

THE SYNTAX OF YES AND NO IN FINNISH*

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Abstract. In Finnish a yes/no-question is normally answered by repeating the finite verb or auxiliary, optionally followed by a string of nonfinite verbs and certain adverbs. The claim is that these yes/no replies (YNRs) are derived by two movements: (1) movement of vP or a larger verb projection containing the subject to the spec of a Topic phrase, where it is either spelled out phonologically, or spelled out as null, resulting in ellipsis; (2) movement of the remnant Polarity phrase to the spec of a higher Focus phrase, where it is spelled out phonologically. This accounts for the syntactic as well as the semantic and distributional properties of YNRs. For example, it accounts for why they have no visible subject, although Finnish does not otherwise allow null subjects in the 3rd person. There is another form of YNR constructed with the subject. These are derived by vP-ellipsis and head movement of Pol to Focus.

1. Introduction

In Finnish an unmarked yes/no-question (YNQ) is normally answered affirmatively by repeating the finite verb of the question. A negative answer consists of the negation, which in Finnish is an auxiliary inflected for subject agreement, optionally followed by the tensed verb.

- (1) – Onko Liisa kotona?
is-Q Liisa at-home
‘Is Liisa home?’
– On.
is
‘Yes, she is.’
– Ei (ole).
not is
‘No, she isn’t.’

The reply in both cases is finite, inflected just like the finite verb or negation plus verb in a regular finite clause, suggesting that the replies are derived from full sentences. In this paper I will present a theory of such yes/no-replies (YNRs) in Finnish based on the idea that they are indeed derived from full sentences by movement of minimally the finite verb,

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auxiliary, or negation plus optionally certain other sentence constituents to a position outside IP, where they are spelled out, while IP is not spelled out, resulting in IP-ellipsis. The strongest single piece of evidence of this analysis is that although 3rd person subject pronouns generally must be overt in Finnish, YNRs never require an overt subject. This follows if the subject is elided together with IP.

In colloquial Finnish a YNR may include an overt subject:

- (2) a. On se (kotona). (Question: Is Liisa home?)
 is she at-home
 ‘Yes, she is.’
 b. Osti se (aamulla) (maitoa). (Question: Did she buy milk?)
 bought she in-morning milk
 ‘Yes, she did, this morning.’

This form of YNR may consist of minimally the finite verb or auxiliary followed by a subject pronoun, but may also include other sentential and VP-internal material, such as the locative predicate in (2a), or the time adverbial or the object in (2b). A YNR cannot, however, contain those categories if it does not also have a visible subject. On the other hand, it may include certain types of adverbs, for example the modal adverb in (3c).

- (3) a. *?On kotona.
 is at-home
 b. *Osti aamulla.¹
 bought this morning
 c. On kai.
 is probably

Explaining these generalizations is one of the goals of this paper. It will be argued that YNRs including the subject are derived by VP-ellipsis, while subjectless YNRs are derived by a form of IP-ellipsis. A challenge for this theory is the fact that subjectless YNRs may consist of a string of auxiliaries and verbs, as in the following exchange:

- (4) – Onko Matti käynyt Pariisissa?²
 has-Q Matti been/visited in-Paris
 ‘Has Matti been to Paris?’
 – Ei ole käynyt.
 not has been
 ‘No, he hasn’t.’

¹ (3b) is fine with an intonational break before the adverb. No such break is required in (2b).

² The verb *käynyt*, participle of *käydä*, means to have gone and returned, and is constructed with inessive case. It will henceforth be glossed as ‘been to’.

If this YNR is derived by IP-ellipsis, the string of auxiliaries and verbs must have moved out of IP. The challenge is to account for the fact that this movement preserves the linear order of the auxiliaries and verbs, as if they had not moved. It will be shown that the auxiliaries and verbs, rather than being moved individually by head-movement, are moved as parts of a remnant Polarity Phrase. More precisely, the claim is that YNRs such as the ones in (1) and (4) are derived essentially by two movements: Movement of vP with the subject to a topic position, followed by movement of a remnant Polarity Phrase to a higher focus position. If only the remnant Polarity Phrase is spelled out, the result is a YNR without a spelled out subject, but with the auxiliaries and verbs in their base-generated linear order.

The theory accounts for the ordering facts, and the distribution of subjects, adverbs, and other constituents found in Finnish YNRs. It also accounts for the distribution of IP and VP-ellipsis. Of the two, IP-ellipsis has a more restricted distribution: While VP-ellipsis is found in a variety of discourses, IP-ellipsis is by and large restricted to YNRs. This will be explained in terms of a condition on polarity focus, a characteristic of YNRs.

Unmarked Finnish YNQs are formed by movement of the finite auxiliary or verb to C, and cliticising the question morpheme *-ko* to it. A marked variety of YNQs are formed by moving a phrasal constituent (an argument or adverbial) to the C-domain, and cliticising *-ko* to it. The result is a YNQ with constituent focus. These YNQs are generally not replied to by repeating the finite verb or auxiliary. Such question-answer pairs are dealt with only briefly in this paper.

The theory which will be constructed to account for the properties of YNRs is a derivational, minimalist-oriented theory, incorporating a version of the theory of derivation by phase (see Chomsky 2000, 2001). It will be assumed that an ellipsis is a phase that is spelled out as null, and interpreted by copying the LF of a corresponding antecedent constituent. This view of ellipsis is not crucial;³ an alternative is that ellipsis is a matter of PF-deletion of a part of a fully derived and spelled-out structure. An argument will be presented against this alternative, though.

2. Yes and no in Basque and Irish

Two recent discussions of YNRs are found in Laka 1990, discussing Basque in particular, but also Spanish and English, and McCloskey 1991, discussing Irish. Laka 1990 postulates a head Σ , encoding polarity and focus. In Basque this head c-commands and precedes IP (as also in

³ Holmberg 1999 took this view of ellipsis to be crucial. That theory had a number of shortcomings though, empirical as well as theoretical, which are hopefully amended in the version presented here.

(or *-kö*, subject to vowel harmony). The question morpheme attracts an overt category to sentence-initial position, where *-ko* is encliticized to it. The attracted category can be an XP, which in that case is the focus of the question. In the unmarked case the attracted category is I, containing the finite auxiliary, negation, or verb.

- (10) a. Onko Matti käynyt Pariisissa?
 has.Q Matti been to.Paris
 a'. On+ko [_{IP} Matti t [. . . käynyt Pariisissa]]
 b. Pariisissako Matti on käynyt?
 to.Paris.Q Matti has been
 'Is it Paris that Matti has visited?'
 b'. Pariisissa+ko [_{IP} Matti on [. . . käynyt t_{obj}]]

SpecCP is the target of overt wh-movement (of a single wh-phrase), and of contrastively focused XPs (see Vilkuna 1995). In those cases C does not contain *-ko*. There are some other enclitic particles which occur in C, in complementary distribution with *-ko*, which also attract either an XP or I to CP or C, but I can move to C also in the absence of a visible particle. The semantic effect is contrastive polarity focus.⁶

- (11) a. On Matti käynyt Pariisissa (mutta vain lentokentällä).
 has Matti been to Paris (but only at.airport)
 'Matti HAS been to Paris (but only at the airport).'
- b. Juon minä kahvia (mutta en näin myöhään illalla)
 drink I coffee (but not this late at.night)
 'I do drink coffee (but . . .).'
- c. Ei se tiedä valokuvaamisesta mitään.
 not he knows about-photography anything
 'He doesn't know anything about photography.'

4. VP-ellipsis in Finnish

Finnish has VP-ellipsis (ABL = ablative):

- (12) a. Liisa ei ole käynyt Pariisissa, mutta Matti on.
 Liisa not has been to-Paris but Matti has
 'Liisa hasn't been to Paris, but Matti has.'
- b. Minä luulin etta Matti ei pidä Pariisista, mutta se pitää.
 I thought that Matti not like Paris-ABL, but he likes
 'I thought that Matti didn't like Paris, but he does.'

(12a) is uncontroversially a case of VP-ellipsis, with by and large the same properties as English VP-ellipsis, as regards the structural relation to an antecedent and the identity relation, including the possibility for

⁶ It seems that the contrastive effect can be weaker, or even absent, in the case of negative fronting to C, as in (11c).

strict or sloppy identity of referents. That (12b) is also a case of VP-ellipsis is a little more controversial. Another possibility is that it is a case of object NP ellipsis ('object pro-drop'); see Oraviita (1992:29f). However, I assume, following a proposal by Huang (1991) for comparable constructions in Chinese, and McCloskey (1991) for Irish,⁷ that it is indeed VP-ellipsis: The verb has moved out of VP (to I), with deletion (or rather, not spelling out) of the VP. One piece of evidence that it is VP-ellipsis is that it exhibits the strict or sloppy identity pattern characteristic of VP-ellipsis.⁸

- (13) a. Liisa ei ole ottanut rahaa tililtään, mutta minä olen.
Liisa not has drawn money from-account-POSS but I have
'Liisa hasn't drawn money from her bank account, but I have.'
b. Matti ei löytänyt avaintaan, mutta minä löysin.
Matti not found key-POSS but I found
'Matti didn't find his key, but I did.'

There are two readings of the ellipsis in (13a), namely that I have drawn money from Liisa's account (strict identity) or my own account (sloppy identity). In the same way there is a strict and a sloppy reading of the ellipsis in (13b). Compare (14), which only allows the strict reading.

- (14) . . . mutta minä löysin sen.
but I found it

I claim that (15), too, is a case of VP-ellipsis, following movement of the participle out of VP.

- (15) Matti ei ole löytänyt avaintaan, mutta minä olen löytänyt.
Matti not has found key-POSS but I have found

Given that nonfinite verbs, too, move out of VP, as argued by Holmberg et al. 1993 and Koskinen 1997, we predict such VP ellipsis to be possible. Again, the possibility of strict or sloppy identity argues in favour of VP-ellipsis, over object NP ellipsis, since again addition of the object pronoun excludes the sloppy reading.

- (16) . . . mutta minä olen löytänyt sen.
but I have found it

Thus the structure of the second conjunct in (15) is roughly (17):

- (17) [_{IP} minä olen löytänyt [_{VP} Δ]]

The subject and the verb have left VP, and are spelled out in their derived

⁷ See also Otari & Whitman (1991) on Japanese, Stjepanovic (1997) on Serbo-Croat, Paul (1999) on Chinese.

⁸ See, however, Hoji (1998) and Kim (1999) for a critical view of the argument from strict and sloppy identity.

positions, but the object remains in VP, and since VP is not spelled out, neither is the object.

5. Null subjects

Finnish is a partial null subject language: First and second person subject pronouns can be null but third person subject pronouns cannot, in all tenses and moods. The paradigm is exemplified in (18), with the present tense indicative form of the verb *käydä* ‘go, visit’.⁹

(18) SG	PL
1. (minä) käyn	(me) käymme
2. (sinä) käyt	(te) käytte
3. hän/se käy	he/ne käy/käyvät

In colloquial Finnish 1st and 2nd person pronouns are, in fact, rarely dropped. One case where the third person subject pronoun can be empty in a finite clause is when it is anaphoric to the subject of a higher clause; see Oraviita (1992).

- (19) a. Liisa väittää ettei (hän) osaa puhua ruotsia.
 Liisa claims that-not (she) can speak Swedish
 b. Jussi saa tulla, jos (hän) tulee yksin.
 Jussi may come if (he) comes alone

The covert pronouns in (19a,b) can only be interpreted as anaphoric to the higher subject, while the overt pronouns can be referentially disjoint from it. The anaphoric relation cannot in general extend across independent sentence-boundaries, though.

- (20) – Missa Matti on ollut?
 where Matti has been
 – *On käynyt Pariisissa.
 has been in-Paris

In this case the pronoun must be overt. Another case where a pronoun other than 1st and 2nd person can be, in fact must be, covert, is when it has generic reference; see Oraviita (1992).¹⁰

⁹ In Standard Finnish the 3SG human pronoun is *hän*, the 3PL human pronoun *he*, while the 3SG and 3PL nonhuman pronouns are *se* and *ne*, respectively. In most varieties of colloquial Finnish *se* and *ne* are used for humans and nonhumans alike. I will mostly use *se/ne* for humans, since the relevant constructions have a colloquial flavour anyway. The 3PL suffix is not used in colloquial Finnish.

¹⁰ Oraviita 1992 mentions the possibility of a covert pronoun in cases like (i):

- (i) – (He) nukkuvat. (Q: ‘What are the children doing?’)
 they sleep-3PL

This form of covert subject pronoun will not be discussed in this paper. Note that even for instance Swedish allows a covert subject in such contexts:

- (21) a. Saa tulla katsomaan.
 may come look
 ‘You/people may come and look.’
 b. Kaunis ilma houkuttelee jäämään.
 beautiful weather tempts (one) to stay

6. Simple and complex YNRs

A YNQ can be answered by a sentence with a subject pronoun and optionally other sentential material in it.

- (22) – Onko Liisa kotona?
 is-Q Liisa at-home
 – On se (kotona).
 is she (at-home)
 ‘Yes, she is.’
 (23) – Oletko lukenut tämän päivän lehden?
 have-2SG-Q read this day’s paper
 ‘Have you read today’s paper?’
 – En minä (vielä) ole.
 not I yet have
 ‘Not yet.’

These YNRs may, but need not have the contrastive polarity focus reading described in section 4. I will henceforth refer to the short, subjectless YNRs as ‘simple YNRs’, and the YNRs with an overt subject as ‘complex YNRs’.

A simple YNR may contain a combination of the following categories: the negation auxiliary, the auxiliary *ole* ‘be, have’, a modal verb, a restructuring verb, and a main verb.

- (24) a. Ei (ole (voinut (lukea))) (Q: ‘Has he been able to read the paper?’)
 not has could read
 b. On (halunnut (mennä)) (Q: ‘Has he wanted to leave?’)
 has wanted go

The class of restructuring verbs is the class which is familiar from studies of clitic climbing, scrambling, etc. in other languages (see Rizzi 1978, Wurmbrand 1998, Cinque 2000), for example *osata* ‘be able’, *haluta* ‘want’, *saada* ‘be allowed’, but not for example *vihata* ‘hate’, *muistaa*

(ii) – (Dom) sover.
 they sleep-PRES

(Q: ‘What are the children doing?’)

Swedish is not a null-subject language in any sense, nor does it allow YNRs consisting of just a verb. This suggests that the derivation of the subjectless form of (i) is quite distinct from the derivation of subjectless YNRs.

'remember', or *ymmärtää* 'understand', although they take superficially the same form of infinitival complement.

- (25) – Osaako Liisa puhua ranskaa?
 can-Q Liisa speak French
 – Osa (puhua).
 can speak
 'Yes, she can.'
- (26) – Vihaako Liisa puhua ranskaa?
 hates-Q Liisa speak French
 'Does Liisa hate to speak French?'
 – Vihaa (*puhua).
 hates speak
 'Yes, she does.'

In addition a bare YNR may contain certain adverbs, namely various mood and modal adverbs (in Cinque's 1998 typology). The following could all be replies to 'Is Liisa home?'.

- (27) a. Kuulemma on.
 allegedly is
 b. On kai.
 is presumably
 c. Ei tietenkään ole.
 not of.course is
 'Of course not.'

They cannot contain other sentential material, though. By definition they do not contain a subject, but they also do not admit objects or other verb complements, circumstantial adverbials (time, place, manner, etc.), or adverbs which are low in Cinque's 1998 adverb hierarchy, essentially the aspectual adverbs (except in some cases if the adverb is set off by an intonational break).

- (28) a. *?On kotona.¹¹ (Q: 'Is she home?')
 is at-home
 b. *On taas. (Q: 'Is she home?')
 is again
 c. *Ei nyt ole. (Q: 'Is she home?')
 not now is
 d. *Tulee pian. (Q: 'Is she coming?')
 comes soon
 e. *Osti maitoa. (Q: 'Did she buy milk?')
 bought milk

¹¹ A reviewer points out that this reply is possible if the replier 'is irritated about the question, and wants to show it'.

Complex YNRs, on the other hand, contain a subject and may contain basically any other sentential constituents, although frequently some portion of the sentence is elided. Compare (28) and (29):

- (29) a. On se kotona.
is she at-home
b. On se taas (kotona).
is she again (at-home)
c. Ei se nyt ole (kotona).
not she now is (at-home)
d. Tulee se pian.
comes she soon
e. Osti se (aamulla) (maitoa).
bought she (in.morning) (milk)

The finite auxiliary/verb precedes the subject, indicating that it has moved from I to C.

Another form of YNR is exemplified in (30), using the affirmative word *kyllä* 'yes'.

- (30) a. – Kyllä. (Q: 'Does she speak French?')
yes
b. – Kyllä puhuu.
yes speaks
'Yes, she does.'
c. – Kyllä se puhuu.
yes she speaks
'Yes, she does.'

As shown, *kyllä* may occur in isolation or accompanied by other sentential material. As shown, there is a simple, subjectless version, as well as a complex version including the subject. The simple version may consist of a string of auxiliaries, verbs and higher adverbs, the same ones as in regular simple (affirmative) YNRs, thus excluding for example aspectual adverbs. The complex version may contain any sentential categories.

- (31) a. *Kyllä nykyään puhuu. (Q: 'Does she speak French?')
yes nowadays speaks
b. Kyllä se nykyään puhuu.
yes she nowadays speaks
'Yes she does, nowadays.'

These findings may be summed up in the following generalization:

- (32) If the subject in a YNR is covert, verb complements, circumstantial adverbials, low adverbs, and generally everything except auxiliaries, verbs, and high adverbs must be covert as well, but not vice versa.

In the following I will first sketch a theory of YNRs which has some initial plausibility, but which, on a closer look, can be shown to be flawed. This will also serve to highlight the role that polarity plays in connection with YNRs. I will then present a theory which appears more promising, not only explaining the generalization (32), but also accounting for the distribution of VP and IP-ellipsis.

7. The role of polarity focus

A straightforward analysis of YNRs is that they are all derived by head movement of I (more precisely, the highest head in the I-domain) to C, more specifically Σ , except when Σ is already filled by *kyllä*. This accounts for the complementary distribution of I-movement and *kyllä*:

- (33) a. *Kyllä* (se) on.
 yes he is
 b. On (se).
 is he
 c. Ei (se) ole.
 not he is
 d. **Kyllä* on se.

The analysis of *kyllä* as base-generated Σ accords with Laka's 1990 analysis of *ba* in Basque; see section 2. The analysis of *kyllä* may be extended to the confirmative particle *niin* 'so', whose distribution is similar to that of *kyllä*.

- (34) a. *Niin* (se) on.
 so he is
 b. **Niin* on se.
 so is he

Laka's 1990 argues that English *so* is base-generated Σ .

This does not account for the optionality of the subject pronoun, though. One may postulate a special rule:

- (35) 3rd person *pro* is licit in the context Σ [_{IP} X], if Σ is overt.

This rule, in conjunction with VP-ellipsis, will account for the YNRs in (33). However, it fails to account for generalization (32): If the subject is covert, the sentence cannot contain verb complements, adverbials or low adverbs. The following modification will account for (32):

- (36) 3rd person *pro* is licit in the context Σ [_{IP} X], if Σ is overt, and X only contains heads in the I-domain (assuming that lower adverbs belong to the V-domain; see below).

Even with this formulation the special licensing rule, aside from being *ad hoc*, is descriptively inadequate. Consider the following exchange:

- (37) – Matti ei ole käynyt Pariisissa.
 ‘Matti hasn’t been to Paris.’
 – On *(se).
 has he
 ‘Yes he has.’

The emphatic denial presumably exhibits Σ , the polarity focus operator, here lexically supported (i.e. made overt) by the auxiliary *on*.¹² Yet in this case the subject cannot be covert.¹³ This shows that rule (36) is inadequate. It also demonstrates an important property of the form of ellipsis typically found in YNRs, that is ellipsis of a large enough portion of the extended verb projection to include the subject: It has a more restricted distribution than VP-ellipsis. (36) is a typical VP-ellipsis context. Complex YNRs are plausibly derived by VP-ellipsis, and as demonstrated, a corresponding ellipsis is possible in (37). The larger ellipsis which includes the subject (that is IP-ellipsis) is, however, not possible in this context. Consider also (38), another typical VP-deletion context:

- (38) Ne väittää että Matti on käynyt Pariisissa, mutta ei *(se) ole.
 they claim that Matti has been to-Paris but not he has
 ‘They claim that Matti has been to Paris, but he hasn’t.’

Again this is ellipsis of part of the denial of a preceding claim, hence it is a polarity focus construction, by hypothesis featuring Σ , attracting the negation in this case. And again VP-ellipsis is fine, but not IP-ellipsis. (39) is a related case, where the truth of the preceding statement is not denied, but questioned.

- (39) Ne väittää että Matti on käynyt Pariisissa, mutta onko *(se)?
 they claim that Matti has been to-Paris but has-Q he

In fact, so far we have seen IP-ellipsis only in YNRs, in other words, it looks like the antecedent of IP-ellipsis must be a YNQ. What is the crucial property of YNQs that make them good antecedents of IP-ellipsis, unlike statements? Presumably it is the fact that they do not have fixed polarity. There appear to be two preconditions for IP-ellipsis: (a) the sentence containing the ellipsis should exhibit polarity focus, hence Σ , attracting the finite auxiliary/verb or triggering merge of the special Σ -particle *kyllä*, and (b) the antecedent should have open polarity.

We can understand the conditions (a) and (b) as follows: Consider a common contrastive focus construction such as (40):

- (40) It’s John she likes.

According to a fairly standard theory, going back at least to Chomsky

¹² Laka 1990 argues that *yes* in English is a realization of Σ . The translation of (37) includes *yes*, hence Σ , if Laka 1990 is right.

¹³ See footnote 18 below for a modification.

1972, contrastive focus is an operator which takes two arguments, a presupposition and an assertion.

- (41) Presupposition: She likes x .
 Assertion: x is John, not Mary or Bill.

The presupposition is a clause containing a variable, and the assertion picks an individual (or group) out of a contextually given set of alternative individuals (or groups) as the value of the variable. In the case of the cleft construction, the binder-variable relation is derived in the syntax by overt movement. In other cases it is, arguably, derived by covert movement (but see Kayne 1998).

I assume that polarity focus has a similar semantic analysis, and at least in Finnish, a similar syntactic analysis, in the sense that it is derived by overt movement to the C-domain.

- (42) On Matti käynyt Pariisissa.
 has Matti been to Paris
 ‘Matti HAS been to Paris’

Polarity focus is an operator Σ which takes two arguments: a clause with variable polarity, the presupposition, and a clause which picks out one of the two possible values that the polarity variable can have, the assertion. Which value is picked out, is determined by the feature value that Pol, moved out of IP, has. In the case at hand, it is affirmative.

- (43) a. Matti Pol _{x} has been to Paris. (or: Matti has or hasn’t been to Paris.)
 b. x is affirmative, not negative.

I will write (43) as (44b), henceforth the LF. I assume the operator and the two arguments form a specifier-head-complement structure, but this assumption is not crucial. The syntactic structure that maps to the LF is, roughly, (44a); at that point the trace of the moved Pol is a copy, at LF it is a variable.

- (44) a. On+ Σ [Matti Pol_{affirm} käynyt Pariisissa]
 b. [[x is affirmative] Σ [Matti Pol _{x} has been to Paris]]

Thus IP is spelled out in LF as the presupposition, while the C-domain is spelled out as the assertion.

In the case of IP-ellipsis, all that is spelled out is the C-domain, i.e. the assertion. The presupposition is missing, and has to be copied from an antecedent. That antecedent has to have variable polarity, or else the assertion will have no variable to apply to, and the sentence ends up violating Full Interpretation, in terms of Chomsky (1986: 98ff). The only sentence types that have variable polarity are YNQs and, if I am right, polarity focus constructions (henceforth PFCs), including those which

exhibit IP-ellipsis. Hence the antecedent of IP-ellipsis must be a YNQ or a PFC. The following is an example to show that a PFC, itself simple or complex, may be the antecedent of IP-ellipsis.

- (45) – Ei Matti Pariisissa ole käynyt.¹⁴
not Matti to-Paris has been
‘Matti has NOT been to Paris.’
– On käynyt.
‘Yes, he has.’
– Ei ole.
‘No, he hasn’t.’
– On.
‘Yes.’

An argument sometimes ends up having two participants hurling contradictory PFCs at each other. This is a case where IP-ellipsis has a PFC as antecedent, where the PFC itself may be elliptic. The more common case is when the antecedent is a YNQ.

The LF of a YNQ (45a) can be represented as (46b):

- (46) a. On+ko [_{IP} Matti Pol_{aff} käynyt Pariisissa]
b. Q [Matti Pol_x has been to-Paris]

Copying the LF substructure corresponding to IP and substituting it for the ellipsis (formally Δ), in (47a), yields (47b), which is equal to (44b).¹⁵ The PF, in Finnish, is (47c).

- (47) a. [[x is affirmative] [Σ [Δ]]]
b. [[x is affirmative] [Σ [Matti Pol_x has been to Paris]]]
c. On.

Copying the IP-portion of the LF of a statement, for example (48a), and substituting it for Δ in (47a) yields (48b), which is ruled out by Full Interpretation.

- (48) a. Matti ei ole käynyt Pariisissa.
Matti not has been to Paris
b. [[x is affirmative] [S [Matti Pol_{neg} has been to Paris]]]

The problem in (48b) is not the mismatch between the affirmative assertion and the negative value of Pol in the presupposition, but the fact that Pol has a value at all. The dialogue (49), where the antecedent is

¹⁴ See discussion around (68) about the word order in this sentence.

¹⁵ It is well established, since Sag 1980, that VP-ellipsis is copying (or matching) of LF, not pre-spell-out syntactic structure. See, however, Lasnik 1997 for a case where morphology seems to play a role in ellipsis.

a statement with affirmative polarity, is not good, either, since in this case, too, the retort lacks the variable Pol that Σ needs.¹⁶

- (48) – Matti on käynyt Pariisissa.
 Matti has been to-Paris
 – *On.
 has

Now consider what happens if (48a) is the antecedent of the ellipsis characteristic of complex YNRs. That is, assume that (48a) gets the retort (50):

- (50) On se.
 has he
 ‘Yes, he has.’

The presence of the subject shows that this is not IP-ellipsis, but VP-ellipsis (below I will be more precise regarding the identity of the projection that is elided in this case). So all that needs to be copied (and all that can be copied) from the antecedent is the LF of the VP. Consequently it does not matter whether Pol is or is not specified: The antecedent can be a statement as well as a question. The LF of (50) is (51a). The CP-domain is spelled out as an assertion as to the value of x , in this case affirmative, as a result of movement of the affirmative Pol to the CP-domain. The IP-domain is spelled out as a subject pronoun with referential index i and a variable Pol (and a specific tense etc., not indicated here), and the VP is spelled out as null. Copying the LF of the VP of the antecedent (48) yields (51b):

- (51) a. $[x \text{ is affirmative}][\Sigma [\text{he}_i \text{ Pol}_x \dots [\Delta]]]$
 b. $[x \text{ is affirmative}][\Sigma [\text{he}_i \text{ Pol}_x \dots [\text{been to Paris}]]]$

(38) and (39) are accounted for in the same manner: The subjectless retort alternatives are ruled out by Full Interpretation, since copying the IP-portion of the antecedent yields an LF where the presupposition has fixed polarity. The alternatives with a subject are well formed, since all that is copied from the antecedent in this case is the VP.¹⁷

¹⁶ An appropriate response in this case would be (i), using the confirmative particle *niin* ‘so’.

- (i) Niin on.
 ‘So he has.’

We may characterize *niin* as the realization of a variety of Σ which takes two arguments, a presupposition with affirmative polarity, and an assertion of the truth of the presupposition.

¹⁷ The following dialogue is a potential counterexample, to be compared with (39).

- (i) – Matti on käynyt Pariisissa.
 Matti has been to-Paris
 – On ko?
 has-Q
 ‘Has he?’

Presumably the crucial difference between (39) and (i) is that (i) is not a request for a reply. It

Note that we can see a similar effect in English: An objection to the claim *Matt hasn't been to Paris* cannot be just *Yes*, but must be minimally *Yes, he has*. This follows if a plain *Yes* is derived by IP-ellipsis (as proposed by Laka 1990), hence relies on IP-copying. For the reasons discussed, what we want in the present case is VP-ellipsis/VP-copying, hence *Yes, he has*.¹⁸

8. Deriving YNRs

The idea is that complex YNRs are derived by VP-ellipsis, that is by spelling VP out as null, and interpreting it by copying the LF of an antecedent VP, while simple YNRs are derived by a corresponding ellipsis of IP. As long as the YNR consists of a single finite auxiliary or verb the analysis is relatively straightforward: The finite auxiliary or verb moves out of IP, adjoining to Σ , so at the point when IP is spelled out as null, the auxiliary/verb is not affected. It is spelled out when the time comes to spell out the CP-domain (the more precise operation of cyclic spell-out will be detailed below). But, as shown in section 6, a simple YNR may consist of more than a single item: it may consist of a string of auxiliaries and verbs, interspersed with modal adverbs.

- (52) a. On. (Q: Has he wanted to go to Paris?)
 has
 b. On varmaan halunnut mennä.
 has surely wanted go

So it seems that an entire string of verbal heads and high adverbs can be moved out of IP before it is elided. The structure at an intermediate stage of the derivation of (52b) should be roughly (53), where the auxiliaries, verbs, and adverbs have all moved out of IP.

- (53) [_{CP} on varmaan halunnut mennä Σ IP]

has the force of an interjection, and could equally well be translated 'Oh!' or 'Really!'. I take this to mean that *Onko?* in (i) is a structureless interjection, with no need for a variable to bind.

¹⁸ There is a way to contradict a claim in Finnish with IP-ellipsis: by employing the special focus marker *pa(s)/pä(s)* (the choice depending on vowel harmony).

- (i) – Matti ei ole käynyt Pariisissa.
 'Matti hasn't been to Paris.'
 – On pas.
 'Yes, he has.'
 (ii) – Matti on käynyt Pariisissa.
 'Matti has been to Paris.'
 – Eipäs ole.
 'No, he hasn't.'

Here the structure copied into the reply has negative polarity in (i), positive polarity in (ii), but the replies do not have that polarity. *Pa(s)/pä(s)* is as it were, the opposite of *niin*: It takes two arguments, a presupposition with polarity α , and an assertion asserting the falsity of the presupposition. The same effect can be obtained without *-pa(s)/pä(s)* but with very strong focus intonation on the auxiliary, as observed by one of the referees.

What kind of movement or movements will have this result? Notably the auxiliaries, verbs, and adverbs in simple YNRs always show up in the same order that they have in non-elliptic sentences, giving the impression that they have not moved at all. Thus the order of the auxiliaries and verbs in (52b) is the same order that they have for instance in the corresponding question, and any other order is ungrammatical. The position of adverbs in relation to the auxiliaries and verbs is free to some extent in Finnish (see Holmberg et al. 1993). The same ordering relations obtain in elliptic and non-elliptic sentences, though.

This looks like a case for Richards's (1997) theory of multiple movement. It is doubtful, though, whether Richards's theory can be applied to head movement. According to Richards (1997), in cases where more than one phrase is attracted by the same head, the phrases will end up in the same order they had before they moved as the combined effect of the Cyclicity Principle (Chomsky 1995: ch.4), Shortest Move and Shortest Attract; see Richards (1997), esp. ch.3.

(54) The Cyclicity Principle:

A strong feature must be checked as soon as possible.

Shortest Move: A category will move as short a distance as possible.

Shortest Attract: An attractor A will attract the closest category which can satisfy A.

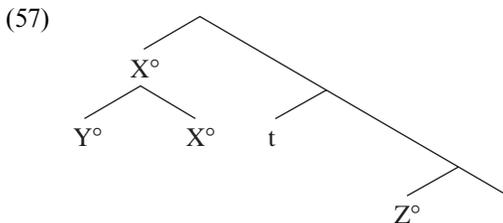
In a configuration (55a), where X° has a strong feature attracting YP and a strong feature attracting ZP, YP is attracted first, by virtue of Shortest Attract, since YP is closer to X° than ZP is. The result is (55b):

- (55) a. [X° [YP [ZP]]]
 b. [_{XP} YP [_{X'} X° [t [ZP]]]]

Then ZP is attracted. By virtue of Shortest Move ZP will be tucked in between YP and X° . The result is (56), where the order (hierarchical and linear) between YP and ZP is the same as before they moved.

- (56) [_{XP} YP [_{X'} ZP [_{X'} X° [t [t]]]]]

This theory does not work for head movement, though. Consider (59), a schematic representation of head movement, where we assume that X° attracts Y° and Z° . Y° has moved first, since it is closer.



What we want to have is the same linear order $\langle Y^{\circ} Z^{\circ} \rangle$ after movement as we had before movement. Assume, following Kayne (1994), that right-adjunction is not allowed. Standard head-movement adjoins Z° to the left of the complex head $[_X [Y^{\circ} X^{\circ}]]$, which yields the opposite order. It does so for a good reason: In order to get tucked in between Y° and X° , Z° will have to get inside the complex head, crossing the category boundary X° , so the movement will actually be longer than if Z° adjoins outside the complex head. So Richards's theory does not predict the order of the heads in the Finnish YNR, assuming that that order is derived by head movement triggered by Σ (and only left-adjunction is allowed).

So, on the assumption that the auxiliaries, verbs, and adverbs in simple YNRs move separately, by head movement, we have no explanation of the fact that they end up in the same order that they had before movement. The alternative to moving each of the heads separately is moving all of them together as a constituent. What kind of constituent would this be? A hypothesis that I will explore here is that it is a sentential constituent, more precisely a PolP which has been evacuated by everything except the heads and modal adverbs, along the lines of recent work on remnant movement.¹⁹ In that case the fact that the order of the heads and the adverbs in the YNR is exactly the same as the order of the corresponding heads and adverbs in the full sentence follows from the fact that they occupy the same positions. The question then is, what movement or movements would be responsible for evacuating PolP?

Departing slightly from Holmberg et al. 1993, I assume the Finnish IP has the following structure:

(58) Top $[_{PolP} Pol [_{T/MP} T/M [_{AuxP} Aux . . . vP]]]$

As discussed by Holmberg & Nikanne (to appear), the highest specification in IP must in general be filled in Finnish. That is to say, an EPP-feature is at work. Often the category which checks the EPP-feature is the subject, but in Finnish it may, in fact, be any category as long as it can function as topic, in the sense of referring to the thing, or person, or place, or event, etc., that the sentence is about; about which the sentence says something new (see É. Kiss 1995, 1997). The category functioning as topic must therefore be a referential category. It is typically a subject or object, but it can also be a time or place adverbial, but cannot be for instance a predicative AP or an epistemic adverb (see Holmberg & Nikanne, to appear). This is why I have identified the highest IP-position as the spec of an abstract Topic head.

(59) a. Tämän kirjan on kirjoittanut Graham Greene.
this book has written Graham Greene
'This book is written by Graham Greene.'

¹⁹ See Kayne 1998, Hróarsdóttir 2000.

- b. Nykyään tulee mainoksia radiostakin.
 nowadays come commercials even-from-radio
 'Nowadays there are commercials even on the radio.'
- c. Kadulla leikkii toisinaan lapsia.
 on-street play sometimes children
- d. Sitä leikkii toisinaan lapsia kadulla.
 there play sometimes children on-street
 'Sometimes there are children playing in the street.'
- e. *Leikkii toisinaan lapsia kadulla.

In (59a), the topic position is filled by the object (note that this is an active construction in Finnish). In (59b) it is filled by a temporal adverbial. In (59c) it is filled by a locative adverbial. (59d) is an alternative to (59c) where specTopP is filled by the expletive pronoun *sitä*, which is thus an expletive topic rather than an expletive subject (see Holmberg & Nikanne, to appear). Leaving the specTop-position empty as in (59e) is not allowed (except as a polarity focus construction, in which case the finite verb is in the CP-domain, and SpecTopP is filled, in this case by the time adverbial, checking the EPP-feature of Top).

So how is the EPP checked in YNRs? I propose that the category which moves to specTop, satisfying the EPP in YNRs, is a projection of the verb which at this point I identify as vP, a verb projection crucially containing the subject in addition to the verb and its complement. A vP can function as a topic, since as long as it includes the subject, vP is a referential expression, denoting an event or a state, and therefore is a possible topic. It becomes a predicate, a property-denoting expression, only as a result of movement of an argument (usually the subject) out of vP. A predicate is a lexical projection which contains an empty, A-bound argument position; this is an idea which goes back to Williams (1980); see Holmberg (1993).

More precisely, at the point in the derivation shown in (60a), when Top has merged with PolP, and is looking for a specifier to check its EPP-feature, there is a choice between moving the subject, deriving (60b), moving some other constituent of vP, deriving (60c), or moving the entire vP deriving (60d).

If the category that moves is vP, and if Σ is merged, the remnant PolP moves to spec Σ P, deriving (60e).

- (60) a. Top [_{PolP} Pol . . . [_{vP} DP v PP]]
 b. [_{TopP} DP [_{Top'} Top [_{PolP} Pol . . . [_{vP} t_{sub} PP]]]
 c. [_{TopP} PP [_{Top'} Top [_{PolP} Pol . . . [_{vP} DP t_{PP}]]]
 d. [_{TopP} vP [_{Top'} Top [_{PolP} Pol . . . t_{vP}]]]
 e. [_{Σ P} PolP [_{Σ'} Σ [_{TopP} vP t_{PolP}]]]

I assume a theory of derivation by phase, along the lines of Chomsky (2001). The sentence is constructed from bottom up by the operations Merge and Move, from a Lexical Array (LA) drawn from the lexicon.

The derivation proceeds in phases. A phase is a syntactic substructure constructed from a subarray of syntactic categories drawn from the LA, which is spelled out and interpreted ('sent to PF and LF') at a certain point in the derivation. Once a phase is spelled out, it becomes impenetrable for syntactic operations (movement, agreement). Following Halle & Marantz (1993) and Jackendoff (1997) the categories operated on in the syntax are bundles of syntactic features, which are assigned phonological and semantic features only at spell-out. Following Chomsky (2001) I assume that phases come in two varieties, strong and weak phases. The difference, I assume, is that only a strong phase triggers spell-out of the previous phase. More precisely, a phase, weak or strong, is spelled out at the point when the head of the next strong phase is merged. Chomsky (2001) proposes that vP is a phase which is strong if the verb is transitive or unergative, weak otherwise, and that finite CP is a strong phase, so that vP is spelled out when C is merged.²⁰ DP is a strong phase, spelled out, I assume, when it is assigned Case.

As mentioned, I propose that an ellipsis is a phase which has been spelled out as null. Thus, when C is merged, there is a choice whether to spell vP out properly, by assigning it phonological and semantic features, or spell it out as null (formally Δ), resulting in vP-ellipsis. An alternative would be to assume that the choice is whether to spell vP out properly or not spell it out at all. However, that leaves the possibility open that vP is then spelled out at a later stage in the derivation. This is an option I want to exclude.

In a theory assuming an articulated CP-structure (along the lines of Rizzi (1997)) the question arises which head is the strong C that triggers spell-out of vP. I will assume that Top does not do it, but Σ , a special case of the head Focus, does.

To illustrate, we begin by deriving the two complex YNRs (61a,b).

- (61) a. On se. (Q: Has Matti been to Paris?)
has he
b. On se käynyt.
has he been

- a. Derive vP consisting of the subject DP, the participle and a PP.
- b. The participle moves out of vP, adjoining to a head which Holmberg et al. (1993) identify as nonfinite T (distinct from the higher finite T/M); see Koskinen (1998), Julien (2000).
- c Merge Aux;
- d. Merge T/M and move Aux to T/M;
- e. Merge Pol containing a set of ϕ -features;

²⁰ Chomsky (2000, 2001) seems to assume that infinitival CP, as in control infinitivals, is a strong phase. See section 9 for an argument that it is a weak phase. Following Holmberg (2000b), departing from Chomsky (2001), I assume that the 'inner specifier' of v, that is the subject, is spelled out when vP is spelled out, unless it has moved to a higher position.

- f. Apply Agree, assigning values to the ϕ -features and nominative Case to the subject DP;²¹ Move T/M to Pol;
- g. Merge Top.
- h. Move the subject DP to specTopP, attracted by the EPP-feature of Top;
- i. Merge Σ . At this point vP is spelled out, either properly or as null. Assume that it is spelled out as null. The result is (62):

$$(62) \Sigma [{}_{\text{TOPP}} \text{DP} [{}_{\text{TOP}'} \text{Top} [{}_{\text{POLIP}} \text{Aux}+\text{T/M}+\text{Pol} [{}_{\text{T/MP}} \text{t}_{\text{T/M}} [{}_{\text{AuxP}} \text{t}_{\text{Aux}} [{}_{\text{TP}} \text{V}+\text{T} [{}_{\text{vP}} \Delta]]]]]]]]$$

- j. Σ attracts Pol, which adjoins to Σ (possibly moving via adjunction to Top).
- k. Spell out the rest of the structure.

The resulting PF is (61b). The interpretation requires copying of the LF of the vP of the antecedent YNQ, as outlined in the previous section.

What about (61a)? It looks like spell-out may optionally apply to a larger portion of the derived structure, by assumption a weak phase, which includes the moved participle. We need to assume this in any event, to derive the full set of replies (in the form of complex YNRs) to questions with restructuring verbs.

- (63) – Onko Matti koskaan halunnut käydä Roomassa?
 has-Q Matti ever wanted to.go to-Rome
 – On se (halunnut (käydä)).
 has wanted to.go
 ‘Yes, he has.’

Spell-out may optionally affect just the verb complement, or the main verb and the complement, or the restructuring verb, plus the main verb and the complement. Assume the structure of the reply in (63) is roughly (64) (where T is the nonfinite T postulated by Holmberg et al. (1993), where restructuring verbs are lexical verbs which lack v and (therefore) lack an external argument, and where the indices serve to distinguish the chains.

$$(64) \Sigma [{}_{\text{TOPP}} \text{sc}_i \dots [{}_{\text{TP1}} \text{halunnut}_j+\text{T} [{}_{\text{VP}} \text{t}_j [{}_{\text{TP2}} \text{käydä}_k+\text{T} [{}_{\text{VP}} \text{t}_i \text{t}_k [{}_{\text{VP}} \text{t}_k \text{Roomassa}]]]]]]]$$

²¹ Following Chomsky (2000) I assume that subject-verb agreement is a result of Agree, an operation triggered as soon as the sentential head is merged which encodes the ϕ -features number and person, realized as an agreement affix. I assume the head in question is Pol, in Finnish (a slight modification of Holmberg et al. (1993)). The ϕ -features are merged without feature values, and need to find a DP in their c-command domain which is ‘active’, i.e. has not been assigned Case, to assign values to the ϕ -features. Once an active DP is located (usually the subject), the DP assigns values to the ϕ -features, and receives nominative Case in return. Agree does not presuppose movement of the valuing DP; The DP moves only if triggered by an EPP-feature. The hypothesis here is that Pol does not have an EPP-feature, but Top does, triggering movement of a potential topic.

Assume that TP is a weak phase, and assume that when the strong head Σ is merged, there is a choice among spelling out TP1, TP2, or vP. This will allow for the three forms of reply in (63).

Now consider the simple YNRs in (65):

- (65) a. On. (Q: Has Matti been to Paris?)
 b. On käynyt.

The derivation is the same as above up to **h**.

h'. Instead of moving the subject DP, move vP or TP to specTopP; depending on the choice, the output will be (65a or b).

In specTopP the moved vP or TP is spelled out as null. I propose that it gets spelled out as a direct result of the movement to specTopP, since by that movement it has its interpretation fixed as an argument. In other words, it is spelled out more or less in the manner a DP is spelled out when it is assigned Case (as will be discussed below, the moved vP can be spelled out properly as well).

i'. Merge Σ , and unless it is already spelled out in specTopP, spell out the weak phase TP.

j'. Σ attracts Pol.

As discussed in the previous section, although the elided part of the structure (the part spelled out as null) is actually only vP or TP the interpretation of a simple YNR, as opposed to a complex YNR, cannot be completed by copying just the vP or TP of an antecedent. The copied structure must be at least as large as PolP; otherwise we cannot explain why the antecedent of a simple YNR can only be a YNQ or another YNR. The reason why copying just vP will not do is that no antecedent, be it a statement or a question, has the right sort of vP or TP. The vP/TP elided in the simple YNR is an argument vP/TP, including the full set of arguments of the verb, but the vP/TP of statements or questions is a predicate, containing an A-bound empty argument position.

In the case of the complex YNR Σ attracts Pol by head movement. Consider what happens if Σ attracts Pol in the case of the simple YNR. Given the derivation a-j', the structure after spell-out would be (66):

- (66) $On + \Sigma$ [_{TopP} [_{vP} Δ]] Top [_{PolP} t_{pol} . . . *käynyt* + T t_{vP}]]

On the reasonable assumption that copying is an all-at-once operation which copies an entire constituent, and cannot copy parts of a constituent, PolP of the YNR cannot contain any spelled-out categories at the point when copying should apply. That is to say, the spelled out participle in (66) blocks copying of the PolP of the antecedent. So in this case Σ must attract not just the head Pol, but the entire PolP, to spec Σ P. The structure after spell-out will thus be (67):

- (67) [_{Σ P} [_{PolP} *on käynyt* + T t_{vP}]] [_{Σ'} Σ [_{TopP} [_{vP} Δ]] Top t_{PolP}]]]

As before, the value of PolP moved to spec Σ P determines the assertion ('x

is affirmative' in the case at hand). The presupposition is recovered by copying the entire TopP of a YNQ, substituting it for the empty TopP in (67). The result is (68):²²

(68) [Σ P[x is affirmative] [Σ [Matti Pol_x has been to Paris]]]

The presupposition now contains a variable Pol, as required.

In the version of the simple YNR where TP is moved to specTopP, so that the IP-domain contains nothing that can be spelled out when Σ is merged, we cannot tell whether Σ attracts Pol or PolP. For no very strong reason I assume that Σ attracts PolP in this case as well.

The theory can accommodate the whole set of replies in the case of more complex questions, containing for example a restructuring verb.

- (69) – Onko Matti koskaan halunnut käydä Roomassa?
 has Matti ever wanted to.go to-Rome
 – On (halunnut (käydä)).
 has wanted to.go

Above we saw that Σ could trigger spell-out of either TP1, TP2, or vP in (64). Here Top can trigger movement of any of the phases TP1, TP2, or vP to specTopP, with concomitant spell-out.

9. Predictions and consequences

Can vP be spelled out in specTopP? If it can, (70a,b,c) should be well formed YNRs.

- (70) a. On käynyt Matti Pariisissa. (Q: Has Matti been to Paris?)
 has been Matti to-Paris
 b. Ei ole Liisa kotona. (Q: Is Liisa at home?)
 not is Liisa at-home
 c. ?On varmaan tullut lapset takaisin koulusta.
 have probably come children back from-school
 (Q: Are the children back from school?)

In fact they are well formed. The proposed analysis of (70b), for example, would be roughly (71):

(71) [Σ P[PolP *ei ole* t_{vP}] Σ [TopP [_{vP} *Liisa kotona*][Top Top t_{polP}]]]

Do we find vP in specTop in any other construction? For example the

²² Alternatively, what gets copied is PolP, excluding the Topic. This is motivated insofar as the YNR regularly has a different topic than the question, which may in fact be the case: While the topic of the question is 'Matti' (in the case at hand), the topic of the YNR is something like 'Matti going to Paris', so that the YNR can be loosely paraphrased as 'As for Matti going to Paris, he has been to Paris'. This analysis has the added complication of recovering the identity of the subject, though, as the subject in the antecedent is not included in the PolP.

following constructions, analyzable as indicated with vP in specTopP, are clearly ill formed.

- (72) a. *Luulin että [Matti Pariisissa] on käynyt.
thought-1SG that Matti to-Paris has been
b. *Eikö [Liisa kotona] ole?
not-Q Liisa at-home is
c. *Onneksi [lapset takaisin koulusta] on tullut.
fortunately children back from-school have come

Why are they ill formed? Why, as it looks, must topic-fronting of a vP be followed by PolP-fronting to spec Σ P? I submit that the problem with the sentences in (72) is that they have no focus. It is a minimal requirement that a sentence should have a focus. An utterance may consist of a single word, as when the question *Who won?* is replied by *John*, or indeed in the case of YNQ-YNR pairs. But in that case, the single word must be focus. More typically, a sentence consists at least of a topic and a focus. In (72a,b,c), since the entire vP is a topic, and the remaining categories cannot function as sentential focus, the result is a focusless sentence.

This predicts that we may find overt vP-topic-fronting in conjunction with focus-fronting more generally. This may indeed be the case, if the Finnish 'OV-structures' discussed by Vilkuna (1989, 1995), Holmberg (2000a) are derived by vP-fronting to specTopP.

- (73) Milloin lapset takaisin koulusta tuli?
when children back from-school came
'When did the children come back from school?'

As discussed in the references mentioned, this word order is possible if and only if the sentence has initial focus, typically a wh-phrase or a phrase fronted for contrastive focus. This is what we expect, if they are derived by topic-fronting of vP.

Note that (74,b,c) are clearly not well formed:

- (74) a. *On käynyt se Pariisissa.
has been he to-Paris
b. *Ei ole se kotona.
not is she at-home
c. *On tullut ne takaisin kaupasta
have come they back from-school

This falls under the following generalization: When the subject is a pronoun, it moves obligatorily to specTopP. Consider (75), another case falling under this generalization (PAR = partitive).

- (75) a. Tämän kirjan on kirjoittanut Graham Greene/
this book has written Graham Greene/

- *hän/HÄN eikä kukaan muu.
 he/ he and nobody else
 b. Kadulla leikkii lapsia/ *niitä.
 on-street play children-PAR/ they-PAR

An object or adverbial cannot move to specTopP bypassing a pronominal subject, except in some cases if the subject pronoun is focused, by intonation or other means. For YNRs the consequence is that when a pronoun is selected as subject, a complex YNR is the only option. As might be expected, (74a,b,c) are well formed if the subject is focused, for instance by means of the clitic *-kin* 'too'.

- (76) On käynyt sekini Pariisissa.
 has been he-too to-Paris

Now consider the generalization (32), repeated here as (77):

- (77) If the subject in a YNR is covert, verb complements, circumstantial adverbials, low adverbs, and generally everything except auxiliaries, verbs, and high adverbs must be covert as well, but not vice versa.

For verb complements this follows straightforwardly. Consider (28a,e), repeated here as (78a,b):

- (78) a. *?On kotona. (Q: Is Liisa at home?)
 is at-home
 b. *Osti maitoa. (Q: Did she buy milk?)
 bought milk

Simple YNRs are derived by moving vP (or TP) to specTopP, and spelling it out as null. The only way to derive (78a,b) would be to first extract the verb complements out of vP (or TP), high into the IP-domain. Given that this is not possible (there is no trigger for such movement), (78a,b) cannot be derived.

For low adverbs and circumstantial adverbials matters are less straightforward. In fact, I will only indicate what an explanation might look like, in the present framework. To begin with, a preliminary investigation indicates that the dividing line is between aspectual adverbs (*usein* 'often', *aina* 'always', *jo* 'already', *pian* 'soon', *täysin* 'completely', etc.) and mood/modal adverbs (*onneksi* 'fortunately', *tietenkin* 'of course', *kai* 'probably', *varmaan* 'surely', *ehkä* 'perhaps', etc.), in Cinque's (1998) terms. It seems to be the case that aspectual adverbs and circumstantial adverbials, but not mood or modal adverbs, are necessarily included in the verbal projection that undergoes movement to specTopP, and therefore cannot avoid being elided in simple YNRs.

Let us take an example.

- (79) a. Matti on kai jo käynyt Pariisissa.
 Matti has probably already been to-Paris
- b. On (kai) (*jo) käynyt. (Q: Has Matti (already) been to Paris?)
 has probably already been
- c. On se (kai) (jo) käynyt. (Q: Has Matti (already) been to Paris?)
 has he probably already been
 ‘Yes, he’s (probably) been there (already).’

The aspectual adverb *jo* ‘already’ can be placed as shown in (79a), between the finite and the nonfinite verb, following the modal adverb *kai* ‘probably’. The simple YNR cannot host the aspectual adverb, while the complex YNR can. It does not make any difference whether the question also contains the adverb. Let us assume the analysis (80): the aspectual adverb is an adjunct or specifier of TP (suggesting that TP, in Holmberg et al’s (1993) sense, is an aspectual projection), while the modal adverb is an adjunct to T/MP.²³ For ease of exposition I represent the categories as words, although actually they are not yet spelled out at this stage.

- (80) a. Top [P_{oIP} on+Pol [T/MP kai [T/MP . . . [TP jo [TP käynyt+T [vP Matti
 t_V Pariisissa]]]]]]
- b. [TopP [TP jo käynyt Matti Pariisissa] Top [P_{oIP} on+Pol [T/MP kai . . .
 t_{TP}]]]

In (80a) Top can attract the subject (the unmarked case), the locative argument, or TP. If it attracts TP it attracts the whole category including the adverb; it cannot attract a segment of TP, stranding the adverb (see footnote 23). For some reason attraction of vP is not an option in this case.

The generalization in (77) is thereby explained: A simple YNR can only contain auxiliaries, verbs, and high adverbs, because these are the categories that are not included in TP when it moves to specTopP and is spelled out as null. Complex YNRs are not derived by movement of TP, and therefore other possibilities are open. For instance, (79c) with *jo* is derived by spelling out vP instead of TP (spell-out triggered when Σ is merged).

The distribution of adverbs in YNRs clearly needs more investigation. A curious fact is that some aspectual adverbs are fine in simple YNRs if they follow the verb (even without a comma break) but not if they precede the verb.

²³ Cinque (1998) argues extensively that adverbs are specifiers of a set of adverb-specific sentential heads. The facts discussed here suggest that, even if that is the case, aspectual adverbs and circumstantial adverbials behave with respect to movement as if they were included in TP or vP, while mood adverbs and modal adverbs behave as if they were excluded by TP/vP. Semantically it makes sense, in that the aspectual adverbs and circumstantial adverbials can be said to loosely modify (aspects of) the event, while mood and modal adverbs modify (aspects of) the situation.

- (81) a. *Ei enää ole. (Q: Is she home?)
 not anymore is
 b. Ei oleen ää.
 ‘Not anymore.’

As noted in section 6, a simple YNR may consist of a string of auxiliaries and verbs, including restructuring verbs, but nonrestructuring verbs are not permitted, except as last verbs in the string.

- (82) a. Osa (puhua). (Q: Can Liisa speak French?)
 can speak
 b. Vihaa (*puhua). (Q: Does Liisa hate to speak French?)
 hates speak
 c. On (vihannut). (Q: Has Liisa always hated to speak French?)
 has hated

This follows if restructuring verbs are functional verbs, not constructed with v (at least not a strong phase head v), and (hence) do not take an external argument, while verbs such as *vihata* ‘hate’, *muistaa* ‘remember’, *ymmärtää* ‘understand’, etc., although seemingly taking the same type of infinitival complement as the restructuring verbs, are regular control verbs, constructed with strong v and an external argument.²⁴ When Top is merged, the structure of (82a) is roughly (83a), while the structure of (82b) is (83b).

- (83) a. Top *osaa*+Pol t_{osaa} [TP *puhua*+T [vP Liisa t_{puhua} *ranskaa*]]
 b. Top *vihaa*+Pol [vP Liisa t_{vihaa} [VP t_{vihaa} [CP *PRO* [vP *puhua ranskaa*]]]]

(82a) with the main verb spelled out is derived by moving the vP to specTopP and spelling it out as null. In (83b) the infinitival clause (by assumption a CP, but this is not crucial; it could even be just a TP) is spelled out when v of the verb *vihata* is merged (the higher verb trace in (83b)). The spell-out is represented by italics in (83b). In order to derive (82b) with the main verb, Top would have to attract the embedded vP in (83b). However, movement out of a spelled out phase is not possible. The only option is moving the matrix vP, deriving (82b) without the main verb.

The contrast between restructuring and non-restructuring verbs obtains in complex YNRs, as well.

- (84) a. Osa se puhua. (Q: Can Liisa speak French?)
 can she speak
 b. *Vihaa se puhua. (Q: Does Liisa hate to speak French?)
 hates she speak

²⁴ This is similar, but not identical to Cinque’s (2000) claim that restructuring verbs are functional heads.

(84b) would be derived, incorrectly, if the infinitival CP is a strong phase, as Chomsky (2000) seems to suggest. In that case the embedded vP could be spelled out as null when the embedded, abstract C is merged. The main verb moved to T (see Koskinen (1998) on verb movement in non-finite constructions) would then be spelled out with phonological features when the matrix *v* is merged. (83b) is excluded if (a) the infinitival CP is a weak phase, so the embedded vP is not spelled out when embedded C is merged, and (b) when matrix *v* is merged, the CP is obligatorily spelled out. That is to say, the optionality which we observed in the case of spell-out of finite TP or vP does not obtain here. What makes the present case different, is that the infinitival CP is an argument of the verb, assigned a theta-role and arguably even assigned Case by *v*. I assume that this ensures obligatory spell-out of the infinitival CP when *v* is merged.

The key to the syntax of simple YNRs in Finnish is the movement of TP or vP to topic position. I took this to be an effect of the ‘topic-prominence’ exhibited by Finnish. The prediction is that, other things being equal, languages exhibiting similar topic-prominence should allow YNRs of the Finnish type. To what extent this is the case is left for future research. Irish is presumably not a topic-prominent language, but nevertheless exhibits YNRs which, at least on the face of it, look like the Finnish ones. On the other hand Irish is a verb-initial language. Assuming that this means that the subject remains in a relatively low position, simple YNRs can be derived by vP-ellipsis, essentially as described by McCloskey (1990). In other words, there will be no difference between simple and complex YNRs.

10. A note on *kyllä*

As mentioned, an alternative form of simple YNR makes use of the affirmative particle *kyllä*, either alone or in combination with auxiliaries and verbs.

- (85) a. *Kyllä.* (Q: Has Matti been to Paris?)
yes
b. *Kyllä on käynyt.*
yes has been

How can (85b) in particular be squared with the theory sketched so far? Note that the theory does not anymore admit the possibility that *kyllä* is base-generated in Σ or $\text{spec}\Sigma\text{P}$, since that would leave no landing site for the auxiliary and the verb.

I submit that *kyllä* is, in fact, an affirmative auxiliary, base-generated in Pol, or possibly specPolP . This is shown by the behaviour of *kyllä* in connection with the transitive expletive construction (CON = conditional mood, ADE = adessive).

- (86) a. *Sitä ei tavallinen maamies tyytyisi paljailla*
 there not ordinary peasant be-content-CON bare-ADE
lauteilla nukkumaan.
 boards-ADE sleep
 ‘An ordinary peasant would not be content to sleep on bare boards.’
- b. *Sitä tyytyisi tavallinen maamies paljaillakin*
 there be-content-CON ordinary peasant bare-ADE-even
lauteilla nukkumaan.
 boards-ADE sleep
 ‘An ordinary peasant would be content to sleep even on bare boards.’
- c. *Ei sitä tavallinen maamies tyytyisi paljailla lauteilla nukkumaan.*
- d. *Tyytyisi sitä tavallinen maamies paljaillakin lauteilla nukku-*
maan.
- e. **Sitä tavallinen maamies tyytyisi paljaillakin lauteilla nukku-*
maan.

Finnish has a transitive expletive construction made up of an expletive followed by the finite auxiliary or verb, followed by the lexical subject, followed by the rest of the sentence, as in (86a,b). Holmberg & Nikanne (to appear) adapted to the present framework analyze it as shown in (87).

(87) [_{TopP} *sitä* Top [_{PolP} *tyytyisi*+Pol [_{T/MP} DP *t_{T/M}* . . .]]]

The expletive is in specTopP, satisfying the EPP, the finite auxiliary or verb moves and adjoins to Pol (or is base-generated in Pol in the case of the negation), and the lexical subject is in specT/MP. The finite auxiliary or verb can, and often does, move to the C-domain, leaving the expletive and the subject adjacent in PF, as in (86c,d). This is movement to Σ , with the usual polarity focus semantics. As illustrated by (86e), Pol-movement to Σ is the only way that the expletive and the subject can end up adjacent.

Now consider the perfectly well formed construction (88), synonymous with (86d).

- (88) *Kyllä sitä tavallinen maamies tyytyisi*
 KYLLÄ there ordinary peasant be-content-CON
paljaillakin lauteilla nukkumaan.
 bare-ADE-even boards-ADE sleep

This possibility follows if *kyllä* is an exponent of Pol, so that (88) is structurally analogous to (86c,d). If so, (85b) is derived exactly as other simple YNRs, by PolP-movement to spec Σ P.²⁵

²⁵ Matters are complicated by the fact that *kyllä* can also appear as an adverb, and as such can even be combined with the negation (ABL = ablative).

11. A note on marked YNQs

As mentioned, YNQs can be formed by moving a phrasal constituent (an argument or adverbial) to the C-domain, and cliticising *-ko* to it. The result is a YNQ with focus on the fronted constituent.

- (89) Pariisissako Matti on käynyt?
 to-Paris-Q Matti has been
 'Is it Paris that Matti has been to?'

Such YNQs are not felicitously answered by a simple or a complex YNR of the sort discussed above, but rather by just *kyllä*, or the confirmative *niin*.

- (90) a. ??On (käynyt).
 has been
 b. ??O se (käynyt).
 has he been
 c. Kyllä /Niin.
 yes

We can understand this as follows: Simple as well as complex YNRs of the sort discussed until now are derived by Pol or PolP-movement to Σ , a special case of Focus. This blocks focus-movement of any other sentential constituent, such as *Pariisissa* in the case at hand. The two movements cannot be combined in the same structure, hence (90a,b) can never be derived as YNRs to (89). (90a,b) are ill-formed, with the intended interpretation, for the same reason that (91) is:

- (91) *Onko Pariisissa Matti käynyt?
 has-Q to-Paris Matti been

Focus-fronting of an XP blocks fronting of Pol, and vice versa.

A possible approach to (90c) would be that in that case the affirmative assertion is not derived by movement but by base-generating *kyllä* or *niin* in Σ or spec Σ P (which is to say that *kyllä* can be base-generated directly in Σ , as well as being moved there as an exponent of Pol). So although (92), expressing polarity focus and constituent focus, cannot be derived by movement, it can be by base-generation of *kyllä* or *niin* in Σ or spec Σ P, and copying the rest of the structure from the LF of (89).

- (92) [x is affirmative] [Σ [y is Paris] [Foc [Matti Pol_x has been to y]]]]

(i) Minä en kyllä tiedä näistä asioista mitään.
 I not KYLLÄ know these-ABL things-ABL anything
 'I sure don't know anything about these things.'

Furthermore, as will be discussed in the next section, *kyllä* probably can be base-generated directly as an exponent of Σ , too.

The usual negative reply to (89) would be just *Ei* 'No'. If I am right, this *ei* must be base-generated in Σ , rather than being moved there with Pol.

There is obviously more to be said about marked question-answer pairs in Finnish. I leave the topic for future research.

12. A note on ellipsis as PF-deletion

I have proposed deriving ellipsis of a constituent *C* by spelling *C* out as null, and then interpret it by copying the LF of a corresponding constituent *C'* available in the context. An alternative is deriving ellipsis by 'PF-deletion': The constituent *C* is derived, spelled out and interpreted, but then has its phonological features deleted in PF under identity with a corresponding constituent *C'*; see Chomsky (1995:125f). Chomsky and Lasnik²⁶ make the observation that ellipsis of *C* typically (or always?) has a counterpart where *C* is not elided but destressed, pronounced with a characteristic flat intonation. Compare (92a,b), where the reduced size indicates destressing:

- (93) a. I'm not going to Paris, but John is.
 b. I'm not going to Paris, but John is going to Paris.

The destressing in (93b) is, arguably, dependent on an antecedent exactly like the ellipsis in (93a). If so, destressing and ellipsis can be accounted for by the same mechanisms, except that ellipsis does not just destress, but deletes the constituent in question. And since destressing is uncontroversially a PF-process, then so is ellipsis.

The theory of YNRs in this paper can be reformulated in terms of a theory where ellipsis is PF-deletion. The question is, however, does the sort of ellipsis exhibited by simple YNRs, namely PolP-ellipsis, in general have a counterpart with destressing instead of ellipsis? As shown in (70), they sometimes do. Consider, however, the following case:

- (94) – Onko se käynyt Pariisissa?
 has-Q he been to-Paris
 a. – On käynyt.
 b. – *On käynyt se Pariisissa.

Examples can be multiplied: Whenever the subject is a weakly stressed pronoun, ellipsis is possible but destressing impossible. As discussed, the problem is that a pronominal subject moves obligatorily to specTopP, bleeding vP-movement, which bleeds remnant PolP movement, so that the word order in (94b) cannot be derived. If (94a) is derived by the same steps as (94b) all the way until PF, where (94a) undergoes deletion instead of just destressing, then (94a) should be ill-formed as well.

²⁶ The chapter in question in Chomsky (1995) is cowritten with Howard Lasnik.

I propose that (94a) is derived with a DP subject which is not specified as pronominal. In due course, the PolP of the antecedent question is copied to complete the interpretation of the sentence. However, what is copied is the LF, where there is no distinction between full DPs and referential pronouns.

So there are cases of PolP ellipsis which cannot be derived by first spelling a structure out (properly), and then deleting part of it in PF. For those cases, we seem to need LF-copying. I hypothesize that all PolP-ellipsis, or even ellipsis in general, relies on LF-copying, rather than deletion of spelled out structure.

13. Conclusions

The descriptive problem posed by replies to yes/no-question in Finnish is the following: Finnish is not a null-subject language, but has an EPP-feature triggering movement of a topic, that is a referential XP, typically but not necessarily the subject, to initial position in IP. How can one elide vP *and* the subject in such a language, as in simple YNRs, leaving only certain high sentential functional heads and optionally the main verb spelled out? The solution proposed here is:

- (a) vP or TP (in the sense of Holmberg et al. (1993)) moves to the spec of TopP, and is spelled out as an argument. This satisfies the EPP.
- (b) When Σ , the polarity focus operator, is merged with TopP, the remnant PolP is moved to spec Σ P, where it is eventually spelled out. The result is (95a). If vP/TP is spelled out properly, the result is (95b).

- (95) a. On käynyt. (Q: Has Matti been to Paris?)
has been
b. On käynyt Matti Pariisissa.
has been Matti to-Paris
'Yes, he has.'

To complete the interpretation of (95a), the LF of the TopP of an antecedent is copied and substituted for the empty TopP. (95a,b) are polarity focus constructions, exhibiting the focus operator Σ . This operator must have a complement with a variable Pol. This explains why forms such as (95a) mainly occur as YNRs: They must have an antecedent with variable polarity, that is a YNQ (or less commonly, another polarity focus construction).

Movement to Σ is evidenced also by complex YNRs.

- (95) On se käynyt. (Q: Has Matti been to Paris?)
has he been

However, in this case only the head Pol undergoes movement, and all that

needs to be copied to complete the interpretation is the LF of an antecedent vP. This explains why this construction has a wider distribution than its subjectless counterpart.

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