17</sup>) In other words, we have reached the conclusion that (11) is to be thought of as:

(29) you are ... FOR ... to return home before midnight  
in which FOR is a silent counterpart of complementizer *for*.

#### 4. Raising vs. control

As for the status of the unpronounced subject of the infinitive in *is to* sentences, it is clear that *is to* shows raising properties:<sup>18</sup>

(30) There is to be no noise whatsoever.

(31) Tabs are to be kept on them all day long.

and it is therefore clear that that subject of the infinitive can be the 'trace' of movement to the subject position of matrix *be*. As is often the case with raising predicates, it is less easy to directly show that *is to* can never be an instance of control (in addition to allowing a raising derivation). Nevertheless, I will take *is to* to invariably be an instance of raising, in part on the basis of the following conjecture:

(32) No matrix predicate is ambiguously a raising or a control predicate.

Relevant here is the fact that *need* in English displays raising properties:

(33) There needs to be quiet here.

(34) Tabs need to be kept on them.

Yet *be in need of* does not:

(35) You're in need of working harder.

(36) \*There's in need of being less noise here.

(37) \*Tabs are in need of being kept on them.

Nor does overt *have need*:

(38) They have a (desperate) need to be loved.

(39) \*There has a (desperate) need to be less noise here.

<sup>17</sup> Cf. note 15 and the second paragraph of note 16. On *for*/FOR, cf. Bresnan (1972) and Kayne (1981a, sect. 2.3).

There are speakers of British English who disallow overt *for* in (24).

For the purposes of this discussion, speaking of silent FOR is equivalent to speaking of deleting *for*. For a proposal to the effect that deletion operations are not, strictly speaking, necessary, see Kayne (2006).

<sup>18</sup> I am grateful to Chris Collins for examples like these and for leading me to make this point more explicitly than in earlier versions of this work.

(40) \*Tabs have a (desperate) need to be kept on them.

Similarly, I think, there is a sharp contrast involving *sure*:

(41) There is sure to be a problem with our analysis.

(42) \*There is a sure thing to be a problem with our analysis.

The facts of (33)-(42) suggest that raising predicates have to be 'minimal' in a way that control predicates do not have to be. A strengthening of this suggestion would be:

(43) Control predicates are always more complex in structure than related raising predicates.

In the case of *need*, consider now Harves and Kayne's (2012) claim that, universally, transitive *need* is 'HAVE need', with a derivation in which nominal *need* raises to a silent counterpart of transitive *have*. Assume that this 'HAVE need' analysis carries over to raising sentences with *need*, as in (33)/(34). Then the specific way in which raising *need* is less complex than control *have a need* in (38)-(40) is (at least) that *have a need* involves an indefinite article that is absent in the case of raising *need*.

Let us now return to (29), repeated here:

(44) you are ... FOR ... to return home before midnight

Given (30) and (31), this can clearly correspond to a raising structure. If the matrix predicate in (44) were just *be* (which is highly unlikely) and if there could be no complex X such that *be* is to X as 'HAVE need' is to 'have a need', then there could be no control counterpart of (44). If the matrix predicate in (44) is, more accurately, *be* plus a silent predicate, as I will suggest shortly, and if the silence of that predicate (or some other property of it) is incompatible with there being a more complex counterpart of it, then by (43) there can again be no control variant of (44).

##### 5. The insufficiency of *be*

Given then that *is to* is an instance of raising and only that, (44) should be made more explicit and revised to:

(45) you are ... FOR <you> to return home before midnight

where '<you>' indicates the 'trace' of raising. This revision is itself neutral as to whether the matrix predicate in (45) is just *be* or more than just *be*. That it must be more than just *be* is suggested by at least the following two considerations. First, as noted by Pullum and Wilson (1977, note 4), *is to* is possible only in finite contexts:

(46) You are/were to return home before midnight

but not:

(47) \*You may/might be to return home before midnight.

(48) \*He should definitely be to return home before midnight.

(49) \*For you to be to return home before midnight would be an excellent idea.

(50) \*I wonder what makes him be to return home before midnight.

(51) \*Despite their being to return home before midnight,...

Since other instances of *be* in English do not show this restriction,<sup>19</sup> having just *be* as the

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<sup>19</sup> For example:

i) Despite (his) being hard to please, John is well-liked.

ii) We would like to be in Paris.

iii) They would not like to be arrested.

etc.

On the other hand, there are finite vs. non-finite contrasts with *gonna*:



matrix predicate in (45)/(46) would leave one with little hope of understanding why the examples in (47)-(51) are unacceptable.<sup>20</sup>

A second consideration suggesting that there must be more to the matrix part of (45)/(46) than just *be* comes from the limitation of *is to* to English (within the Germanic and Romance families). This consideration is intertwined with the presence of silent FOR in (45)/(46). The postulation of the presence of FOR in *is to* sentences directly reflects one of the core hypotheses of this paper, namely the idea that *is to* is limited to English because *is to* depends on *for*/FOR and that complementizer is limited to English (within the two families in question). But why exactly is *is to* dependent on *for*/FOR?

Interpretive considerations having to do with the deontic character of *is to* do not seem compelling. For one thing, *for* is not necessarily associated with a deontic interpretation, as illustrated by:

(52) For you to have said that in public is unbelievable.

Conversely, the availability of a deontic interpretation in a given context does not suffice to license *for*, as seen in pairs like:

(53) We think that you should return home before midnight.

(54) \*We think for you to return home before midnight.

Similarly:

(55) That you should return home before midnight is obvious.

(56) \*For you to return home before midnight is obvious.

Furthermore, instances of *for* involving a deontic interpretation do not actually require *for*:

(57) It is essential for there to be quiet here.

(58I) It is essential that there be quiet here.

The deontic flavor of (57) rests on the presence of *essential*, then, rather than on the presence of *for*. Similarly, I will suggest, the deontic flavor of (46) rests on the presence of a (silent)

iv) Despite the fact that they're gonna fail the exam, they're in good spirits.

v) \*Despite being gonna fail the exam,...

vi) It's possible that it's gonna take too much time.

vii) \*?It may be gonna take too much time.

which suggests developing an analysis for *is gonna* that has something in common with the analysis of *is to*. (Relevant is whether or not *is going to* is limited to English, within Germanic and Romance.)

For potential Italian counterparts of the restriction to finiteness with *is to*, see Benincà and Poletto (1995).

<sup>20</sup> We can note in passing that the restriction to finite contexts does not hold with *have to*, e.g.:

i) You may have to return home before midnight.

which must then have an analysis significantly different from that of *is to*, though I will not in this paper pursue the question of *have to*, which also differs from *is to* in allowing an epistemic-like reading:

ii) There has to be a mistake somewhere in this proof.

that is not possible in:

iii) ?There is to be a mistake somewhere in this proof.

which can only be 'deontic'.

matrix predicate (distinct from *essential*, yet having in common with it some deontic flavor) that is present in (46) in addition to *are/were*.

Indirectly related to this point about (57)/(58) is the following generalization concerning English and French:

(59) If a *for...to* infinitive translates into French as a finite embedded sentence, that sentence will invariably be subjunctive, rather than indicative.

This covers cases that are not strictly deontic, as in:

(60) We would like for you to return home before midnight.

(61) Nous aimerions que vous rentriez avant minuit. ('we would-like that you return-home(subjunctive) before midnight')

With such matrix predicates, both English and French allow control:

(62) We would like to return home before midnight.

(63) Nous aimerions rentrer avant minuit.

In (63), French has a bare infinitive, i.e. an infinitive with no (visible) complementizer-like element. Now although the French bare infinitive in (63) corresponds, modulo the PRO vs. lexical subject difference, to English (60), which contains *for*, French has no bare infinitive counterpart of *is to*:

(64) \**Vous êtes rentrer avant minuit.* ('you are return-home(infinitive) before midnight') despite the fact that *is to* sentences themselves contain FOR (as in (45)). In other words, if English *is to* contained as matrix predicate only *be*, then, given the indirect parallel between the bare infinitive in (63) and the *for...to* infinitive in (60), we might well expect French to allow (64), which it does not. I conclude, in agreement with the earlier point about the restriction to non-finite contexts, that English *is to* sentences must not, despite initial appearances, have as matrix predicate merely *be*.

## 6. The silent matrix predicate

This means that (45) should be further revised to:

(65) you are PRED FOR <you> to return home before midnight

in which PRED is a silent matrix predicate compatible with complementizer FOR/*for*. The next question is, what kind of predicate? It seems unlikely that this silent predicate is adjectival. English has a number of adjectives that share the deontic flavor of *is to*. For example, the following are close in interpretation to (65)/(46):

(66) It's necessary that you return home before midnight.

(67) It's necessary for there to be further discussion.

(68) It's essential for there to be quiet here.

(69) It's imperative that there be at least 50 people at the party.

(70) It's vital that you return home before midnight.

(71) It's mandatory for there to be a third person present.

Yet as far as I can see, not a single such adjective allows raising of the sort indicated in (65):<sup>21</sup>

(72) \**There's necessary to be further discussion.*

(73) \**There's essential to be quiet here.*

<sup>21</sup> There might be a link here to (43) and to Amritavalli and Jayaseelan's (2003) claim that adjectives are never simplex, though a challenge would be raised by the existence of the (non-deontic) raising adjectives *certain*, *liable* and *(un)likely* (and perhaps *wont* and *bound*). Whether there's any link to the absence of raising with French *falloir* is unclear.

(74) \*There's imperative to be at least 50 people at the party.

(75) \*You're vital to return home before midnight.

(76) \*There's mandatory to be a third person present.

I conclude that PRED in (65) is not adjectival. Combining this conclusion with (33)-(42), which suggested that raising predicates cannot be overtly nominal, the further conclusion is that PRED in (65) is verbal.

Since (65) contains complementizer FOR, verbal PRED in (65) must be of the sort that is compatible with FOR. This rules out classical raising verbs (on the assumption that compatibility with FOR requires compatibility with *for*), given:

(77) \*It seems for you to be quite happy.

(78) \*It appears for our team to have won the game.

(79) \*It turned out for there to be a problem with our analysis.

Strictly speaking, though, these particular verbs (*seem, appear, turn out*) are excluded, as candidates for PRED in (65), for a second reason, since the presence of (a finite form of) *be* in (65) means that verbal PRED there must be either a gerund (in the progressive) or a passive participle. Although these classical raising verbs don't passivize, one of them readily accommodates a gerund:

(80) It's turning out that there are more and more problems with our analysis.

However, *for* remains impossible:

(81) \*It's turning out for there to be more and more problems with our analysis.

In addition, these classical raising verbs are not associated with the deontic flavor of *is to*.

The presence of FOR in (65) likewise means that PRED in (65) cannot be any of the classical B-verb (v. Postal (1974)) ECM verbs, since these are also not compatible with *for*, e.g.:

(82) It's believed that there is a solution to this problem.

vs.:

(83) \*It's believed for there to be a solution to this problem.

Put another way, PRED in (65) could not be a passive participle of *believe* or of any other B-verb. This sits well with the fact that the interpretation of an *is to* sentence like:

(84) There's to be no more fighting.

cannot possibly equal that of a (non-deontic) B-verb passive like:

(85) There's believed to be no more fighting.

Since English *is to* sentences, as represented in (65) (and as exemplified by (84)), fail to match either active raising sentences like (77)-(81) or passive ECM B-verb sentences like (82)/(83)(85), we must instead take PRED in (65) to correspond to the passive participle of a passive ECM W-verb sentence,<sup>22</sup> again in Postal's (1974) sense, i.e. *is to* sentences are to be thought of as close to sentences like:

(86) There is expected to be a solution.

(87) You are required/supposed to return home before midnight.

(88) There's required/supposed to be a meeting tomorrow.

(89) There wasn't meant to be so much noise.<sup>23</sup>

<sup>22</sup> And not to a modal, which (in English) would not be compatible with finite *be*:

i) \*You are ought to return before midnight.

ii) \*You are must/should return before midnight.

<sup>23</sup> The possible relevance of *meant* here was brought to my attention by Dunja Veselinović (p.c.).

Let me set aside until later the question of choosing among these various verbs. I will use WVERB-ED as short for 'passive participle of a W-verb'. Thus (65) is to be superseded by:

(90) you are WVERB-ED FOR <you> to return home before midnight

where WVERB-ED is akin to *expected, required, supposed, meant*. Made explicit by (90) is the proposal that an *is to* sentence like:

(91) You are to return home before midnight.

has a derivation involving a silent W-verb passive participle and a silent counterpart of complementizer *for*.

Thinking of (52)-(60), it seems almost certain that the deontic interpretation of (90)/(91) is due to its (silent) W-verb passive participle, rather than to its FOR.

## 7. Derivations.

English *is to* sentences have interpretations akin to those of passive W-verb sentences such as (86)-(89) and do not have interpretations akin to those of passive B-verb sentences such as (85). This follows as desired if WVERB-ED in (90) is necessarily the passive participle of a W-verb.

But why exactly does English prohibit that silent passive participle from being that of a B-verb like *believe* (in which case there would be no FOR following it)? I suggested earlier that if FOR were not present in *is to* sentences in English, we would be unable to account for the absence of exact counterparts of *is to* in other Germanic languages and in Romance languages. The question, then, is, what forces English to have FOR in (91)/(90)? What property (or properties) of the language faculty make a FOR-less (90) unavailable to English and to other languages?

I think that an answer can be found if we try to make more precise the derivation of *is to* sentences. If Kayne (2006) is on the right track, silent elements are necessarily in a different position than their pronounced counterparts. If so, the position of the passive participle in (90) cannot simply be as indicated, i.e. it cannot be the same as the position of overt *expected* or *meant* or *supposed* in:

(92) You are expected/meant/supposed to return home by midnight.

The more specific proposal in that 2006 paper was that elements to be unpronounced must move to a special position (spec of a phase). In this spirit, assume that in the derivation of *is to* sentences the W-verb passive participle must move to a position to the left of finite *be*, i.e. that (90) should be replaced by the following (traces of movement not indicated):<sup>24</sup>

(93) You WVERB-ED are FOR to return home by midnight.

This is of course not sufficient to account for the absence of a B-verb-like interpretation in *is to* sentences, since we could still wonder why a putative B-verb passive participle could not have moved to be unpronounced in the same way as the W-verb participle in (93). One piece of the answer to the question why (93) has no B-verb counterpart (which would lack FOR) lies, I think, in the claim that the movement of WVERB-ED in (93) is not head movement but rather phrasal movement.

That the movement of WVERB-ED in (93) is phrasal movement, might be due to the general absence of head-movement, if, as various people have suggested,<sup>25</sup> the language

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<sup>24</sup> The greater correctness of (93), as compared with (90), also means that 'deletion in situ' is not the right way to think about the silent passive participle in question.

<sup>25</sup> For relevant discussion, see, for example, Koopman and Szabolcsi (2000).

faculty disallows head-movement. Alternatively, even if head-movement does exist, it might still be barred from applying to WVERB-ED in (93) by virtue of the requirement that silent elements must end up in a Spec position.<sup>26</sup>

If, as just proposed, the movement of WVERB-ED in (93) is an instance of phrasal movement, then the derivation must (assuming, with antisymmetry, no rightward extraposition) necessarily involve remnant movement, as in (abstracting away from the subject *you*):

(94) WVERB-ED FOR to return home by midnight --> movement of the infinitive phrase

[FOR to return home by midnight]<sub>i</sub> WVERB-ED t<sub>i</sub> --> merger of *be*  
 are [FOR to return home by midnight]<sub>i</sub> WVERB-ED t<sub>i</sub> --> remnant movement  
 [WVERB-ED t<sub>i</sub>]<sub>j</sub> are [to return home by midnight]<sub>i</sub> t<sub>j</sub>

This, however, still has not told us why the language faculty disallows a parallel derivation with a B-verb passive participle in place of the W-verb passive participle.

The more specific proposal now is that FOR plays a central role in (94), in the sense that the infinitive phrase movement in the first step of (94) necessarily depends on the infinitive phrase being carried along/pied-piped by FOR.<sup>27</sup> Since FOR is not available with B-verbs like *believe*, there can then be no counterpart with a B-verb to this derivation.

The idea that infinitive phrase movement can be sensitive in English to the presence vs. absence of FOR is (somewhat faintly) supported by the contrast between:

(95) ??John Smith, to act like whom you've always been expected, is a famous linguist.  
 which arguably contains FOR, and:

(96) \*John Smith, to look like whom you're always considered/usually believed, is a famous linguist.

which lacks FOR (since *consider* and *believe* are B-verbs).

As for the question why the infinitive phrase preposing of (93)/(94) should be dependent on the presence of FOR, there may be a tie to the sharp asymmetry found in French with 'inner topicalization':

(97) ?J'aurais, à ces garçons-là, permis de fumer une cigarette. ('I would-have to those boys-there permitted *de* to-smoke a cigarette')

(98) \*J'aurais, Jean, invité à la soirée. ('I would-have John invited to the party')  
 where inner topicalization of a non-prepositional object is excluded. A similar restriction is found for some speakers of English, in the case of VP-subdeletion (which arguably involves

<sup>26</sup> Which would (desirably) force VP-subdeletion, as in:

i) John has spoken to Mary, but he hasn't to Susan.  
 to involve remnant movement (rather than ellipsis in situ of V), and thereby account for the fact that the pieces of VP left behind in such examples must be moved out of VP, as had first been suggested by Jayaseelan (1990).

<sup>27</sup> Wood (2011) proposes that Icelandic *verður að* ('become to') in sentences like:

i) Þú verður að gera þetta. ('you become *að* do this' = 'you have to do this')  
 involves a silent participle ÁTT ('ought') between *verður* and *að*. If Icelandic *verður að* is to be treated in tandem with *is to* (despite the 'become' vs. 'be' difference), then Icelandic *að* would have to license infinitive movement in a way parallel to English *for*, despite not licensing lexical subjects; on the idea that *að* has something significant in common with *for*, see Kayne (1981b, 365).

such (contrastive) inner topicalization - Kayne (1994, 76)), as seen in Williams (1977, 130), where the following judgments are given:

(99) \*Mary didn't address Bill, but she did Bob.

(100) ?Mary didn't speak to Bill, but she did to Bob.

(I find (99) better than Williams does - while agreeing with him on the relative difference.) In (97) and (100), inner topicalization seems, to judge by the different status of (98) and (99), to depend or to be facilitated by the presence of a preposition, recalling, despite the lack of contrastive effect with *is to*, the proposed role of FOR in (93)/(94).

#### 8. *For*/FOR as subpart of a *wh*-phrase

A second, more speculative, possible answer to why the infinitive phrase preposing of (93)/(94) should depend on the presence of FOR might (partially) dissociate complementizer *for*/FOR from other prepositions, as follows. Assume that Kayne (2010a) is correct to take English relative complementizer *that* and Italian relative complementizer *che* not to be true complementizers but rather to be relative pronouns, i.e. to be determiners (partially parallel to relative *which*) that in relative clause contexts appear without their accompanying NP. Now the analysis of Italian relative *che* proposed there was more specifically that *che* is only a subpart of a complex determiner of the German *was für* type found in sentences like:

(101) Was für ein Buch liest du? ('what for a book read you')

An Italian relative as in:

(102) il libro che tu leggi ('the book what you read' = 'the book that you're reading')

is then to be analyzed as follows (with capital letters again indicating non-pronunciation):

(103) il libro che FOR A LIBRO tu leggi

in which *che* corresponds directly to German *was*, LIBRO is the silent noun accompanying the relative pronoun,<sup>28</sup> and FOR is a silent counterpart of German *für* (and A is a silent counterpart of German *ein*). Put another way, Italian uses in (some of) its relatives a complex relative determiner, only one piece of which Italian pronounces, and similarly for those English dialects that allow:<sup>29</sup>

(104) the book what I was telling you about

with the analysis:

(105) the book what FOR A BOOK I was telling you about

English has infinitival relatives introduced by complementizer *for*, as in:

(106) A book for you to read is lying on the kitchen table.

Tweaking (105) yields for the phrase:

(107) a book for you to read

the analysis:

(108) a book WHAT for A BOOK you to read

which differs from (105) only in what is pronounced and what is not, with the consequence that complementizer *for* in English infinitival relatives would in fact not be a complementizer in the standard sense of the term, but rather a relative pronoun, in the same sense in which *what* is a relative pronoun in (105), i.e. *for* in (106) is one piece of a relative determiner.

<sup>28</sup> The text discussion is neutral as to whether that silent noun is the 'trace' of raising to the 'head' position of the relative.

<sup>29</sup> Cf. Herrmann (2005).

Kayne (2010) further proposed that finite sentential complements are in the general case to be understood as relative clause structures involving relativization of a PP like *in fact*.<sup>30</sup> Generalizing that proposal to infinitival sentential complements yields the conclusion that they are relative clause structures, too, with the further conclusion that what is called complementizer *for* is now systematically to be understood, even in what we call sentential complements, as being the single pronounced subpart of a complex determiner of the 'WHAT for A' type, as in (108). If so, then the pied-piping necessarily involved in the infinitive phrase preposing of (93)/(94) in the derivation of *is to* sentences is not the prepositional subtype of pied-piping, but rather the wh-phrase subtype, with FOR being part of that wh-phrase.<sup>31</sup>

#### 9. Another interpretive restriction

In addition to the absence of a B-verb counterpart to (93)/(94), which I have argued to be due to the incompatibility between B-verbs and *for*/FOR, there is no active counterpart to (93)/(94). If there were, then we would have:

(109) He was to return home by midnight.

not only with the W-verb passive (raising) interpretation that it does have (approximately that of *He was meant/expected/supposed to return home by midnight*), but also with the active (control) interpretation of:

(110) He was meaning/expecting to return home by midnight.

which it absolutely cannot have.<sup>32</sup> The question is, why not, i.e. why exactly does no English, as far as anybody knows, allow *is to* sentences to have an interpretation akin to that of (110)?

The answer, I think, lies along the following lines. The question is in essence why the (partial) derivation of *is to* sentences given in (94), repeated here:

<sup>30</sup> Apart from the relativization proper, this is close to Rosenbaum (1967) and to Kiparsky and Kiparsky (1970).

<sup>31</sup> If complementizer *for* is part of a larger relative determiner, a challenge arises concerning its licensing effect on infinitival subjects, and, conversely, concerning its incompatibility in standard English with PRO.

The latter restriction might be related to:

i) The reasons for which we should leave right away are obvious.

vs.

ii) \*?The reasons for which to leave right away are obvious.

The licensing of infinitival subjects by *for* might be related to the licensing of Italian infinitival subjects by Aux-to-C discussed by Rizzi (1982, chap. 3), especially if the post-*for* subject is not accusative, as may be suggested by:

iv) ?For his wife to be picked would surprise us, whereas for he to be would shock us.

in which *he* seems quite a bit more possible than in:

v) \*For his wife, being picked would be a surprise, whereas for he, being picked would be a shock.

vi) \*It would be a surprise for his wife, but a shock for he.

For relevant discussion, cf. Klima (1964).

I leave for future work the question of the licensing of silent FOR itself.

<sup>32</sup> The judgment on (109) abstracts away from the fact that it is to some degree possible as an (irrelevant) instance of VP-subdeletion, with a particular intonation break.

(111) WVERB-ED FOR to return home by midnight --> movement of the infinitive phrase

[FOR to return home by midnight]<sub>i</sub> WVERB-ED t<sub>i</sub> --> merger of *be*  
are [FOR to return home by midnight]<sub>i</sub> WVERB-ED t<sub>i</sub> --> remnant movement  
[WVERB-ED t<sub>i</sub> ]<sub>j</sub> are [to return home by midnight]<sub>i</sub> t<sub>j</sub>

does not have a counterpart in which the passive participle WVERB-ED would be replaced by the gerund WVERB-ING, yielding, in the final step the illegitimate:

(112) \*[WVERB-ING t<sub>i</sub> ]<sub>j</sub> are [to return home by midnight]<sub>i</sub> t<sub>j</sub>

Put another way, why can a W-verb gerund not be silent, in the context of *is to/are to*, in the way that a W-verb passive participle can be?

Looking at other imaginable cases, we see that it is not just a W-verb gerund that is prohibited from being silent in a way parallel to a W-verb passive participle. Simple infinitives are, too. This can be seen by comparing the following two sentences:

(113) You're to return by midnight.<sup>33</sup>

(114) \*You'll to return by midnight.

Example (113) is acceptable with the passive interpretation of *You're expected/meant/supposed to...* according to the analysis I've been developing, whereas (114) is not acceptable at all. If a silent W-verb infinitive had been possible in this context, then (114) would have been available with an interpretation like that of *You'll expect/mean to return by midnight*, but it is not.

Just as (114) shows that a silent W-verb infinitive with a control interpretation is not possible in such a context, so does (115) show that a silent active past participle with a control interpretation is not possible, either:

(115) \*You've to return by midnight.

Given (113), one might have expected (115) to be acceptable with an interpretation akin to that of *You've expected/meant to return by midnight*, but it is not.

The generalization appears to be that a W-verb can be silent in a derivation like (111) precisely because (111) is (a piece of) the derivation of a W-verb ECM passive, in effect an instance of raising. Whereas (110)/(112), (114) and (115), are (intended) instances of control. Put another way, a derivation like (111) is compatible with raising, but never with control.

In order to eliminate the possibility of a control derivation comparable to the raising derivation illustrated in (111), let me suggest that the remnant movement of the phrase containing WVERB-ED in the last step of (111) is actually dependent on the raising of the infinitival subject from within the infinitive up to subject position in the matrix. A more precise way of saying this is to say that the passive participle WVERB-ED in the remnant movement

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<sup>33</sup> The presence of contraction in this example recalls that found with *wanna*, and especially with the raising examples:

- i) There's gotta be an answer.
- ii) There doesn't hafta be an answer.

The contrast with:

- iii) I'm not sure when it is/\*it's.
- iv) I'm not sure in how good a mood they are/\*they're.

suggests that an 'A vs. A-bar' distinction is (somehow) relevant.



step of (111) is pied-piped by the subject DP (cf. Collins (2005) on ‘smuggling’). This yields a more fully spelled-out derivation like the following:<sup>34</sup>

(116) WVERB-ED FOR you to return home --> movement of the infinitival subject as in small clause passives

you<sub>i</sub> WVERB-ED FOR t<sub>i</sub> to return home --> movement of the infinitive phrase pied-piped by FOR

[FOR t<sub>i</sub> to return home]<sub>j</sub> you<sub>i</sub> WVERB-ED t<sub>j</sub> --> merger of *be*

are [FOR t<sub>i</sub> to return home]<sub>j</sub> you<sub>i</sub> WVERB-ED t<sub>j</sub> --> remnant movement (with pied-piping of WVERB-ED by *you*)

[you<sub>i</sub> WVERB-ED t<sub>j</sub>]<sub>k</sub> are [FOR t<sub>i</sub> to return home]<sub>j</sub> t<sub>k</sub> --> raising of *you* to a still higher Spec (trace not indicated)

you<sub>i</sub> [ WVERB-ED t<sub>j</sub> ]<sub>k</sub> are [FOR t<sub>i</sub> to return home]<sub>j</sub> t<sub>k</sub>

The idea then is that without the pied-piping of the passive participle WVERB-ED by subject *you* in the next-to-last step of (116), that participle would be unable to reach the pre-*be* position required to license its silence. If control sentences like (110)/(112), (114) and (115) lack that raising step (and assuming that WVERB-ED cannot reach the pre-*be* position on its own), then those control sentences will not be able to show a silent W-verb form at all.<sup>35</sup>

#### 10. Small clauses

Of further interest is the absence of a small clause counterpart to *is to*, in the following sense. (I’m switching to past tense examples to avoid interference from quasi-imperatives.) With overt *expected/meant/supposed*, we have:

(117) You were expected/meant/supposed to return home by midnight.

<sup>34</sup> I leave open questions concerning the exact position of FOR. That silent FOR is less of a block to movement than overt *for*, as shown by (i), recalls *that*-trace effects:

i) \*You were for to return home by midnight.

French *de* and (as brought to my attention by Jan Koster (p.c.)) Dutch *om* share some properties of English *for*, though not the property of licensing the lexical subject of an infinitive. The text analysis requires that French and Dutch not allow a derivation like (116) with silent DE or silent OM. This suggests that the movement of *you* in the first step of (116) depends on that licensing property of *for*. In the GB/ECP framework as used by Kayne (1981b), that could readily be stated in terms of ‘government’, with *for*/FOR governing infinitival subject position in a way that *de*/DE and *om*/OM could not. I leave open the question how best to transpose that government difference into a post-GB framework.

<sup>35</sup> The text discussion assumes that Cinque’s (2006, chap. 1) proposal that Italian *volere* (‘want’) participates in raising derivations even when it has a control-like interpretation is not correct, at least not for English *want* cooccurring with FOR. This may correlate with English *want* not being modal-like:

i) \*We wantn’t leave.

ii) \*Want you leave?

The text discussion further takes control not to involve raising-like movement of the embedded subject in the manner of Hornstein (1999). If control involves movement of a double, as in Kayne (2002), then that movement must be unable to license the pied-piping of WVERB-ED. Alternatively, the absence of a control counterpart of (116) might be related to (43).

which in the case of *expected* has a small clause counterpart:

(118) You were expected home by midnight.

Yet *is to*, as in:

(119) You were to return home by midnight.

does not have a small clause counterpart:

(120) You were home by midnight.

Though possible, (120) cannot at all have the interpretation of (118).

Recalling that the derivation of (119) makes crucial use of the presence of FOR, a possible account of the discrepancy between (118) and (120) may rest, at least in part, on the impossibility of complementizer *for* in (118) or in its active counterpart:

(121) You are/were expected (\*for) home by midnight.

(122) We were expecting (\*for) you home by midnight.

The deviance of (122), which is part of a broader generalization to the effect that complementizer *for* is never found with small clauses,<sup>36</sup> will lead to an account of (the missing interpretation of) (120), if small clauses reject FOR as well as *for*.

## 11. Negation

An additional consideration reinforcing for *is to* the appropriateness of derivations like (116) lies with negation:

(123) You're not to return home after midnight.

This example is natural and has approximately the interpretation of:

(124) You're expected/meant not to return home after midnight.

in which *not* is in the embedded sentence and scopes under the matrix predicate. In parallel fashion, it seems clear that *not* scopes naturally under silent WVERB-ED in (123). *Not* can also scope over overt *expected/meant* in:

(125) Obviously, you're not expected/meant to return home exactly at midnight.

The question now is whether *not* can also scope over silent WVERB-ED. One relevant kind of sentence is:

(126) Obviously, you're not to return home exactly at midnight.

To my ear, this cannot have the interpretation of (125), although it is acceptable with a different interpretation, that of:

(127) Obviously, you're expected/meant not to return home exactly at midnight.

Similarly, the following:

(128) Fortunately, I'm not to return home before midnight.

cannot have the interpretation of:

(129) Fortunately, I don't have to return home before midnight.

but only that of:

(130) Fortunately, I have to not return home before midnight.

In other words, while negation can scope over or under overt *expected/meant*, negation can, to judge by (126)-(130), only scope under the silent passive participle WVERB-ED; it cannot scope over it.

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<sup>36</sup> From the perspective of section 8, this property of complementizer *for* reduces to the fact that overt relative pronouns are never found with small clause relatives:

i) The book (\*which) sent to John turned out to be quite interesting.

The examples in (123)-(130) all contain *not*. In my English, negative *n't* appears to have the same key property. In *is to* sentences, *n't* cannot scope over silent WVERB-ED any more than *not* can:

(131) ?Of course you aren't to return home exactly at midnight.

Again, it seems to me that the interpretation here is not that of (125). Rather the interpretation of (131) is akin to that of (127). I conclude that both *not* and *n't* have the property that they cannot scope over WVERB-ED.

As I have indicated, I actually find (131) somewhat marginal even with *not* scoping under WVERB-ED. This is also true for me in pairs like the following, with negation scoping under WVERB-ED in each:

(132) He's not to make any noise.

(133) ?He isn't to make any noise.

It seems likely that the lesser acceptability here with *n't*, as compared with *not*, should be related, in my English, to:

(134) They must not have heard us.

(135) ?They mustn't have heard us.

in which negation scopes under epistemic *must*.

Why should negation, as shown by (126)-(131), be unable to scope over silent WVERB-ED? I think the answer has to do with the core idea that silent WVERB-ED is not in the same position as its overt counterpart, i.e. that it undergoes, as in (116), a special (remnant) movement operation having to do with it being licensed to be silent. For example, in (123), WVERB-ED has moved past *are/re*. Now, since *not* in (123) is within the embedded infinitive (just as it is in (124)), that movement of WVERB-ED past *are/re* will not cross *not*. If, on the other hand, *not* were in the matrix in (123) (as it is in (125)), above the initial position of WVERB-ED, then the movement in question would, in crossing *are/re*, have to cross *not*, leading, arguably, to a negative island violation.

## 12. *Must*

The fact that negation cannot have wide scope in *is to* sentences like (123), (126), (128), and (131)-(133) recalls the fact that negation cannot scope over *must* in:

(136) We must not be quiet here.

(137) We mustn't be quiet here.

These are acceptable with an interpretation suggesting that noise is required of us, but are not acceptable with an interpretation like that of either of the following:

(138) It's not the case that we must be quiet here.

(139) We don't have to be quiet here.

The prohibition against wide-scope negation in (136)/(137) is considerably weakened, however, in:

(140) We mustn't necessarily be quiet here.

which is fairly acceptable in the sense of (138)/(139).

This suggests a way of relating the scope facts of (136)/(137) to those of (123), (126), (128), and (131)-(133), as follows. Assume that English *must* must be accompanied by a modal adverb like *necessarily*, so that (136)/(137), in which no such adverb is visible, must contain a silent counterpart of *necessarily*:

(141) ...must not/n't NECESSARILY...

Assume further that as in Kayne (2006) silent elements must raise to a special position (as discussed earlier for WVERB-ED), and that in the case of silent NECESSARILY that position is above the position of *must* itself. Then in non-negative:

(142) We must be quiet here.

now to be thought of as:

(143) we must NECESSARILY be quiet here

this silent NECESSARILY will raise past *must*.<sup>37</sup> But in (141) (with matrix negation) the corresponding movement past *must* will have to cross negative *not/n't* and will therefore arguably lead to a negative island violation (much as in the discussion of (123), (126), (128), and (131)-(133)), with the result that (136)/(137) will not be possible (if the negation is in the matrix). On the other hand, with negation within the embedded infinitive (i.e. with negation scoping under *must*), (136)/(137) will be possible, since NECESSARILY, in moving past *must*, will not cross that negation:<sup>38</sup>

(144) we must NECESSARILY [not/n't be quiet here]

Furthermore, in (140), with overt *necessarily*, no comparable movement of *necessarily* is required, since *necessarily* is, in (140), not silent. Therefore in (140) no negative island violation will be produced, in which case we have an account of the contrast concerning wide scope negation between (136)/(137) and (140),<sup>39</sup>

### 13. The finiteness restriction

The derivation given in (116), repeated here:

(145) WVERB-ED FOR you to return home --> movement of the infinitival subject as in small clause passives

you<sub>i</sub> WVERB-ED FOR t<sub>i</sub> to return home --> movement of the infinitive phrase pied-piped by FOR

[FOR t<sub>i</sub> to return home]<sub>j</sub> you<sub>i</sub> WVERB-ED t<sub>j</sub> --> merger of *be*

are [FOR t<sub>i</sub> to return home]<sub>j</sub> you<sub>i</sub> WVERB-ED t<sub>j</sub> --> remnant movement (with pied-piping of WVERB-ED by *you*)

[you<sub>i</sub> WVERB-ED t<sub>j</sub>]<sub>k</sub> are [FOR t<sub>i</sub> to return home]<sub>j</sub> t<sub>k</sub> --> raising of *you* to a still higher Spec (trace not indicated)

you<sub>i</sub> [ WVERB-ED t<sub>j</sub> ]<sub>k</sub> are [FOR t<sub>i</sub> to return home]<sub>j</sub> t<sub>k</sub>

expresses the dependency of *is to* sentences on FOR (and thereby the absence of *is to* in various other languages) via the first pied-piping step, and expresses the limitation to passive interpretation via the second pied-piping step, as discussed in section 9. However, we have not yet accounted for another salient property of *is to* sentences mentioned by Pullum and

<sup>37</sup> Perhaps in a way partly related to agreement-driven movement, if Zeijlstra (2008) is on the right track. The text proposal in favor of the presence of silent NECESSARILY resembles Zeijlstra's proposal concerning silent operators, with the key difference concerning the fact that NECESSARILY must move, and in particular start out low enough to have to cross the matrix negation in moving past *must*.

Zeijlstra takes the modal itself to be uninterpretable. Alternatively, *must* might be to *necessarily* as *canine* is to *wolf*.

<sup>38</sup> Narrow scope negation in (136)/(137) contrasts with:

i) You ought to not/\*n't do that.

For relevant discussion, see Roberts (2000).

<sup>39</sup> Consideration of negation and modals in other languages or of negation and other modals in English would take us too far afield.

Wilson (1977, note 4), namely the limitation to finite forms of *be*. While simple present and simple past forms are possible:

(146) You are/were to return home by midnight.

finite *are/were* cannot be replaced by any non-finite form of *be*, including *be* itself:

(147) \*You have often been to return home by midnight.

(148) \*Tomorrow, you will be to return home by midnight.

(149) \*He seems to be to return home by midnight.

(150) \*Despite being to return home by midnight, John is making plans to stay out late.

Since other uses of *be* do not show this restriction:

(151) They must be joking.

(152) You're being too stubborn.

(153) They appear to have been arrested.

the restriction seen in (147)-(150) must reflect not a property of *be* itself, but rather a property of the derivation of *is to* sentences. What I would like to suggest more specifically is that it is a property of the movement of (the phrase containing) silent passive participle WVERB-ED that is at issue. As seen in the remnant movement step of (145), the passive participle WVERB-ED can cross *are* (or *were*). The unacceptability of (147)-(150) can be interpreted as reflecting the inability of WVERB-ED to cross a non-finite form of *be*.

To see this, let us isolate the key part of the derivation (145), namely:

(154) are [FOR  $t_i$  to return home] $_j$  you $_i$  WVERB-ED  $t_j$  --> remnant movement (with pied-piping of WVERB-ED by *you*)

[you $_i$  WVERB-ED  $t_j$ ] $_k$  are [FOR  $t_i$  to return home] $_j$   $t_k$

In (154), WVERB-ED is remnant-moved past *are*. A strongly parallel derivation for, say, (150) would have to involve the step:

(155) being [FOR  $t_i$  to return home] $_j$  you $_i$  WVERB-ED  $t_j$  --> remnant movement (with pied-piping of WVERB-ED by *you*)

[you $_i$  WVERB-ED  $t_j$ ] $_k$  being [FOR  $t_i$  to return home] $_j$   $t_k$

in which the passive participle WVERB-ED crosses non-finite *being*. The generalization underlying the finiteness restriction on *is to* thus seems to be:

(156) WVERB-ED can cross, and end up immediately preceding, a finite form of *be*, but not a non-finite form of *be*.

That this is the right way to think of the finiteness restriction on *is to* is suggested by the existence of a partially similar restriction concerning Icelandic 'stylistic fronting' (SF). There are many subcases of SF. One particularly robust subcase, to judge by Holmberg (2000) and Sigurðsson (2010), involves the fronting of a participle to the left of a finite auxiliary. One example from Sigurðsson involving an impersonal passive is:

(157) Skrifað hefur verið um þessar tilraunir. ('written has been about these experiments' = 'someone has written about these experiments')

in which the past participle *skrifað* has been fronted to the left of the finite auxiliary *hefur*.

Although in this example SF takes place within a root sentence, SF of this type is also evidently robust within various kinds of embedded finite sentences. An example, again from Sigurðsson, is:

(158) Veit hún hver skrifað hefur um þetta? ('knows she who written has about that' = 'does she know who has written about that?')

As in (157), the past participle *skrifað* has in (158) been fronted to the left of finite *hefur*.

Sigurðsson (2010, (46)) notes that SF cannot apply if the auxiliary in question is infinitival. One example that he gives is:<sup>40</sup>

(159) \*Hún virðist skrifað hafa um þessar tilraunir í Science. ('she seems written have(infin.) about these experiments in Science')

in which the past participle *skrifað* ('written') is seen to be unable to be fronted to the left of the non-finite auxiliary *hafa* ('have'). The contrast in Icelandic between (159) and (157)/(158) recalls the contrast in English between (147)-(150) and (146). In both languages something possible in a finite context fails to generalize to a non-finite context.

The derivational step indicated for English *is to* in (154) may allow us to understand why this English-Icelandic parallelism should hold. In English *is to* sentences, the passive participle WVERB-ED is fronted to the left of a finite form of *be*, in a way close to what we see directly in Icelandic in (157)/(158), with finite forms of 'have'. In effect, from the perspective of the analysis of *is to* developed here, English *is to* lends itself to being called an instance of SF in English.<sup>41</sup>

A second point of parallelism between Icelandic SF and English *is to* has to do with negation. As discussed in section 11, the participle movement in English *is to* derivations is subject to a negative island effect, i.e. is blocked by an intervening negation. But according to Holmberg (2000, 455), Icelandic SF, in all its various subcases, has exactly the property of being blocked by an intervening negation.

There is at the same time a discrepancy between *is to* and Icelandic SF when it comes to auxiliaries.<sup>42</sup> In the Icelandic example (157), the participle *skrifað* ('written') has moved past two auxiliaries, end up to the immediate left of the higher, finite one. All the well-formed examples of English *is to* also involve movement of a participle (ultimately silent WVERB-ED) to the immediate left of a finite auxiliary (*is, are, was, were*), as exemplified by (154). Yet as shown by the ill-formedness of (147)-(150), this participle movement simply fails in English when there are two auxiliaries, even when the first is finite, contrary to what we see in (157) for Icelandic.

The possibility arises that this discrepancy can be understood as one between short- and longer-distance SF. In Icelandic, the participle (or other elements subject to SF) can cross two auxiliaries (as long as the higher one is finite). In English, the corresponding participle in *is to* derivations can cross only one (finite) auxiliary. Looked at this way, Icelandic vs. English SF has something in common with Italian vs. French clitic movement. Clitic movement in Italian

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<sup>40</sup> This example has the infinitive embedded under a subject raising verb. The restriction against SF in non-finite contexts also holds for control infinitives; Sigurðsson has an example with an infinitive embedded under (Icelandic) *hope* and Holmberg (2000, note 12) has a comparable one with *promise*.

<sup>41</sup> Holmberg (2000, sect. 8) discusses instances in SF in Germanic languages other than Icelandic and in Romance. For English, he cites the 'adverb improvement' case of:

i) This is the tree that I said that \*(just yesterday) had resisted my shovel.

The text analysis of English *is to*, however, may not be compatible with Holmberg's view of the relevance of phonology to SF.

<sup>42</sup> In addition, English *is to* is compatible with a filled subject position, in a way that Icelandic SF is not. This difference may be tied to the fact that the passive participle moved in *is to* sentences ends up silent.

can be longer-distance than in French, insofar as Italian allows it in so-called restructuring contexts in a way that French does not.<sup>43</sup>

Earlier English, as pointed out by Huddleston (2002, 114n) and Goldberg & van der Auwera (to appear), was more like Icelandic, insofar as earlier English (until the early 19th century, according to Huddleston) did allow non-finite counterparts of *is to*, i.e. did allow sentences like (147)-(150). In terms of the present analysis, English has evolved from allowing WVERB-ED to cross two auxiliaries to allowing it to cross only one.<sup>44</sup> (At both stages, English has required WVERB-ED to end up immediately preceding a finite V.)

#### 14. The nature of WVERB-ED

The analysis of *is to* that I have been pursuing takes the *is* to be the one that occurs in passives, and more specifically in passives of W-verbs. In *is to* sentences, the passive participle (of the W-verb, i.e. WVERB-ED) is silent. Its overt counterpart appears in W-verb passives such as:

(160) There was meant to be another meeting.

(I will come back shortly to the question of the choice between *meant*, *expected*, *supposed*.)

The *be* that appears in these passives cannot be replaced by *become*, *remain*, *seem*, *appear*.

(161) \*There became/remained/seemed/appeared meant to be another meeting.

and in this respect contrasts with:

(162) They became/remained/seemed/appeared happy.

Taking *is to* sentences such as:

(163) There is to be no noise here.

to be instances of (W-verb, ECM) passives leads to the correct expectation that the *is* of *is to* will not, contrary to (162), be replaceable by *become*, *remain*, *seem*, *appear*. That this expectation is met is shown by the unacceptability of:

(164) \*There became/remained to be no noise here.

and by the fact that the following, though acceptable, cannot have the same kind of deontic-flavored interpretation as (163):

<sup>43</sup> See Kayne (1989) for a proposal that is not fully compatible with Cinque (2006, chap. 1).

Strictly speaking, since in (157) the participle must raise past both auxiliaries, Icelandic resembles more than it does Italian those Romance languages that have obligatory clitic climbing in restructuring contexts.

Although English *is to*, from the text perspective, shares its short-distance character with French clitic movement, the latter is not restricted to finite contexts, a contrast that remains to be elucidated.

<sup>44</sup> Whether this change in English is linked to others needs to be looked into. One potential candidate might be the appearance in the 19th century, according to Huddleston (2002, 106n), of progressive passives like:

i) John is being arrested.

Possibly also relevant is VP-deletion stranding two auxiliaries, as in:

ii) John will be arrested and Bill will be, too.

especially if VP-deletion involves movement, as suggested by Johnson (2001).

Whether this account of the finiteness restriction on *is to* should or can be extended to the finiteness restriction on English modals such as *must*, *can*, etc. is not clear.

(165) There seemed/appeared to be no noise here.

(166) There came to be no noise here.

I have been giving the silent passive participle of *is to* sentences as WVERB-ED, thereby setting aside the question of the apparent choice between silent MEANT, EXPECTED, SUPPOSED. This question may be related to facts such as the following:

(167) At the age of seven, their daughter could already speak three languages.

(168) At the age of seven \*(months), their baby daughter could already walk.

(169) At the age of seven \*(days), their newborn daughter could already smile.

Example (167) contains a silent counterpart of *year(s)*.<sup>45</sup> Examples (168) and (169) show that a comparable silent counterpart of *months* or *days* is not possible. The intuition that in the context of (human) age, *year* is the 'unmarked' time interval could be expressed by having *month* and *day* as 'month/day PART OF YEAR', with the possibility then arising, as a way to understand (168) and (169), that the complete silence of such a complex phrase could not be licensed. The question, then, is whether or not there is a comparable 'markedness' relation between *mean* and *expect* and *suppose* (and, if so, how to express such a relation).

A related possibility is that the silent participle in *is to* sentences matches exactly none of these actually occurring verbs, but corresponds rather to what they all have in common. In effect, the question is whether verbs like *mean*, *expect* and *suppose* are syntactic primitives, or are in fact rather to be analyzed/decomposed much as *need* was analyzed earlier, following Harves and Kayne (2012).<sup>46</sup>

Setting aside for the duration of this paper the question of the preceding paragraph, let us look briefly at MEANT, EXPECTED, SUPPOSED as candidates for WVERB-ED. Recalling the central role played in the analysis by *for*/FOR, consider:

(170) We didn't mean/??expect/\*suppose for there to be so much noise.

If cooccurrence with overt *for* were a necessary condition for cooccurrence with silent FOR, which it may not be, then (170) would disqualify SUPPOSED, and would favor MEANT. A second potential advantage of silent MEANT (over EXPECTED) lies in the fact that passives with *meant* (as opposed to passives with *expected*) disallow agent phrases to a significant degree, especially in cases like the following, where raising (as opposed to control) is clearly in

<sup>45</sup> Cf. Kayne (2003).

<sup>46</sup> Based on Hale and Keyser (1993; 2002), which in turn had something in common with the generative semantics work of earlier years (which was unable to take advantage of comparative syntax work of the sort that developed subsequently).

The Harves and Kayne (2012) claim that modal and verbal *need* do not correspond to syntactic primitives and more specifically that they are to be understood as 'HAVE need' makes it difficult to see *need* as a straightforward member of Cinque's (1999; to appear) sentential hierarchy. It is possible, however, that the ordering/selectional restrictions expressed by that hierarchy will still have a (fairly direct) counterpart even if many or all of Cinque's sentential heads turn out, in one way or another, to have a syntax akin to that of *need*, i.e. to have a syntax involving more than just a single head (and spec).



play:<sup>47</sup>

(171) Of course there was meant (\*by the organizers) to be a lot of noise at the party.

(172) Of course there was meant to be a lot of noise at the party (\*by the organizers).

(In the second example, *by the organizers* is irrelevantly possible to some extent if taken to be internal to the DP *a lot of noise at the party*.)

This fact about agent phrases in certain *W*-verb ECM passives is relevant to my proposal that *is to* sentences are instances of such passives, insofar as *is to* is not compatible with an overt agent phrase:

(173) \*You were to return home before midnight by your entire family.

(174) \*You were by your entire family to return home before midnight.

In other words, it may be that the unacceptability of (173)/(174) reduces to that of (171)/(172).

If the unacceptability of *suppose* with overt *for* in (170) does not prevent *suppose* from cooccurring with silent *FOR*, so that *SUPPOSED* remains as a viable candidate for *W*VERB-ED, then (173)/(174) could alternatively reduce to:

(175) You were supposed to return home before midnight (\*by your entire family).

(176) You were supposed (\*by your entire family) to return home before midnight.

which are unacceptable with a deontic-flavored interpretation and an overt agent phrase.

The idea that *supposed to* is a very close counterpart of *is to*, with *is to* then containing a silent *SUPPOSED*, is, strictly speaking, independent of the idea that *is to* involves a passive, insofar as one might think that deontic *supposed to* is adjectival rather than passive, given the impossibility of deontic actives such as:

(177) \*His entire family supposed him to return home before midnight.

On the other hand, Postal (1974, 311) notes:

(178) It's (widely) rumored (\*by lots of people) that John is a spy.

and Ward, Birner and Huddleston (2002, 1435) note:

(179) He's reputed (\*by everybody) to have lost a fortune in the stock market.

so that allowing an overt agent phrase does not seem to be a characteristic of all passives, in which case (175)/(176) may well be passive, as is suggested in any case by the incompatibility of *supposed to* with adjectival modifiers:

(180) \*You were very/extremely supposed to return home before midnight.

The passive status of *supposed to* has the advantage of allowing one to propose that the silent element in *is to* sentences cannot in principle be an adjective, which would provide a means of accounting for the fact that *is to* sentences cannot have the interpretation of:

(181) You are unlikely to return home before midnight.

despite the fact that *unlikely* is compatible with *for*:

(182) For there to be another meeting would be unlikely.

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<sup>47</sup> When raising is less clearly at issue, I find:

i) He wasn't meant (?by any of us) to see that memo.

ii) You were meant (\*by your friend, \*by the Post Office) to receive this package yesterday.

iii) You were meant by God to live to the age of 100.

It may be that in (iii) (and perhaps even in (i)) *mean* can have the (non-raising) syntax of *elect* or *choose* (or of a *B*-verb). I am grateful to Ruth Kempson (p.c.) for calling my attention to the sometime acceptability of agent phrases with *meant*.

That *is to* derivations can rest on a silent passive participle (of a W-verb) and never on a silent adjective (of any kind) seems plausible, but will call (if correct) for an explanation.<sup>48</sup>

Also calling for an explanation is the very fact that certain passives disallow overt agent phrases. For (171)-(176), it might be proposed that silent FOR is incompatible with an overt agent phrase. Possibly, that could be related to:

(183) ??That sort of person is reliable on by anybody.

vs.

(184) \*That sort of person is reliable by anybody.

with the latter containing a silent ON.

If the FOR of W-verb ECM sentences is systematically incompatible with an overt agent phrase, there would be an account of:

(185) \*You're wanted/liked/hated to be quiet by just about everybody.

though there would then have to be a (partially) different account of the agentless counterparts:<sup>49</sup>

(186) \*You're wanted/liked/hated to be quiet.

## 15. Conclusion

The comparative syntax correlation given in (28), repeated in simplified form here:

(187) A Romance or Germanic language has *is to* only if it has a prepositional complementizer *for*.

has provided us with a clue to the way in which the language faculty treats English sentences like:

(188) You were to return home before midnight.

In so doing, and in leading us to the analysis of *is to* sentences developed above, (28)/(187) has provided us with further evidence in favor of the idea that the language faculty does not require every syntactically and semantically active element to have phonological realization. Put another way, (28)/(187) has told us that the deontic modal-like interpretation of (188) must be calculated using an element like MEANT or SUPPOSED; it cannot simply be read off those elements of (188) that happen to be pronounced.<sup>50</sup>

<sup>48</sup> Perhaps the subject of the infinitive must be in a position in which Case is licensed - cf. note 34. Cf. Pollock (1981, 229) and Baker (1993) on the idea that passive participles can assign accusative.

<sup>49</sup> Perhaps the silent-to-be participle is incompatible with 'smuggling' à la Collins (2005), but only when the agent is overt.

<sup>50</sup> This conclusion about the importance of silent elements is virtually certain to hold, too, of *is to* sentences of a somewhat different sort. For example, Salvador Mascarhenas (p.c.) has pointed out the ambiguity of:

i) If John were really to arrive at 5:00, we'd all be happy.

Similarly, the following is ambiguous:

ii) They were not to see each other again for another two years.

The extra reading of (ii) is related to:

iii) She was later to become queen of France.

Both (iii) and *if...were to* sentences may contain silent elements distinct from MEANT/SUPPOSED, or MEANT and/or SUPPOSED may themselves be ambiguous in an appropriate way.

Thus, whether or not we choose to informally call *is to* part of the English 'lexicon', the presence of *is to* in English is something that is amenable to syntactic explanation of some deductive depth, ultimately in terms of a parameter or parameters with wider import, having to do with *for*. In effect, the techniques developed in comparative syntax work over the past thirty-plus years can profitably be applied to what might have been thought to be idiosyncratic lexical differences across languages.

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