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Michaela Čakányová & Joseph Emonds

PHASEHOOD OF INFINITIVES

Abstract

This paper focuses on the status of infinitivals with regard to their potential phasehood. First, our notion of phasehood derives from but also departs from Chomsky's (2000) analysis of finite VPs, as it is adjusted for infinitivals. This adjustment strengthens the original theory because it successfully incorporates an account of several properties of different types of English infinitives. Secondly, a major part of our approach is based on the premise that an infinitive's status as a phase depends on how that clause is lexically selected. If the selected head is an open class lexical item, the infinitive will be a phase, whereas an infinitive that is selected otherwise will not be a phase. Thirdly, the infinitival marker 'to' functions in our theory as the head of the infinitival, which means that every to-infinitive is at least a vP. We thus follow and develop Wurmbrand's (2001) idea that infinitives are basically vPs. Finally, we divide infinitivals according to their sizes (CP, IP, vP, VP) and subjects (obligatory control, raising, exceptional case marking) and argue that some of them qualify as phases while others do not.

Keywords

case assignment; infinitive; non-finite clause; phase; subject raising; small vP

1. Introduction

In our article, we are addressing the question of phasehood as applicable to infinitival clauses of different types.[1] We use the term phasehood for a closed off phrasal domain in a syntactic derivation. To start with, there is a Phase Impenetrability Condition:

1 Regarding infinitives, English has more varieted types of than most languages because many languages lack some of its structures. We believe that giving the English examples actually shows more about their nature than trying to consider several languages at once.

(1) Phase Impenetrability Condition (PIC) (Chomsky 2000, 108)[2]
If X is dominated by a complement of a phase YP, X cannot move out of YP.

For Chomsky (2001) phases are either CPs or vPs, and include finite clauses and infinitives when there are transitive verbs.[3] We argue that phasehood is even more restrictive, blocking any extraction whatever from YP, unless x=Spec C. We are thus strengthening Chomsky's theory of phases because we show how it can be extended to major types of non-finite clauses.

English infinitives are of various structural sizes, as we will attempt to demonstrate, and so there will be different types of phrases representing them. For reasons discussed in detail in section 2, we are going to use little vP as the basic unit of every infinitive.[4] According to Legate (2003), passives, unaccusatives and raising constructions all project to vPs the same as transitive verbs. In this study, we are going to further extend vP to all the verbal phrases smaller than CP and IP and bigger than VP. Furthermore, we argue that the infinitival *to* invariably takes the position of the highest little v if a single VP has more than one v.[5]

The structure of the article is going to reflect the research questions 2-5.

(2) What is the nature of the infinitival *to* and how does it relate to the position of little v in infinitives? [6]
(3) Are all infinitives of the same structural size?
(4) If not, what kind of phrases do these various types constitute?
(5) And finally, do some or all infinitives qualify as phasal domains?

We are going to introduce two basic premises in 6 before we attempt to answer these questions and proceed with the main body of the article. The most important thing to realize is whether the lexical head V of the infinitive is *selected* as a complement, or simply just present because some verbal feature or some higher functional category I or v is selected. Depending on this distinction, the infinitive either can or cannot qualify as a phase.[7]

2 Chomsky (2008, 143) claims that "a probe into an earlier phase will almost always be blocked by intervention effects".

3 Chomsky (2008, 143) alters phase theory and defines phases as CPs and v*Ps. "v* is the functional head associated with full argument structure in transitive and experiencer constructions and is one of several choices for v, which is the element determining that a selected *root* is verbal". This is consistent with our use of the symbol v, but we argue below that more vPs besides v*P are phases.

4 Some versions of minimalism or distributed morphology seem to use other variants of our notion of vP and its head little v.

5 There may be sequences of little v for a single VP, which for example may include aspectual and/or passive auxiliaries.

6 We do not deal here with an exact analysis of little v in finite clauses.

7 This notion may be related to the idea of bridge verbs (Erteschik-Shir 1973). In a certain sense,

(6) Phasehood of vP
   a. A maximal projection vP of a lexical V is a phase iff an open class item selects this V.
   b. Neither movement nor case assignment cross the boundary of a vP phase.

This means that infinitival complements of most open class lexical verbs are phasal domains. On the other hand, many closed class items do not introduce phases. These selecting closed class items include some prepositions and conjunctions, *be*, *have*, *get* and modals, but also raising to subject verbs.

A phase boundary is formed by a vP whose head V is selected, and these boundaries are absolute. This means that no movement or case-marking can cross them.

2. The infinitival marker *to* in v position

The infinitival *to* in embedded control or raising constructions has been widely thought to be in the position of I within an IP. This position is principally reserved for inflection, therefore "I" (or alternately "T" for tense), and is where Modals and finite auxiliaries appear ("Mod/Aux"). However, the particle *to* does not show any morphological inflection expressing aspect, tense or agreement. Infinitives are capable of expressing perfective/past tense and also progressive aspect (7) only because they allow for the auxiliary *have* or the progressive *be*, which are not instances of I. This means that the *to* particle should be higher in the tree than these auxiliaries, but lower than I.

(7) a. *He hopes to have passed the test.*
   b. *He seemed to be laughing.*

The I position is typically occupied by modals which are in near complementary distribution with *to,* and they do not show much morphological inflection either. However, all modals exhibit all the so called "N.I.C.E. criteria" (Denison 1993). N. stands for clausal negation NEG (*not/n't*) and means that negation can immediately follow the Mod/Aux. I. stands for the ability of the Mod/Aux to invert with the Subject in questions. C. stands for coda, that is Mod/Aux appear in question tags. And finally E. is for ellipsis, the ability of Mod/Aux to stand instead of full verb phrases in elliptic expressions.[8]

this relatively small class of verbs act like functional category items.

8 There are actually two further N.I.C.E properties: the full *contraction* to a final consonant (of present tense copulas, *will/would* and *have/had/has*) and the ability to alternate with (finite) *emphatic do* (Emonds 1976, Ch. VI). Thus, a complete acronym would be N.I.C.C.E.E.

(8) a. *I cannot yet go home.*
b. *Can I go home?*
c. *I can go home now, can't I?*
d. *I can go home now and he can too/ so can he.*

As for the negation criterion, infinitival *to* is often more natural after negation as in (9a-b). Only in constituent negation is it more natural for *not* to follow *to*, i.e. to appear inside vP, as in (9c).

(9) a. *She decided (not) to take the bull by the horns.*
It's better (not) to take a pot shot at your boss.
b. ?*She decided to not take the bull by the horns.*
?*It's better to not take a pot shot at your boss.*
c. *It's hard to not have a single friend.* (constituent negation)

When there are two negations in a sentence, clausal and constituent negation, the situation is the same. Example (10a) is confusing because it has two constituent negations, while (10b) is more natural, since combinations of sentence and constituent negation are frequent and easily understandable.

(10) a. ??*He promised Ann to not get married with no tie.*
b. *He promised Ann not to get married with no tie.*

Another feature of Mod/Aux is their ability to form contracted forms with the negative particle *not*. The infinitival *to* does not have this ability because, we claim, it is not in the I position and hence cannot host the clitic.

(11) a. *John can't come to the party.*
b. *He doesn't speak English very well.*
c. **For John ton't speak English very well is a shame.*

As for the inversion criterion, it is not possible to invert a subject with *to* because infinitives do not generally occur as non-embedded clauses (12). The only exception is a clause expressing a wish where a preposition *for* precedes the subject (14). In some wishes, an irrealis auxiliary can replace the complementizer *if* (13), however, not even here is it possible to invert the (objective case) subject with *to* and replace *for*. The reason is that *to* is not in the I position.

(12) **For my friend to have left town.*
(13) a. *Oh, if we were once again in Paris!*
b. ?*Oh, were we once again in Paris!*

(14) a. ?*Oh, for us to be once again in Paris!*
b. **Oh, to us be once again in Paris!*

Another property of Mod/Aux is the ability to appear in a coda when the verb is omitted, when they may then form questions tags. But this is completely impossible with *to*.

(15) a. *John never sings, does he?*
b. *I do not expect John will sing, will he?*
c. **I do not expect John to sing, to him?*

The ellipsis property is not freely licensed by *to* (Lobeck 1996). In example (16) the ellipted *to* phrase stands for a complement and the sentence is grammatical, but in example (17) it stands for an adjunct and ellipsis does not work here.

(16) *She needed to save money but she couldn't convince her partner to.*
(17) **She needed to spend less so she rented a smaller apartment to.*

We have now reviewed all the N.I.C.E. properties of the constituent I, and found that infinitival *to* doesn't exhibit three of them, and does not fully exhibit the fourth. Thus, our proposal that *to* is not in I is considerably more predictive than the claim that it is. So, it seems that our position of little v, rather than I, is ideal for the infinitival marker *to*, since it follows both I and the clausal negator *not*, but is still above a VP. It interacts with VP ellipsis, but unlike I is not sufficient to license it, and the v position has nothing to do with the other N.I.C.E. properties (clausal negation, inversion, codas).

Its SPEC then has the ability to contain the external argument of the infinitive. Thus, we claim that all infinitives that contain the infinitival particle *to* have the same internal structure of a vP, as seen in (18).

(18) $[_{vP}\,[_{SPEC(vP)}\,DP\,]\,[_{v'}\,to\,[_{VP}\,...]]]$

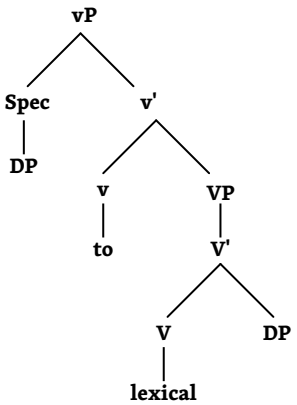

Figure 1 General infinitival structure

We are now going to consider the infinitival types one by one, according to the type of construction and its subject, that is raising, ECM and control infinitives. The classification could be also done according to their semantics as in Wurmbrand (2014), where she divides them into three classes based on their differences in temporal composition. The classes are: 1. future infinitives, 2. propositional attitude infinitives and 3. simultaneous tenseless infinitives. These three categories do not correlate with the control versus ECM/raising distinction, but as we will see, her findings and ours are similar. ECM infinitives are Wurmbrand's (2014) classes one and two. For us, there are also two kinds of ECM infinitives, one capable of expressing futurity and the other not. Raising infinitives are according to her a third class, which also corresponds to our findings; this class is the smallest and least capable of expressing any tense independence. Control infinitives, however, are represented in all three of her classes, and as such some of them would be of the same size as raising infinitives. This conclusion, however, does not correspond to our findings or theory.

3. Raising to Subject

All raising to subject verbs are light verbs, which means that they are not fully lexical because (i) they are few in number (ii) they lack semantic specificity (Emonds 2000, Ch. 3), and (iii) they do not assign a theta role to their subject DPs.[9]

9 For purposes of exposition, we speak of English modals as a type of light verb, though strictly speaking their category is I not V, as seen in the tree in Figure 2. There are also a few adjectives, e.g. *likely, sure,* that can exhibit subject raising.

(19) a. I_j *must* [t_j *speak to him*].
b. *We*$_j$ *seem* [t_j *to understand Jim*].

There are two types of raising to subject predicates, category *a*, which includes all modals, and category *b*, which includes the traditionally named raising to subject verbs.

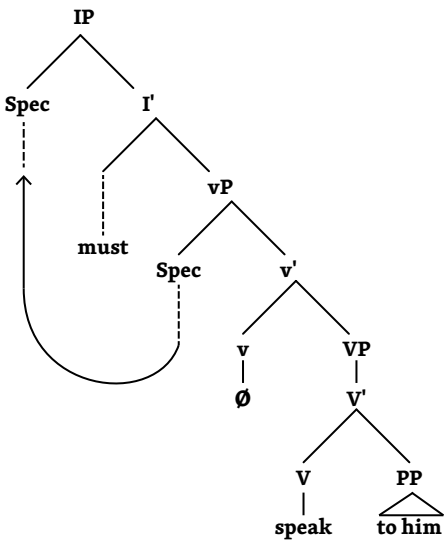

Figure 2 Raising – type a

With category *a* the infinitive is bare and does not have its own IP. There is only one IP in the sentence, and that is the matrix clause where the I position is taken by the modal.

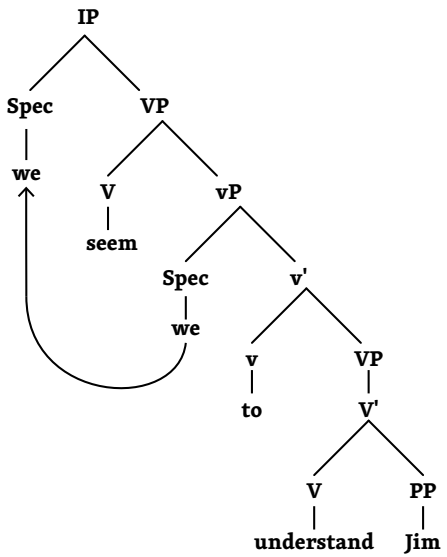

Figure 3 Raising – type b

With category *b* the situation seems to be different because there is a *to*-infinitive complementing the lexical raising verb. However, even in this case there is no IP over the infinitival. To demonstrate this, we will use a set of tests proposed by Wurmbrand (2001).

One of the pointers associated with an independent IP is the possibility of having an independent time adverbial. Raising to subject infinitives are not capable of having their own adverbial of time, as in (20a-b).

(20) a. *Today, we **seem** [$_{vP}$ t to understand Jim (*last week)*].
b. *Yesterday Jim **was likely** [$_{vP}$ to be at home (*tomorrow)*].

Wurmbrand (2014) suggests that distinct adverbs of time would require a projection above vP but still below the raised subject; for us this would mean another IP in Figure 3. In the absence of such separate adverbs, there is no second IP.

A second pointer is the independence of clausal negation. If raising to subject complements are negated (21a-b), the meaning is *the same* as if the main verb is negated, i.e. equivalent to what early generative syntax postulated as a separate rule of NEG-raising.

(21) a. *They didn't seem to understand Jim. = They seemed not to understand Jim.*
b. *Tomorrow, Jim is not likely to be at home. = Tomorrow, Jim is likely not to be at home.*

The scope of negation is over the whole sentence in both cases. With modals, there is only one place for clausal negation, because the sentence is more condensed and has only one I position. Here, dependent clause negation not to can be independent (have a separate truth value) only if associated with a separate embedded I, and these are missing in (21a-b).

So far, we have shown that neither bare VPs selected by modals nor raising to subject infinitives have their own I position, which makes these the smallest of all infinitival complements. Wurmbrand (2001, 297) comes to a similar conclusion, but expresses it in a less direct way. We claim that these infinitives are simply vPs selected by the frame +____v, with the v positions taken by *to,* or left empty in case of complements to modals other than *ought* and the copula of obligation: *Your children ought/ are (not) to stay home*.

Now if raising infinitives were phases, there could not be any movement out of them across the phasal boundary. But the raising to subject predicates, *seem, appear, turn out, happen, be likely* (Rosenbaum 1967), as well as the modals, do allow movement (raising) of embedded subjects. Hence their complements should not be phases. We account for this by claiming that these predicates select vP phrases *based on the functional category v*, and so by (6) these vP are *not phases.* Therefore, a lexical DP can be merged in SPEC(vP) and raise (move out of vP) to Spec(IP) in the main clause, where it receives case from I. Subject movement is allowed precisely because the vP here is selected via its head v, and not via the lexical V head.

4. Exceptional Case Marking

Exeptional Case Marking constructions (ECM), in which the subject of the complement clause receives objective case from the selecting verb (Chomsky 1981, Ch. 3), are of two different types as seen in (22a-c) and (23a-c) below.

(22) a. *Yesterday I expected/wanted Jim to do his homework (tomorrow).*
b. *I don't expect/want Jim to do his homework this afternoon.*
c. *I expect/want Jim not to do his homework this afternoon.* (≠ 22b)

(23) a. *Yesterday I believed/judged/assumed Jim to be a good worker (*tomorrow).*
b. *I don't believe/judge/assume Jim to have prepared his homework well.*
c. *I believe/judge/assume Jim not to have prepared his homework well.* (= 23b)

The verbs in (22) can have adverbs whose temporal reference is not the same as the main clause adverbs. In contrast, the verbs in (23) cannot have independent time adverbials; the time reference of the subordinate clause is determined by the main verb time reference. The locus of independent time reference can in general be taken to be I, which thus must be missing after the verbs (23). Thus, we propose

that the ECM infinitives selected by the epistemic verbs *believe, judge, conclude*, etc. as in (23) do not project to IP but only to vP.

(24) *My parents don't* ***believe*** [$_{vP}$ *him (not) to like me*].

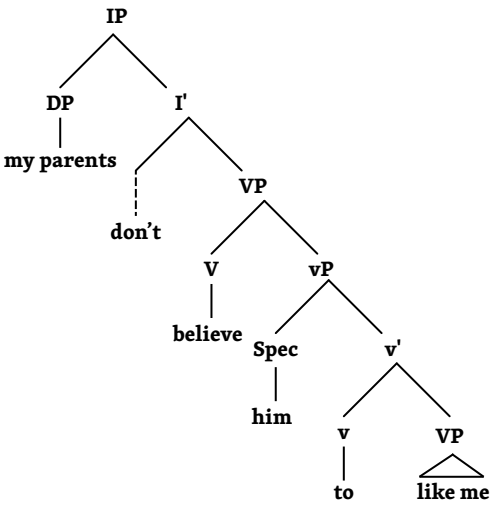

Figure 4 ECM – type a

The syntax of clausal negation for these epistemic ECM verbs (type a) points to the same conclusion as for raising verbs: their complements are not IP. English clausal negation NEG *not/n't* is *the initial element in v'*.[10] We can observe this order directly in simplex clauses with the modal *ought* and the *be* of obligation, which exceptionally allow overt *to*.

(25) a. *Susan ought not/oughtn't to treat him so badly.*
b. *The committee members were not/weren't to leave this room until noon.*

This sequencing and the tree in Figure 4 thus indicate that there are two syntactic positions for NEG between the I and the lower v': *won't believe him to like me* and *will believe him not to like me.* Even though clausal truth value and scope of negation often vary depending on the position of NEG and I, here in both variants, these are the same. That is, these two differing syntactic positions of NEG have no influence on Logical Form interpretation (though they may influence Information Structure). Thus, our ECM structure without an embedded IP successfully accounts for the

10 We do not exclude that NEG may also be a head of NegP, whose complement is vP. But this would complicate not only the correct placement of finite morphology, it would also require placement of ECM subjects in SPEC(NEGP).

long-discussed synonymy of NEG-transportation, without recourse to an ad hoc rule of either syntax or interpretation. Our structures thus formally express what Wurmbrand (2001) takes to be the "mono-clausal" character of not only raising but also epistemic ECM clauses.

Since these epistemic verbs are an open class, i.e. they are not grammatical verbs lacking purely semantic features, and no raising of their subjects is allowed, their vP complements might seem to be phases.[11] However, the case marking of the infinitival subject is done across the vP phrasal boundary and therefore they cannot be phases because this would violate our strengthening in (6b) of the PIC (1).

What then is the reason that these vP complements are not phases? Lakoff – Ross (1966) found that infinitive complements of ECM type a verbs are subject to a general restriction, namely they cannot be headed by activity verbs.

(26) a. *They considered Jim to know physics/need more money/be winning the game/have lost.*
b. **They considered Jim to learn physics/steal more money/win the game/lose.*
c. *Mary believed her fiancée to own houses/envy her/be getting rich.*
d. **Mary believed her fiancée to buy houses/fire her/get rich.*

Thus, ECM type a verbs do not simply select VPs; they select vPs w*ith the feature +STATIVE* (they are lexically specified as V, +___Stative). This feature, as Lakoff – Ross (1966) point out, occurs in (26) on auxiliaries (v) as well as on V. Thus, ECM type a verbs, though open class items, do not freely select V-headed complements. Since they select rather a feature of v (and V), Principle (6) determines that their vP complements are not phases.

With ECM type b verbs, negation of the main clause in (27a) results in different meanings from the negation of the subordinate clause (27b), so the infinitive must project to its own IP.

(27) a. *John did not want Jim to buy the book.*
b. *John wanted Jim not to buy the book.*
(28) *John* ***wants*** [$_{IP}$*Jim to buy the book*].

11 These embedded subjects can also undergo passive movement: J*im was judged to have done well, Mary was believed to have won the contest*. This is further evidence that these ECM complement clauses are not phases.

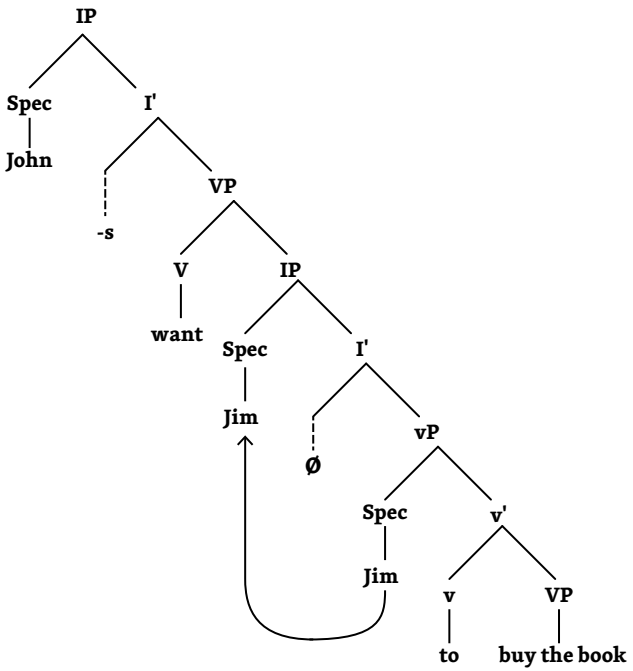

Figure 5 ECM – type b

The infinitive in (28), which can have its independent time adverbial and a different clausal negation, is at least an IP, because these ECM type b verbs select a whole proposition, i.e. an IP as their complement.

Moreover, this infinitive (28) can optionally begin with a complementizer – the preposition *for*.[12] This suggests that this type of ECM infinitive are bigger than a raising to subject infinitive, while those after *believe*-type epistemic verbs, is the same size, i.e. vP, even though neither of them qualifies as a phase.

12 Some ECM infinitives can also be introduced by the complementizer preposition *for*, namely those ECM infinitives that are CPs with possible independent adverbials of time. *She wants* (*these days*) (*for*) *Peter to like her.* but *She believes* (**currently*) (** for*) *Peter to like her.* Other verbs that are typically subject control verbs (see below) can require the complementizer *for* when there is no controller. *I hope* *(*for*) *John to be happy.* but *I intended* (*for*) *John to do it.* In all such examples the infinitivals are CPs and therefore phases. Clausal negation and time adverbs are different in the two different IPs. The vPs that they include are by themselves not phases because they are introduced (selected) by a closed class null item in I that expresses modality.

5. Obligatory control

Obligatory Control (OC) infinitives, be they subject, object or arbitrary control, always have an empty subject DP, which is termed a PRO. The presence of this null subject is incompatible with subject movement out of the clause or with case-marking into the clause from outside (6b). Control involves two noun phrases which are co-referential: a main clause "controller" and the subordinate clause subject.

(29) *Jim*$_i$ *decided/proposed/hesitated yesterday* [PRO$_i$ *to use these books (next semester)*].
(30) *Jim today encouraged/urged/persuaded John*$_i$ [PRO$_i$ *to study history (next year)*].

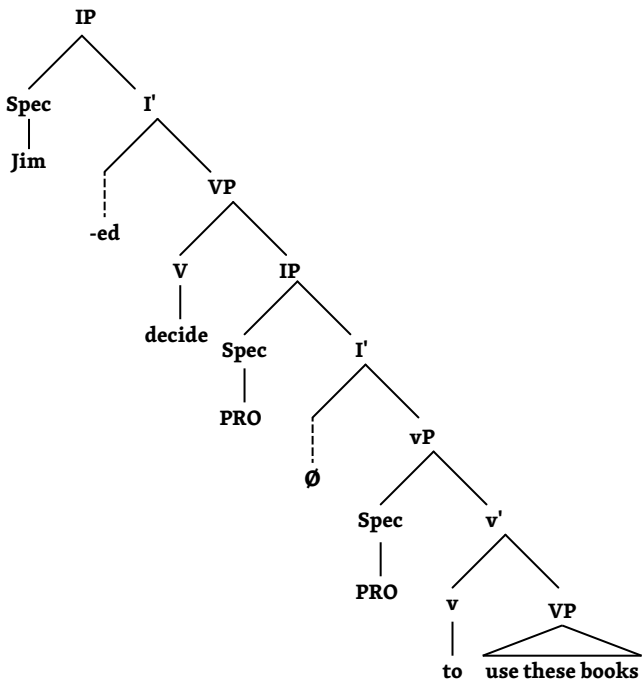

Figure 6a Obligatory subject control

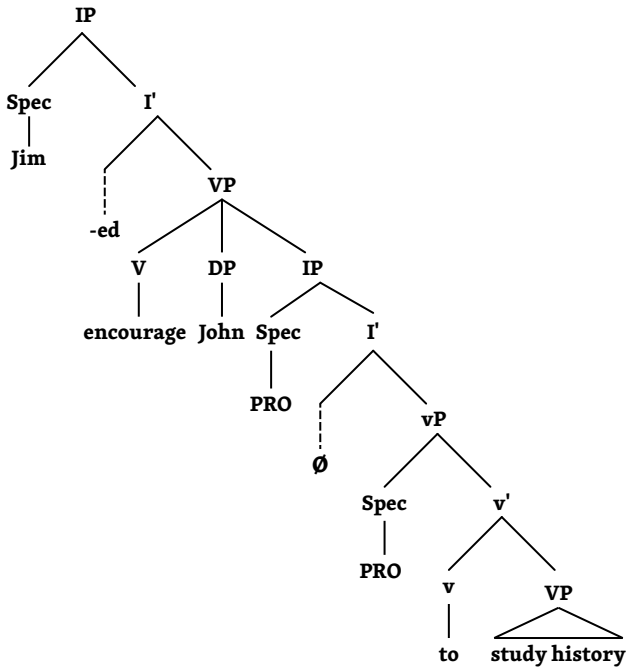

Figure 6b Obligatory object control

Exceptional case-marking, raising or *for*-phrase case never apply to an embedded subject in OC constructions:

(31) a. *Jim decided (*his students) to use these books.*
b. **The children were decided to use those books (by their father).*
c. *Jim decided (*for his children) to use those books.*

Crucially OC arises whenever a certain selectional restriction is fulfilled: when a verb in (29) and (30) selects a VP, i.e. a phrase headed by the lexical category V (via the frame +___V). According to Emonds (2000, Ch. 2), the syntactic category V and the LF feature +ACTIVITY are formally identical. This means that a stative (-ACTIVITY) verb is just a V whose defining feature is *not interpreted* in LF; otherwise, a head V lacking this special lexical marking *must be interpreted as +ACTIVITY*. In fact, this general interpretive condition is imposed, at least metaphorically, even on stative verbs that head an OC infinitive, as seen in (32–33) (Lakoff – Ross 1966).

(32) a. ?*My friend tried/decided/failed to owe less money/to be tall/to like the new job.*
b. **Our situation tried/decided/failed to owe less money/to be tall/to like the new job.*

(33) a. ?*We forced/convinced/urged John to need less money/to be tall/to like the new job.*
b. **The crisis forced/convinced/urged John to need less money/to be tall/to like the new job.*

(34) Activity Condition: Obligatory control results from selection of V.
A category that is lexically selected must be interpreted (i.e. as V= Activity).

This Activity Condition (34) on the interpretation of OC infinitives is plausibly an automatic reflection of the fact that they are selected by +___V (i.e. +___ACTIVITY) rather than by +___F, where F is some functional category such as v, I, or C.

Structurally, OC infinitives must project to vP, since they are always introduced by *to*. Moreover, there are good reasons to believe that they are at least as large as IPs. First, like ECM infinitives with epistemic verbs (Section 4), OC infinitives can have tense that is independent of the matrix tense, as seen already in (29)-(30). Second, clausal negations of the main and OC subordinate clauses result in different meanings.

(35) a. *Jim has not decided to study history.*
b. *Jim has decided not to study history.*
(36) a. *Jim did not persuade John to study history.*
b. *Jim persuaded John not to study history.*

As earlier with type b ECM verbs, independent tenses and clausal negations in complements reflect separate IPs, so we conclude that OC infinitives must be IPs that contain vPs, as seen in Figures (6a-b).

The question now is, what forces the OC infinitives selected by +___V to project to IP? Our answer is that an Agent role is a necessary concomitant of the required activity interpretation of all OC infinitives (34), as just discussed. So, we ask, in which syntactic position are Agent roles actually assigned? For rather sketchy theory-internal reasons, several analyses have assumed that Agent is assigned in (some but not all) Spec (vP). But let us compare which types of *to*-infinitives, beyond OC infinitives, may or may not have Agent subjects:

Tab. 1 Correlation of Agents with clausal structures

Structural type of infinitive	Highest position of subject	Assignment of Agent role to subject
Subject-to-subject raising	SPEC(IP)	if an embedded V is an activity verb
ECM verbs type b (*expect*)		
For-to clauses		
Epistemic ECM verbs type a	SPEC(vP)	not possible cf (26)

The fact is, the ECM type a infinitives *requires* Stative verbs (37a-b), which include aspectual and passive auxiliaries, in contrast to other classes of infinitives. The raising verbs (37c-d), ECM verbs (the *expect* type) (37e) and *for-to* infinitives (37f) listed in the table all allow both activity and stative verbs.

(37) a. **We all believed Harry to insult Bill.*
b. **They consider their teacher to fail half of them.*
c. *Harry seemed to insult Bill.*
d. *Harry seemed to know the answer.*
e. *They all expect their teacher to fail half of them/to know the answer.*
f. *They are ready for the teacher to fail half of them/to be upset.*

From this distribution, we conclude that the assignment of an Agent role to subject phrases is possible only in SPEC(IP). So, in order for a subject of an OC infinitive to receive an Agent role, the vP of these infinitives must project to IP, which then allows them to have independent tense and negation. We must also asume that any heads that are in this required IP above the selceted V are null.

(38) Agent Interpretation
An Activity interpretation requires an Agent, and Agents are assigned in SPEC(IP).

Now, returning to Principle (6), since OC infinitives are selected by virtue of their interpreted lexical head V, it follows that they must be phases. As a result, their subject NPs can neither be case-marked (from outside vP), nor can they move outside of vP to receive case in a higher position. They consequently must be null, and receive their reference as null pronouns, rather than from movement or from overt lexical nouns.

(39) *(John/*The syllabus) decided/arranged (*his children) to buy the book.*
(40) $*[_{IP}\ [_{DP}\ \text{lexcial}_j][_I\ \emptyset]\ [_{vP}\ [_{DP}\ \text{trace}_j\ ]\ [_{v'}\ v\ [_{VP}\ \ldots]]]]$

Some OC infinitives can have a *wh*-complementizer. Such a complementizer (e.g. with *decide*) can always select an OC infinitive (Chomsky 1981, Ch. 3).

(41) *John decided/told Jim whether (*his children) to buy the book.*

In this case the infinitival subject NP is null because $[_C\text{WH}\ ]$ cannot assign it Case. The whole infinitival phrase is thus a CP.

Not all OC infinitives are capable of being introduced by a complementizer. The smaller OC infinitives do share all the other properties, however, with their big-

ger counterparts and thus are also phases. Obligatory control infinitives are thus the biggest type of complement infinitives. They are at least IPs and they qualify as phases, which explains why they do not involve any movement out of them and why their subjects cannot be case-marked.

6. Results and conclusions

First, we have demonstrated why the infinitival marker *to* is not in the I position, because it does not share the necessary N.I.C.E. properties of all the other items that can appear in this position. We have seen that instead, *to* is lower in the tree. While expressing irrealis mood like modals, but that it functions as a head of a vP. Little v hosts the infinitival *to,* and sentential negation precedes it, although the less general constituent negation ("split infinitives") follows it.

Regarding the size of infinitives, some infinitives are bigger, for example control infinitives are at least IPs, *for-to* infinitives are CPs, and some ECM infinitives (*expect* type) are also IPs. Other infinitives are smaller vPs like some ECM infinitives (*believe* type) and all raising to subject infinitives. The status of phasehood can be attributed to obligatory control infinitives because they are headed by selected open class category verbs. As phases, they do not permit any movement out of them or case assignment into them.

REFERENCES

Chomsky, Noam. 1981. *Lectures on Government and Binding: The Pisa Lectures*. Berlin/New York: Mouton de Gruyter.

Chomsky, Noam. 2000. Minimalist inquiries: the framework. In: Roger, Martin – Michaels, David – Uriagereka, Juan, eds. *Step by step. Essays on minimalist syntax in honor of Howard Lasnik*. Cambridge, MA: MIT Press, pp. 89–155.

Chomsky, Noam. 2001. Derivation by Phase. In: Kenstowicz, Michael, ed. *Ken Hale: A Life in Language*. Cambridge, MA: MIT Press, pp. 1–52.

Chomsky, Noam. 2008. On Phases. In: Freidin, Robert – Otero, Carlos P., eds. *Foundational Issues in Linguistic Theory. Essays in Honor of Jean-Roger Vergnaud.* Cambridge, MA: MIT Press, pp. 133–166.

Denison, David. 1993. *English Historical Syntax: Verbal Constructions*. London: Longmans.

Emonds, Joseph. 1976. *A Transformational Approach to English Syntax.* New York/Orlando: Academic Press.

Emonds, Joseph. 2000. *Lexicon and Grammar: The English Syntacticon*. Berlin: Mouton de Gruyter.

Erteschik-Shir, Nomi. 1973. *On the Nature of Island Constraints*. Ph.D. thesis. MIT.

Huddleston, Rodney – Pullum, Geoffrey. 2002. *The Cambridge Grammar of the English Language*. Cambridge: Cambridge University Press.

Lakoff, George – Ross, John. 1966. A Criterion for Verb Phrase Constituency. *Report National Science Foundation* 17. Cambridge, MA: Harvard Computation Laboratory.

Legate, Julie Anne. 2003. Some Interface Properties of the Phase. *Linguistic Inquiry* 34(3), pp. 506–515.

Lobeck, A. C. 1995. *Ellipsis: Functional heads, licensing, and identification*. Oxford: Oxford University Press.

Rosenbaum, Peter. 1967. *The Grammar of English Predicate Complement Constructions*. Cambridge, MA: MIT Press.

Wurmbrand, Susi. 2001. *Infinitives: Restructuring and clause structure*. Berlin/New York: Mouton de Gruyter.

Wurmbrand, Susi. 2014. Tense and Aspect in English Infinitives. *Linguistic Inquiry* 45(3), pp. 403–447.

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