Stylistic fronting as remnant movement[*]

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Comments welcome!

1 Introduction

This paper argues that the fronting operation known since Maling (1980, 1990) as *Stylistic Inversion* or *Stylistic Fronting* (henceforth, SF) should be uniformly analyzed as phrasal movement. The focus will be on Icelandic, although SF has been claimed to exist in Faroese and perhaps other languages as well (for a recent survey, see Holmberg 2006).[1]

SF was first discussed by Maling (1980) (reprinted as Maling 1990), who observed that under certain conditions, Icelandic allows for inversion of the finite verb and some postverbal element, e.g. the negation:

(1)   a. Þetta er tilboð   sem er ekki hægt   að hafna
          this   is an offer that is not   possible to reject

      b. Þetta er tilboð   sem ekki$_i$ er t_i hægt   að hafna
          this   is an offer that not   is   possible to reject
          'This is an offer which it is not possible to reject.'

As (1) shows, SF is optional. It is "stylistic" in the sense of not having any semantic or pragmatic implications; in particular, it has no emphasis or focus effect as is typically associated with topicalization (see Holmberg 2006 and references cited there).[2]

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[1]On (what appear to be) very similar phenomena in Old English, see Platzack (1995), Kroch and Taylor (2000), Trips (2002), Biberauer and Roberts (2005), and Mathieu (2006) for Old French. These languages will not play a role in what follows.

[2]I should mention right away two caveats to this largely undisputed claim.

First, it has been observed (see, e.g., Holmberg 2006: 554) that the output of SF is often deviant when a strongly nonspecific/indefinite NP is fronted:

(2)   hundurinn   sem {minkinn/*minka}   drap t_i
      the dog.ɴᴏᴍ that the mink/minks.ᴀᴄᴄ killed

One might be led by such facts to conclude that SF is sensitive to (or "driven by") semantic properties of the

One of the key characteristics of SF identified already by Maling is (what is now known as) the "subject-gap condition". The descriptive generalization is that SF can only apply if there is no overt subject present in the canonical subject position (examples from Holmberg 2006: 535):

(3) a. Hver$_i$ heldur þú að t_i hafi stolið hjólinu
       who   think   you that   has stolen the bike

    b. Hver heldur þú að stolið$_i$ hafi t_i hjólinu

(4) a.   Hvaða hjóli$_i$ heldur þu að   hann hafi stolið t_i
       which bike   think   you that he   has stolen

    b.   * Hvaða hjóli heldur þu að stolið$_i$ hann hafi t_i

Thus, SF is possible in embedded clauses with a subject gap (extracted, clefted or relativized subject), with a lexically impersonal predicate, or in clauses with a "late" indefinite subject (cf. Maling 1990: 77, 79f.).

Impressionistically speaking, SF comes in two basic varieties: The fronted element is either an XP or an X^0-category (a single terminal). The most obvious instances of the latter type are cases in which a verb particle or a participle verb undergoes SF (examples from Hrafnbjargarson 2003: 165):

(5) a. Hann sýndi   mér flöskurnar sem inn$_i$ hafði verið smyglað t_i
       he   showed me the bottles that in   had   been smuggled

    b. Hann sýndi   mér flöskurnar sem smyglað$_i$ hafði verið t_i inn
       he   showed me the bottles that smuggled had   been   in

Data of this kind have led many to believe that SF of head-like categories is the general case (see, e.g., Anderson 1993: 93). However, it has since been recognized that there are clear instances of *phrasal* elements undergoing SF, i.e. fronting of full NPs or PPs (Holmberg 2000, 2006):[3]

(6) a. Þeir   sem hafa búið [$_{PP}$ í   Óslo] segja að …
       those that have lived   in Oslo   say   that

    b. Þeir sem [$_{PP}$ í Óslo]$_i$ hafa búið t_i segja að …

(7) a. Hver heldur þú að   verði að taka [$_{NP}$ þessa erfiðu   ákvörðdun]
       who think you that has   to take   this   difficult decision

    b. Hver heldur þú að [$_{NP}$ þessa erfiðu ákvördðun]$_i$ verði að taka t_i

The existence of this kind of SF casts serious doubt on any account that uniformly analyzes SF as head movement (e.g. Jónsson 1991). The facts leave room, however, for

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moved element. But the conclusion is not warranted: we can freely allow the operation itself to target (i.a.) NPs *in general*, being entirely blind to the outcome. The fact that some outcomes are more degraded must then be blamed on mismatches between the interpretations allowed by the moved element and the range of interpretations compatible with the target position (Spec-T, in this case; see below). This is essentially the conclusion reached by Chomsky (2001: 32f.) in his discussion of object shift, where similar constraints are observed. I will set these matters aside in this paper, noting, however, that this is by no means a trivial idealization.

  Second, in many cases SF has a formal or archaic flavor (Holmberg 2006: 560f.). There is, however, considerable speaker variation with regard to the perceived "register" associated with SF. Since I see no reason to assume that such stylistic choices reflect any interesting properties of the grammar, I will set these matters aside here.

  [3]For reasons why these are different from embedded topicalization, see below.

theories allowing for SF to apply as *either* head *or* phrasal movement (cf. Hrafnbjargarson 2003, 2004). Other than all existing analyses of SF that I know of, I will argue in this paper that *all* SF is in fact movement of a phrasal (XP) category.

The paper is structured as follows. After a presentation of the key properties of SF in §2, I will discuss some aspects of previous approaches to SF in §3, pointing out some weaknesses that I will try to overcome with my own analysis, which will be presented in §4. I will discuss case by case, i.e. SF of NPs/PPs, adverbs/negation, adjectives, participles, and particles, and argue in each case that the fronting operation should be analyzed as phrasal movement, allowing for a uniform treatment. To this end, I will argue that in some cases SF involves *remnant movement* (in the sense of Thiersch 1985, Webelhuth and den Besten 1987, Müller 1998), i.e. fronting of an "incomplete" category containing traces.[4] The analysis will be refined in §§5 and 6, dealing with locality conditions on SF and the EPP as a trigger for movement, respectively. Some residual issues are addressed in §7. Finally, §8 concludes the paper.

2   Key properties of SF

SF is an operation that fronts some element to a position immediately preceding the finite verb. As mentioned in the previous section, this fronting is dependent on the absence of an overt subject in the canonical subject position, leading to the impression that the fronted element "moves into" the vacant subject position.[5] From the subject-gap condition it follows that there are essentially three types of environments in which SF is licensed: embedded clauses with a relativized or extracted subject, clauses with "late" indefinite subjects, and impersonal clauses that are subject-less. The following examples illustrate (see Holmberg 2006: 535; Thráinsson 2007: 353; Jónsson 1991: 24):[6]

(10)   SF in embedded clauses with subject gap:

    a. Hver heldur þú [$_{CP}$ að   stolið$_i$ hafi t_i hjólinu]
        who think you   that stolen has   the bike

    b. Þetta er mál   [$_{CP}$ sem rætt$_i$ hefur verið t_i]
        this   is an issue   that discussed has   been

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[4]I will set aside here the various problems and questions that remnant movement raises for syntactic theory; see Müller (1998) and Abels (2007) for some pertinent discussion.

[5]Non-subject gaps are not sufficient to license SF. Compare the following to (10):

(8)   a.   Hvaða hjóli$_i$ heldur þu að   hann hafi stolið t_i
       which bike think you that he   has stolen

    b.   * Hvaða hjóli heldur þu að stolið$_i$ hann hafi t_i

It is possible, however, to create a subject gap by extraction of a logical object in the derived subject position, as in passives (example from Rögnvaldsson and Thráinsson 1990: 27):

(9)   a. Ég held að   þessi bók$_i$ hafi verið notuð t_i á   namskeiðinu
      I   think that this book has been used   on the course

    b. þessi bók$_i$ held ég að t'_i hafi verið notuð t_i á   namskeiðinu
      this   book think I that   has been used   on the course

    c. þessi bók$_i$ held ég að   notuð$_k$ hafi verið t_k t_i á   namskeiðinu
      this   book think I that used   has been   on the course

[6]For now, I'm omitting the subject trace in the examples with SF; I will return to this problem in §5 below.

(11) SF in clauses with "late" subject:

    a. Ég hélt   að   kysst$_i$ hefðu t_i hana margir stúdentar
      I   thought that kissed had   her   many   students

    b. Keypt$_i$ hafa t_i þessa bók   margir stúdentar
      bought have   this   book many   students

(12) SF in impersonal clauses:

    a. Keypt$_i$ hefur verið t_i tölva   fyrir starfsfólkið
      bought has   been   a computer for   the staff

      'A computer has been bought for the staff.'

    b. Verðbólgan varð verri en   við$_i$ hafð verið [$_{VP}$ búist t_i]
      inflation   was worse than PRT had been   expected

In (10a), the subject has undergone long *wh*-movement into the matrix clause, hence SF is licensed in the lower clause. Relativization of the subject (10b) has the same effect of allowing SF to apply optionally. Likewise, when the subject is indefinite and does not raise to Spec-T (11), or when a subject is not licensed by the predicate (12), SF can apply.

As (11) shows, to meet the subject-gap requirement it suffices for the subject to stay in a low position. That is, the condition does not require complete absence of a subject; rather, it requires that *the derived subject position* (Spec-T) must be empty for SF to apply. Since the definiteness restriction applies in Modern Icelandic (Thráinsson 1979: ch. 7), it follows that SF can only apply in connection with indefinite subjects, which need not raise to Spec-T. Witness the following contrast (from Maling 1990: 80):

(13) a. * bæinn   þar   sem byrjað$_i$ höfðu t_i trésmiðirnir
        the town where that begun had   the carpenters

      b. bæinn   þar   sem byrjað$_i$ höfðu t_i nokkrir trésmiðir
        the town where that begun had   some   carpenters

(13a) is bad because either the definite subject stays low (incurring a definiteness effect), or else it raises, but then SF applies despite there not being a subject gap. Either way, the result is bad. By contrast, a subject that can stay low does not interfere with SF (13b). I will not attempt to explain the fact that definite subjects in Icelandic have to raise to Spec-T in this paper, but simply take it as given.

I will follow Holmberg (2006) in assuming that SF can target adverbs and the negation, adjectives, NP and PP objects, nonfinite (participial) verbs and particles (for examples and discussion, see §4 below). In all cases, the fronting is optional[7] and without any inherent semantic or discourse-related effect (see Jónsson 1991, Sigurðsson 1997, Holmberg 2000, 2006, among others).[8]

Given that SF targets a position to the left of the finite verb, SF of phrasal categories such as NPs and PPs (as witnessed in (6–7) above) bears some resemblance to (embedded) topicalization. Notice, however, that an antecedent reason for disinguishing the two movement types is that SF is natural in embedded clauses, while topicalization (in Icelandic as in Germanic in general) is severely restricted in non-root environments (Maling 1990:

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[7]Although in main clauses it is only optional in the sense of there being an alternative "EPP strategy" available; see §5 below.

[8]But see Hrafnbjargarson (2003, 2004) for a dissenting view, which I will not take into account here, however.

76).[9] Recall also that topicalization typically facilitates an emphasis/focus reading of the fronted constituent, whereas SF is information-structurally vacuous.

In addition to this, it can be shown that the phrasal-fronting operations in question require a subject gap. This is illustrated transparently by the following examples from Holmberg (2000: 449) ((6–7) are repeated here for convenience):

(14)   a. SF of PP without subject gap:

       i.   *vinnan sem hann [$_{PP}$ í   Ósló]$_i$ hefur haft t_i
          the job that he   in Oslo has had

      ii.   *vinnan sem [$_{PP}$ í Ósló]$_i$ hann hefur haft t_i

     iii.   *vinnan sem [$_{PP}$ í Ósló]$_i$ hefur hann haft t_i

   b. SF of PP with subject gap (optional):

       i. Þeir sem hafa búið [$_{PP}$ í   Óslo] segja að …
         those that have lived   in Oslo say that

      ii. Þeir sem [$_{PP}$ í Óslo]$_i$ hafa búið t_i segja að …

(15)   a. SF of NP without subject gap:

       i.   *þegar hann [$_{NP}$ þessa erfiðu   ákvörðun]$_i$ hafði tekið t_i
          when he   this difficult decision   had taken

      ii.   *þegar [$_{NP}$ þessa erfiðu ákvörðun]$_i$ hann hafði tekið t_i

     iii.   *þegar [$_{NP}$ þessa erfiðu ákvörðun]$_i$ hafði hann tekið t_i

   b. SF of NP with subject gap (optional):

       i. Hver heldur þú að   verði að taka [$_{NP}$ þessa erfiðu   ákvörðdun]
         who think you that has to take   this difficult decision

      ii. Hver heldur þú að [$_{NP}$ þessa erfiðu ákvördðun]$_i$ verði að taka t_i

As already discussed by Maling, there are further strong indications that the difference between the two movement types is real. Perhaps the most striking asymmetry can be observed in connection with extraction. Extraction from a clause in which topicalization has applied is generally unacceptable (16a), while extraction across an element that has undergone SF is possible (16b) (cf. Maling 1990, Rögnvaldsson and Thráinsson 1990, Jónsson 1991, Holmberg 2006):

(16)   a. *Maríu$_i$ veit ég [að þessum hring$_k$ lofaði   Ólafur t_i t_k]
        Maria$_{DAT}$ know I   that this   ring$_{ACC}$ promised Olaf$_{NOM}$
        'I know that Olaf promised Maria this ring.'

   b. þennan mann$_i$ hélt ég [að farið$_k$ hefði verið með t_k t_i á sjúkrahús]
       this   man think I   that gone had been   to hospital
       'This man I thought had been taken to hospital.'

A standard account for the deviance of (16a) is that the topicalized phrase occupies Spec-C of the embedded clause, which can therefore not function as an "escape hatch" (intermediate landing site) for further elements to be extracted. Taking this explanation to

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[9]Embedded topicalization in Icelandic is limited to complements of (some) bridge-verbs and generally impossible in embedded questions and relative clauses (cf. Thráinsson 2007: 41, 352 and Vikner 1995: 71f.); notice that the latter are the two most natural environments for SF.

be on the right track, it suggests in turn that the escape hatch *is* available in (16b), i.e. that the fronted element in this case does not occupy Spec-C.

Holmberg (2006: 546) notes that the same extraction asymmetry can be found with fronting of NP/PP "into" a subject gap and cases of embedded topicalization (without subject gap), supporting his claim that the former is SF while the latter is standard topicalization to Spec-C:[10]

(17) a. Hversu lengi heldur þú [$_{CP}$ að [$_{PP}$ í Ósló]$_i$ hafi verið búið t_i]
     how long think you that in Oslo has been lived
     'How long do you think that people have lived in Oslo?'

b. * Hversu lengi heldur þú [$_{CP}$ að [$_{PP}$ í Ósló]$_i$ hafi hann búið t_i]
     how long think you that in Oslo has he lived
     'How long do you think he has lived in Oslo?'

Since extraction is possible, (17b) must be an instance of SF, not embedded topicalization. I will therefore follow Holmberg in assuming that SF of NP/PP objects and embedded topicalization are distinct grammatical operations.

As a final key property distinguishing topicalization and other A′-movements on the one hand and SF on the other, SF is strictly clause-bound (Thráinsson 2007: 373; cf. also Jónsson 1991: 15):

(18) * Bókin [$_{CP}$ sem stolið$_i$ var sagt [$_{CP}$ að þú hefðir t_i]
     the book that stolen was said that you had

The hallmark of A′-movement is its unboundedness; hence, SF is not only distinct from topicalization, it is also unlikely to be an A′-movement type (see further §7).

The differences between topicalization and SF are summarized in table 1 (based on Maling 1990: 76).

Topicalization	Stylistic Fronting
Applies to NPs, PPs, etc.	Applies to NPs, PPs, participial verbs, adjectives, adverbs/negation, particles
Emphasis or focus on fronted constituent	No semantic(/pragmatic) effect
Restricted in embedded clauses	Common in embedded clauses
Unbounded	Clause-bound
No subject-gap requirement	Requires subject gap
Extraction from the same clause impossible	Extraction "across" fronted element possible

Table 1: Topicalization vs. SF

To summarize briefly, I have argued in this section that SF and topicalization are distinct syntactic operations, and that important asymmetries (such as the subject-gap requirement and extraction differences) allow us to tease the two apart. This is in line with Maling's

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[10]In addition, Holmberg (2006: 545) argues that the fact that presence of a negation blocks fronting of NP/PP (see §6 below) is evidence for the latter being SF, not topicalization.

original observations. I have also argued, following Holmberg (2006), that SF can target phrasal categories and hence that a uniform head-movement account is untenable. The remainder of the paper is devoted to an analysis of all cases of SF in terms of phrasal movement. Before turning to my own analysis, however, let me briefly summarize some previous attempts and point out their weaknesses, which I shall try to overcome.

3 Previous approaches to SF

In this section, I will briefly discuss some previous approaches to SF. The following list is a rough summary of the theories to be discussed:[11]

- Movement to subject position

    - Movement following trace deletion: Platzack (1987)
    - Movement of phonological features: Holmberg (2000)

- Movement to some other position

    - Subcase of topicalization: Rögnvaldsson and Thráinsson (1990)
    - Adjunction to I^0: Jónsson (1991), Holmberg and Platzack (1995)
    - Adjunction to a null affixal head above T: Bošković (2001, 2004)

- Landing site depends on fronted element (XP or X^0): Hrafnbjargarson (2003, 2004)

Platzack (1987), relying in part on Maling (1980, 1990), assumes that stylistic fronting is simply movement into the subject position (Spec-T, in my terms). This is problematic, since he seems to assume that the categories that can undero SF are X^0-elements (heads), e.g. participles and particles. It is left open by his theory why these categories should be allowed to move to a phrasal position.[12] Neither Platzack nor Maling discuss SF of NPs or PPs as described in §2. Likewise, neither author explains why SF can target the subject position, given that – at least in embedded clauses with subject extraction or relativization – this position is standardly taken to be occupied by a trace.

In response to problems faced by Platzack's account, Rögnvaldsson and Thráinsson (1990) (building on Rögnvaldsson 1982) propose an analysis that amounts to the denial that SF exists as a separate operation in the grammar; rather, it is reduced to a subcase of topicalization, analyzed as movement to Spec-T. But again, this analysis is highly problematic, as we've seen that topicalization and SF are very different in several (crucial) regards, and it seems like none of the asymmetries summarized in table 1 (p. 6) could be easily made to follow from their account. In particular, the extraction asymmetry mentioned in §2 is entirely unexpected; likewise, the analysis predicts SF and topicalization to be on a par with regard to semantic effect and unboundedness, contrary to fact. Finally, notice that

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[11] Two theories of SF I will not discuss here are those outlined in Poole (1997) (prosodic inversion) and Sells (2002) (base generation). These accounts diverge sharply from my basic assumptions, which is why a thorough discussion of their proposals is beyond the scope of the present work (Sells assumes a "nontransformational" framework). See Bošković (2004: 58 fn. 1) for a brief discussion of (and decisive arguments against) Poole's analysis. I will also not discuss Poole (1996) specifically, since it is a variation of the head-movement approach of Jónsson (1991) and Holmberg and Platzack (1995).

[12] The question is not addressed by Maling (1980, 1990) either, although (while being less explicit about the details of her analysis than Platzack), the problem applies with equal force.

standard cases of SF involve nonfinite verbs and verb particles, but both categories cannot be topicalized in Icelandic (Thráinsson 2007: 343). This asymmetry is obviously highly problematic for a theory that unifies both movement types.

Despite these grave problems, there is one aspect of Rögnvaldsson and Thráinsson's account which I will adopt in my own approach (see §5 below): In order to avoid the problem of moving an element into a position occupied by a trace, they assume that the subject trace is in a lower position than Spec-T (adjoined to VP, in their terms). My slightly modified version of this claim will be that subjects are extracted directly from their base position within vP.

A novel movement-to-subject account of SF is developed in Holmberg (2000). Holmberg suggests, basically, to split the EPP-requirement of Icelandic T into two parts: One feature ([D]) of T requires agreement with a nominal category, another feature ([P]) requires filling of Spec-T. The idea is that in SF constructions, both features are satisfied (checked) by distinct means: [D] (agreement with a nominal category) can be satisfied under Agree; the [P]-feature can then be satisfied by movement of some other category to Spec-T. But this movement, Holmberg argues, inserts only the phonological features of the attracted element into Spec-T, leaving behind formal and semantic features. The fronted element, then, is effectively an expletive in its derived position, and the semantic vacuity of SF follows.

While Holmberg's is clearly more satisfying than earlier accounts, it faces some non-trivial challenges (cf. the discussion in Thráinsson 2007: 386). First of all, once we allow phonological features of elements to be dissociated from semantic/formal features by means of movement, the question of how to constrain this feature-splitting capacity of movement operations arises immediately. Another problem that Holmberg addresses insufficiently is that of heads moving to Spec-T. He indicates (p. 461) that his theory allows for this, and adds that there is no phrase-structural reason to ban substitution of non-projecting heads into specifiers. Whether or not this assumption is problematic is a matter of theoretical choice; I think that it sacrifices too many crucial generalizations and explanations by effectively abandoning the X^0/XP-distinction.

Like Jónsson's head-movement account (to be discussed shortly), Holmberg's account crucially ties the availability of SF to V-to-T movement (the verb checks T's [D]-feature whenever there is no subject to do so). But Faroese data seems to contradict this assumption: In this language, SF applies in contexts (in particular, relative clauses and embedded interrogatives) where there is no verb movement (see further §7 and Holmberg 2006).

Moreover, Holmberg cannot account for some of the crucial cases. As he notes himself, he has no principled answer to the question why auxiliaries do not move (see §5 below): Since these do have a phonological matrix, they should be capable of moving to Spec-T, satisfying T's EPP. Moreover, I do not see how the head-complement optionality to be described in §§4.4 and 4.5 could be made to follow from his theory without at least one major additional stipulation, namely that verb phrases lack a phonological matrix in the relevant sense (see note 36).

Despite the problems mentioned, I think that Holmberg's proposal is the most convincing there is, and its influence on my own analysis will be evident. I will, however, try to overcome its weaknesses.

Returning to head-movement analyses, Jónsson (1991) proposes to analyze SF as movement of heads (see also Holmberg and Platzack 1995, Poole 1996) – that is, as adjunction of the fronted X^0-category to Infl (T, in my terms).[13] I have already noted the most obvious

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[13] According to Holmberg and Platzack (1995: 116), a similar analysis was proposed independently by Platzack (1991).

problem for this approach: As shown in §2, there are clear cases of SF that involve maximal categories and hence cannot possibly be analyzed as head movement.[14] However, as I also noted above, this still leaves room for a theory that analyzes *some* cases of SF as head movement; hence, Jónsson's proposal merits some further discussion.

Jónsson (1991) proposes to account for the subject-gap requirement by a stipulation to the effect that head-adjunction/cliticization of the fronted element to T renders the latter incapable of assigning nominative case to the subject position.[15] A problem for this analysis (which Jónsson himself notes) is that SF does not seem to generally lead to a suppression of nominative case, in particular in those cases where the subject stays low, or where nominative is assigned to a passive object (cf. Ottósson 1994: 114):

(20)   a.   Ég veit   [$_{CP}$ að   til$_i$ eru t_i [$_{NP}$ önnur lönd   ]]
         I   know   that PRT   are   other countries.NOM

         'I know that there exist other countries.'

     b.   … hvort drukkið$_i$ hafi einhverjir Danir t_i bjór
           if   drunk   have some   Danes.NOM   beer

         '… if any Danes have drunk beer.'

     c.   Keypt$_i$ hefur varið t_i tölva   fyrir starfsfólkið
         bought has   been   a computer.NOM for   the staff

The existential construction (20a) uses an unaccusative verb (*vera til* 'exist'), and since the subject is indefinite, it can stay low within the verb phrase; a low indefinite subject is also compatible with unergative verbs, as (20b) shows (cf. Rögnvaldsson 1984b, Thráinsson 1986, Sigurðsson 1991, Bobaljik and Jonas 1996). Crucially, the low subject is assigned nominative case in both cases, presumably under Agree with T (as in Chomsky 2000). The same is true for the passive case (20c), where *tölva fyrir* is assigned nominative case in object position. Jónsson has to resort an *ad hoc* solution, according to which the case assigned to the nominative NP is not actually assigned by T.[16]

A further problem (noted by Sigurðsson 1997: 5) is that the subject-gap restriction does not only require absence of *nominative* subjects; oblique subjects are likewise impossible (cf. also Maling 1990: 83):[17]

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[14]Although Jónsson mentions leftward movement of negative objects and indicates that he takes it to be an instance of SF, he does not discuss SF of XPs any further.

[15]Thus, Jónsson in effect treats SF as a case of clitic movement. But, as noted by Holmberg (2000: 455), the fronted elements (even those that are head-like) are in no way defective, syntactically or prosodically. As will be shown below, modified heads can undergo SF. Moreover, the elements that undergo SF can do so even when conjoined (Sigurðsson 1997: 8):

(19)   eins [og   unnt   og   vert   ]$_i$ væri t_i
      as   and possible and desirable   were

Hence, it is unclear why these elements should have to undergo cliticization at all, and why only in the context of SF. In addition, it can be objected that while clitics normally never occur sentence-initially, SF targets the initial position when it applies in impersonal main clauses.

[16]But notice that Jónsson's claim (that SF leads to a suppression of nominative case) cannot be correct even in the other examples we've seen: If the subject is extracted, its trace must presumably still be case-marked (Chomsky 1981, 1986).

[17]The problem is also noted by Holmberg and Platzack (1995: 119), who propose an amendment to the effect that if SF to Infl applies, Spec-T is not licensed as an A-position. I will not discuss this equally stipulative account here.

(21)　a.　… sem sagt hefur að　…
　　　　　　who said has　that

　　　b.　*… sem hann sagt hefur …
　　　　　　that he　　said has

　　　c.　*… sem honum　sagt hefur verið …
　　　　　　that him.ᴅᴀᴛ told has　been

Clearly, even if it is granted that adjunction to T somehow renders that head incapable of assigning nominative case, this cannot properly derive the subject-gap requirement of SF.[18]

One prediction of Jónsson's account is that SF should be parasitic on V-to-T movement. To some extent, this prediction seems to be borne out: SF occurs in Icelandic (which has V-to-T in both matrix and embedded clauses), but not in any of the Mainland Scandinavian languages (which lack V-to-T in embedded clauses). However, as noted by Holmberg and Platzack (1995: 117), V-to-T movement cannot be a *sufficient* condition for SF-licensing: V-to-T applies in Icelandic infinitival clauses, but SF is only acceptable in finite clauses (cf. §5).[19]

A variation of Jónsson's head-movement account is presented in Bošković (2001, 2004). Bošković assumes that SF targets a null head (labeled "F") above T. At PF, affixal F and the T-head must undergo morphological merger, which requires both heads to be adjacent. This derives the subject-gap requirement, since an overt specifier of T would block PF-merger of F and T. Thus, on this account it is a phonological requirement that is violated when SF applies in the presence of a subject in Spec-T. The most obvious problem for the analysis is, of course, that it has no way of accounting for SF of XPs, i.e. NPs and PPs, since all SF is necessarily taken to be head-movement to F. It is clearly not feasible to assume that some XP raised to Spec-F could undergo PF-merger with T.

Moreover, Bošković's account suffers from a major conceptual problem: It depends entirely on the existence of the affixal head F, to which the fronted element adjoins. The only justification for this empty (and specifierless) head is the role it plays in the analysis of the phenomenon that Bošković seeks to explain.[20]

We thus have good reasons to dismiss a theory that tries to account for all cases of SF in terms of head movement. The two virtues that such a theory has (by assuming head movement, it explains the clause-boundedness and semantic vacuity of SF) will receive an alternative explanation in the appraoch to be developed below: SF is clause-bound because it is A-movement, and it reconstructs because there is no case-assignment involved (see §§5 and 7 below).

A somewhat weaker position is taken by Hrafnbjargarson (2003, 2004), who analyzes different cases of SF as either head or phrasal movement, depending on the moved category. In contrast to all other theories, Hrafnbjargarson maintains that SF is movement into the extended CP domain and hence dissociated from the derived subject position. In particular, Hrafnbjargarson assumes that SF targets a FocP (either Foc[0] or Spec-Foc, depending on the moved category), where the moved element checks some uninterpretable focus feature. Since (definite) subjects have an "inherent focus feature", they always move to FocP and

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[18]The arguments given here apply equally to Platzack (1987), where it is argued that nominative case is absorbed by C, assumed to be pronominal in Icelandic.

[19]In addition, Faroese suggests that V-to-T is not even a *necessary* condition; see §7 below.

[20]Notice that on Bošković's account, SF can only take place if F is inserted into the structure (hence, is not optional). The analysis thus has an air of circularity.

hence block SF of other categories; Spec-T is occupied by an intermediate trace in the relevant cases, hence is not a potential landing site. (Notice, however, that this cannot cover impersonal constructions, in which SF is possible.)

Evidently, Hrafnbjargarson's theory is based on the assumption that SF has a semantic "function", namely focus. To the best of my knowledge, all other authors deny this effect as an inherent property of SF, and some have made their sharp disagreement with Hrafnbjargarson's judgments explicit (see Sigurðsson 2008: 24, fn. 37, Thráinsson 2007: 389); Hrafnbjargarson himself admits in footnotes that his informants disagreed with him on many of the examples he claims to illustrate the semantic effect of SF. Since its empirical base is unclear at best[21], I will set aside Hrafnbjargarson's theory for the remainder of this paper.

The main purpose of this brief discussion of previous approaches to SF was to point out their weaknesses, which I will try to overcome with my own analysis. In particular, none of the previous accounts can fully explain why SF can seemingly move elements of diverse types into the derived subject position, and why SF should be constrained by the subject-gap requirement. My own theory, developed below, relies on a significantly smaller set of assumptions than the approaches discussed in this section; nevertheless, I will show how it can account for the observed peculiarities without inelegant stipulations.

4   SF as (remnant-)XP fronting

As mentioned above, SF seems to target both phrasal and head-like categories. In this section, I will discuss the various manifestations of SF, arguing in each case that the fronted category moves as a phrase, not as a head. Importantly, in order to achieve this unification it is necessary to show that the apparent cases of head movement are actually remnant-XP movements. Having established the plausibility of the remnant-movement analysis of SF, I will turn to locality conditions on SF and the nature of the subject-gap requirement in later sections.

4.1   NPs and PPs

In this section, I want to discuss cases of SF in which the fronted category is an object NP or PP. For now I will confine the discussion to a description of the facts, while my theoretical analysis of NP/PP-fronting will be stated in §4.4, in order to avoid redundancy.

Jónsson (1996: 69) discusses leftward movement of negative objects, which bears some similarity to SF (and hence presents a problem for the head-movement analysis developed in Jónsson 1991):[22]

(22)   Þeir   sem [$_{NP}$ engan mat   ]$_i$ hafa borðað t_i eru í   hættu
        those that   no   food   have eaten   are in danger

That this is indeed a case of SF is suggested by the fact that instead of the negative object, we can alternatively front the participle (cf. Hrafnbjargarson 2004: 107):

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[21]See also Poole (2007) for discussion.

[22]In Icelandic, negative objects are generally shifted leftwards, to a position that is to the *right* of the finite verb/auxiliary. The operation freely violates Holmberg's Generalization, hence must be distinct from object shift; this view is supported by the fact that negative PPs can undergo this leftward movement (but not OS) (cf. Thráinsson 2007: 35).

(23) Þeir sem borðað$_i$ hafa engan mat t_i eru í hættu
     those that eaten   have no   food   are in danger

This verb-complement optionality is typical for SF and will be more thoroughly discussed in §4.4 below. I will leave open the question of whether (22) is a genuine case of SF and turn to clearer cases of phrasal SF.

Consider the following examples, which Sigurðsson (1997: 6) attributes to Rögnvaldsson (1982, 1984a):

(24) a. sem [$_{NP}$ þessa erfiðu   ákvörðun]$_i$ verða að taka t_i
      who   this difficult decision   have to take

    b. sem [$_{PP}$ um   þetta]$_i$ hafa rætt t_i
      who   about this   have discussed

Since topicalization is not an option in relative clauses, (24) must be instances of SF. Further examples are given in Jónsson (1998), Hrafnbjargarson (2004), and Holmberg (2000, 2006):[23]

(26) a. Þeir sem [$_{NP}$ bestum áragri]$_i$ hafa náð t_i
     those who   the best result   have got
    'those who have got the best result'

    b. Þeir sem [$_{PP}$ til hans]$_i$ myndu hafa verið sendir t_i
     those who   to him   might have been sent
    'those who might have been sent to him'

    c. Allir sem [$_{PP}$ í bókinni]$_i$ höfðu lesið t_i voru hrifnir
     all that   in the book had   read   were impressed
    'Everyone that had read in the book was impressed.'

    d. Þeir sem [$_{PP}$ í Óslo]$_i$ hafa búið t_i segja að …
     those who   in Oslo have lived say that
    'Those who have lived in Oslo say that …'

Clearly, none of these examples could be analyzed as movement of an X^0-category. Holmberg (2006: 545ff.) argues at length that these cases of NP/PP-fronting exhibit all relevant properties of SF and can be shown to be distinct from topicalization. First, all cases in (22–26) are bad when an overt subject is present; second, embedded topicalization in this kind of context (relative clause) is generally unacceptable to almost all speakers. Moreover, Holmberg notes that in embedded impersonal clauses fronting of a PP as in (26d) is obligatory (although alternatively, expletive-insertion can apply; see §5), that extraction across the fronted NP/PP is possible (recall (16)), and that preposing of an NP/PP

---

[23]The following examples from Faroese are given by Barnes (1987), quoted in Holmberg and Platzack (1995: 115):

(25) a. Fá eru tey, sum [$_{NP}$ bøkur]$_i$ hava keypt t_i
     few are they who   books   have bought

    b. Hetta er nakað   sum   [$_{NP}$ róttum monnum]$_i$ er andstyggiligt t_i
     this   is something which   proper men.DAT   is abominable

    c. Tey, sum [$_{PP}$ í Danmark]$_i$ hava verið t_i siga …
     they who   in Denmark   have been   say

Holmberg and Platzack note further that Falk (1993: §6.4) discusses cases of phrasal SF in Old Swedish.

can be blocked by presence of a negation (see §6). These and other tests show quite clearly that SF can target NPs and PPs.

Some details with regard to SF of PPs require clarification. As noted by Jónsson (1991: 14) and Sigurðsson (1997: 6), SF cannot remove bare prepositions from their complements:

(27) a. * að um$_i$ yrði rætt [$_{PP}$ t$_i$ tillögurnar]
   that about would-be talked the proposals

b. * þegar um hafði verið rætt [$_{PP}$ t$_i$ þetta]
   when about had been talked this

Since SF in (27) targets PP (so I assume), the NPs left behind must have been postposed (right-adjoined to vP) prior to PP-fronting. While postposing of NPs is possible in Icelandic, it cannot apply in (27) for (at least) two reasons: It only applies to indefinite NPs (see Rögnvaldsson 1984b and text below); and it cannot apply to an NP that is embedded within a PP (perhaps due to the fact that P-stranding in Icelandic is only acceptable under A′-movement). Hence, SF clearly moves the entire PP, which moreover must move as a whole.

As noted by Holmberg (2006: 555), however, fronting of (what looks like) a bare preposition is possible if the PP contains the trace of a null operator (or of the head noun, depending on one's theory of relative clauses):

(28) maðurinn$_k$ [$_{CP}$ Op$_k$/t$_k$ sem [$_{PP}$ um t$_k$] var rætt t$_i$]
   the man that about was talked

In Holmberg's words, it is "very likely that we are dealing with PP-movement" even in these cases: A comparison between (27) and (28) shows that what is going on in (28) cannot be fronting of a bare preposition (which is bad, as (27) shows), but rather of a PP.

Finally, it should be mentioned that not any NP or PP can undergo SF. The notoriously ill-understood notion of *heaviness* clearly plays a role here: In general, "heavy" constituents resist SF more strongly than "lighter" constituents (Gunnar Hrafn Hrafnbjargarson, p.c.). For instance, NPs or PPs that contain a further NP complement or a relative clause cannot undergo SF:

(29) a. * Allir sem [$_{NP}$ eyðileggingu borgarinnar Hirosima]$_i$ fengu að fylgjast
   all that the destruction.DAT the city.GEN Hiroshima got to follow
   með t$_i$ fylltust hryllingi
   with were-filled fear

b. * Allir sem [$_{PP}$ um manninn sem drukknaði höfðu]$_i$ heyrt t$_i$ voru
   all that about the man that drowned had heard were
   sorgmæddir
   sad

Essentially for the same reason, I assume, clausal complements cannot undergo SF:

(30) * Allir sem [$_{CP}$ að Jón hafði sagt að konan hans væri í Kaupmannahöfn]$_i$
   all who that John had said that wife his was in Copenhagen
   vissu t$_i$ urðu hissa þegar þau komu saman í veisluna
   knew became surprised when they came together to the party

Such cases are crashingly bad for all speakers, suggesting that the categories that can undergo SF must be below some threshold of heaviness. Notice that what SF does is moving

a non-subject constituent to the subject position – in many cases, a constituent that is of a type (nonfinite verb, particle, adverb) that is incompatible with subjecthood at all. It is therefore not surprising to find that the shape of the fronted category is more tightly constrained than in the case of canonical subjects, given the potentially heavy burden that this fronting puts on processing.[24]

I will thus resort to the notion of heaviness at various points in the discussion below, although I will employ it in the purely intuitive sense in which it has figured in the literature and will not have anything insightful to say about its precise definition.[25]

This concludes my summary of the empirical landscape concerning SF of NPs and PPs; the analysis of these facts will be taken up again in §§4.4 and 4.5, in connection with SF of nonfinite verbs and particles. The data I presented in this section show unambiguously that SF can not be uniformly analyzed as head movement (*pace* Jónsson 1991, Holmberg and Platzack 1995, Poole 1996, Bošković 2004). This leaves us with two theoretical options: Either we conclude that *both* XPs *and* X^0s can undergo SF (and hence that SF can target different positions in the tree); or else we conclude that all SF is phrasal. A uniform analysis of all types of SF – which I will take to be more desirable from a theoretical point of view – must take the latter route. The reason is that there is no theoretically feasible way of reanalyzing the data presented above as head movement; by contrast, the availability of remnant movement makes it possible to reanalyze apparent cases of X^0-fronting as phrasal movement. This reanalysis will be the topic of the following sections.

4.2 Adverbs and negation

Let us now turn to SF of adverbs, illustrated in the following example (from Holmberg 2006: 539):

(32) sem sennilega$_i$ er t_i hægt   að gera við
      that probably   is   possible to fix   PRT

Given that the fronted element in (32) is a single "word" in an intuitive sense, it is tempting to conclude (with Jónsson 1991, Holmberg and Platzack 1995 and others) that SF targets an X^0-category in such cases. However, according to Kayne (1994), Alexiadou (1997), Cinque (1999) and others, adverbs are specifiers of dedicated functional projections (termed the "functional specifier approach" by Cinque 2004: 684).[26] Schematically, this can be represented as follows (with only a single [modified] adverb depicted):[27]

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[24]As Cedric Boeckx (p.c.) has pointed out to me, it is known that a very heavy or clausal constituent in Spec-T can cause significant problems for processing, for essentially the same reason that renders the output of embedded topicalization in English bad in many cases:

(31)   * I think that [if John won the race]$_i$ would be great t_i

These cases inevitably have a garden-path flavor to them and complicate processing significantly. Notice that although I have argued that SF and topicalization are distinct, this surface effect will be the same in an SF-construction; in this case, too, the fronted constituent precedes the finite verb.

[25]In particular, I will leave open whether the kind of heaviness relevant here is defined in terms of phonological material or internal structural complexity, although the data mentioned in the following sections seem to favor the latter view. For a rare attempt to come to grips with various heaviness-related phenomena, see Wasow (2002).

[26]But see Nilsen (2003), among others, for critical discussion of this approach.

[27]"α" here is shorthand for the various categories encoded in Cinque's hierarchy, i.e. $\alpha \in \{$Mod, Asp, Pol, … $\}$.

(33)

```
              T'
             /  \
            T    αP
                /  \
            AdvP    α'
            /\     /  \
        (so) well α⁰   vP
                       /\
                    SUBJ VP
```
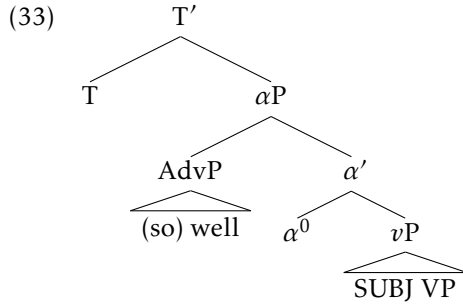
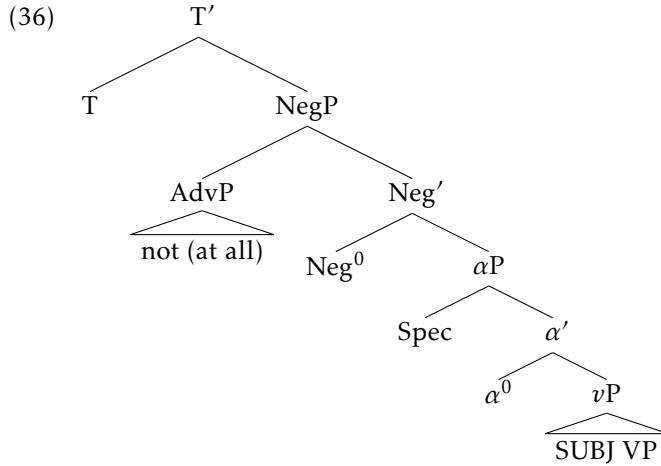As mentioned by Thráinsson (2007: 370), a phrase-structural description of adverbs along the lines of (33) is as plausible for Icelandic as it is for any other language. Assuming it to be on the right track, it follows straightforwardly that adverbs are actually phrasal categories, hence that SF of adverbs should be seen as XP-movement. Plainly, that this is the case is also shown by the fact that adverbs can be modified, in which case the entire phrase (modifier + adverb) undergoes SF (the example is originally from Rögnvaldsson 1982):

(34) sem [$_{AdvP}$ svona vel]$_i$ hafa talað t_i um þig
      who   so   well   have talked   about you

I will assume a parallel analysis for the negation, which I take to be an AdvP in the specifier of a dedicated negation phrase (as argued in Jónsson 1996: 95–100):

(35) þegar [$_{AdvP}$ ekki$_i$] var [$_{NegP}$ t_i [$_{Neg'}$ ∅-Neg^0 [$_{vP}$ búið   að borða]]]
      when   not   was   finished to eat

Crucially, NegP – if present – is hierarchically ordered above all αPs hosting other adverbs (this will play a role in §6 below):

(36)

```
              T'
             /  \
            T    NegP
                /    \
            AdvP      Neg'
            /\        /   \
      not (at all) Neg⁰    αP
                          /  \
                      Spec    α'
                             /  \
                           α⁰    vP
                                 /\
                              SUBJ VP
```

From the structure in (36) it follows that negation, being a specifier, is actually a phrase.[28] In addition to the theory-internal argument from SF, there are straightforward empirical

---

[28]Holmberg and Platzack (1995: 17) use a slightly different structure, in which NegP is adjoined to VP. But they provide no reason not to assume the structure in (36). As far as I can see, nothing in my analysis hinges on the difference between the two formalizations.

reasons to take the negation in Icelandic to be phrasal (cf. Ouhalla 1990). First, negation and adverbs in general can be topicalized in this language (Holmberg and Platzack 1995: 17):

(37) [$_{AdvP}$ Ekki]$_i$ veit ég t_i hver hún byr
        not   know I   where she lives

Moreover, and more directly relevant to our purposes here, negation can be modified, in which case the entire phrase undergoes SF (examples from Sigurðsson 1997: 8 and Thráinsson 2007: 82):[29]

(41) a. sem [$_{AdvP}$ alls ekki]$_i$ hefur [$_{NegP}$ t_i $\varnothing$-Neg^0] skrifað þessar bækur
          who   at all not has   written these books

      b. sem [$_{AdvP}$ alls ekki]$_i$ geta [$_{NegP}$ t_i $\varnothing$-Neg^0] unnið saman
          that   at all not can   work together

The examples in (41) are cases of phrasal movement, directly predicted by the structure in (36). Hence, cases in which negation appears to be moving as a head must be cases of phrasal fronting, too. We have thus more direct support for my thesis that SF is generally phrasal movement.

It is necessary at this point to rule out a further option to satisfy EPP on T, namely raising of the entire complement of T (NegP/AdvP). What we want to say, intuitively, is that T attracts the closest *specifier*, but in the light of what I will have to say in §§4.4 and 4.5 below, I will instead assume the following natural principle:

(42) *Anti-locality constraint* (cf. Abels 2003: 12)
       *[$_{XP}$ YP [$_{X'}$ X^0 t_{YP}]]

---

[29]A case that might be analyzed in the same way is given by Hrafnbjargarson (2004: 121):

(38) Hann henti   öllu sem áreiðanlega ekki hafði t verið tæmt
       he   threw away all   that undoubtedly not had   been emptied
      'He threw away everything that had undoubtedly not been emptied.'

Hrafnbjargarson takes the example to show that more than one element can undergo SF, i.e. he claims that both the adverb *áreiðanlega* and the negation (*ekki*) have fronted independently. I suggest instead that *áreiðanlega* modifies the negation, so that the following element has undergone phrasal SF:

(39)   AdvP
           /   \
        AdvP   Adv′
       /   \ |
  undoubtedly   Adv
                    |
                   not

A further case mentioned by Hrafnbjargarson (p. 128) may be more problematic:

(40) Nemendur sem áður   lokið   hafa t sambærilegum námsáföngum
       students   that before finished have   similar   courses
      'students that have finished similar courses before'

While I will not attempt to argue for this analysis here, I think that this case, too, can be analyzed as fronting of a modified participle verb, i.e. that *áður* is in some *v*P-internal position. Hrafnbjargarson notes (p. 129) that the example becomes unacceptable when the order of adverb and participle is reversed.

It follows from (42) that in a configuration [T XP], attraction of XP to Spec-T in order to satisfy an EPP-requirement on T is too local. This captures the standard (though standardly implicit) assumption that EPP on T cannot be satisfied by raising of (e.g.) the verb phrase (for related discussion in a broader context, see Grohmann 2003, Abels 2003, and Boeckx 2008: ch. 3 for an attempt to derive anti-locality from deeper principles). Movement must be sufficiently non-local, hence in the cases relevant here, T must attract the AdvP in Spec-NegP/Spec-αP.

Finally, notice that in embedded clauses with only a finite main verb and no auxiliary, SF of an adverb across the finite verb essentially restores the pre-V-to-T order. In such cases (not shown here) one could in principle argue that the word order is the result of absence of both V-to-T and SF: If a negation or an adverb precedes the finite verb, this may be either the result of V-to-T and subsequent SF across the finite verb, or simply the base order of these elements.[30] For reasons of simplicity and plausibility I will assume here that V-to-T applies universally in Icelandic (cf. e.g. Holmberg and Platzack 1995: 76f.; Vikner 1995: 139), and that SF can apply optionally, restoring pre-V-to-T order in the cases mentioned. The alternative analysis sacrifices essential generalizations and correlations, such as the fact that Icelandic (but not the Mainland Scandinavian languages, which have no V-to-T) has object shift in embedded clauses (Vikner 2006: 395).

I conclude that adverbs and the negation, being specifiers of functional heads above vP (as in Cinque 1999), move as full maximal projections; no further manipulation is necessary for these categories to undergo SF. A natural anti-locality requirement (42) ensures that T's EPP will not be satisfied by raising its complement.

4.3   Predicative adjectives

A further category that can undergo SF is that of predicative adjectives. The following examples (from Holmberg 2006: 535) illustrate:

(43)   a. hún sem var fyrst til að lysa   stílfærslu
          she that was first to investigate Stylistic Fronting

       b. hún sem fyrst$_i$ var t_i til að lysa stílfærslu

(44)   a. nokkuð   sem er hægt   að gera við
          something that is possible to fix   PRT

       b. nokkuð sem hægt$_i$ er t_i að gera við

Notice that the fronted adjective in (43b) has left behind its complement (the infinitival clause). A similar case of stranding of an NP-complement is provided by Jónsson (1991: 2):

(45)   Þeir   sem ánægðir$_i$ eru [$_{AP}$ t_i með kaupið] kvarta   ekki
       those who content   are   with the pay   complain not

By contrast, modifiers generally cannot be stranded by SF of the adjective in this way (Jónsson 1991: 13):

(46)   * Þetta er maður [$_{CP}$ sem skyldur$_i$ er mjög t_i Maríu   ]
         this is a man   that related is very much   Maria.DAT

---

[30]Notice that for this reason, structures that are string-identical to the hypothetical case at hand exist even in languages that have no V-to-T, e.g. Mainland Scandinavian.
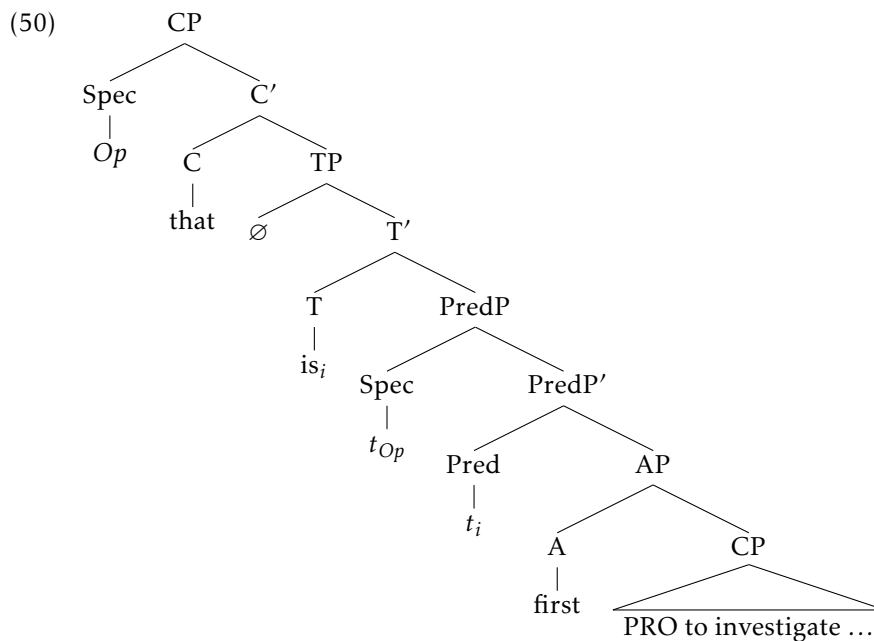
Similarly, modifiers cannot undergo SF by themselves, stranding an adjective (example from Sigurðsson 1997: 6):[31]

(48) * sem svakalega$_i$ var t_i klár
      who terribly   was   bright

Such cases generally improve significantly when the entire AP moves:[32]

(49) a. ? sem [$_{AP}$ mjög   skyldur]$_i$ er t_i Maríu
          that   very much related   is Maria.DAT

      b. ? sem [$_{AP}$ einstaklega   klár   ]$_i$ var t_i
          that   extraordinarily bright   was

      c. ? sem [$_{AP}$ afskaplega erfið]$_i$ hafa verið t_i viðureignar
          that   very   hard   have been   dealing-with

I propose to account for the data in the following way. Roughly following Bowers (1993), Baker (2003: ch. 4) and others, I assume that a copula (relative) clause with an AP predicate as in (43b) has the following pre-SF structure:

(50)

```
                    CP
              _____|_____
            Spec          C'
             |        _____|_____
             Op      C          TP
                     |       ____|____
                    that     ∅       T'
                          _____|_____
                         T              PredP
                         |         _____|_____
                        is_i      Spec         PredP'
                                   |        _____|_____
                                  t_Op     Pred        AP
                                   |       |      _____|_____
                                  t_i      A         CP
                                           |      ___|___
                                         first   PRO to investigate …
```

Thus, I take a predicative adjective in this context to be the head of an AP which is dominated by some kind of predicate phrase PredP (perhaps a bare VP), which is in turn

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[31] By contrast, topicalization of these modifiers appears to be generally possible; compare (48) to the following:

(47) Svakalega$_i$ held ég að   hann hafi verið t_i klar
      terribly   think I that he   has been   bright

In fact, Thráinsson (2007: 347) claims that topicalization of the whole AP in such cases is strongly degraded.

[32] Some speakers find these cases marked (whence the question mark), but it is sufficiently clear that they are much better than the counterparts with stranded modifiers.

selected by T; the copular verb raises from Pred/V to T, unless an auxiliary is chosen. Now, T's EPP feature should target AP, since PredP cannot raise by anti-locality (42). Since the entire AP is too heavy to undergo SF (recall the discussion in §4.1), I assume that the CP complement must extrapose (evacuate) for SF to yield a licit result.

There are various ways of formalizing this; for concreteness, I will assume that CP extraposes when PredP is constructed, by right-adjoining to PredP. Since this will create an additional PredP node, we need to ensure that the original PredP remains immobile under anti-locality (42), which presumably follows from the identity of labels (i.e., the original PredP and the PredP created by adjunction are identical from T's point of view).[33]

Notice that evacuation-*qua*-extraposition from AP is not a case of "look-ahead" if it is assumed that CP and PP objects extrapose either optionally (in which case a non-extraposition derivation will be filtered) or obligatorily.

Thus, I propose that T attracts a remnant AP containing the trace of the extraposed complement (the dashed arrow indicates application of a transformation at an earlier step in the derivation, shown for expository reasons):

(51)
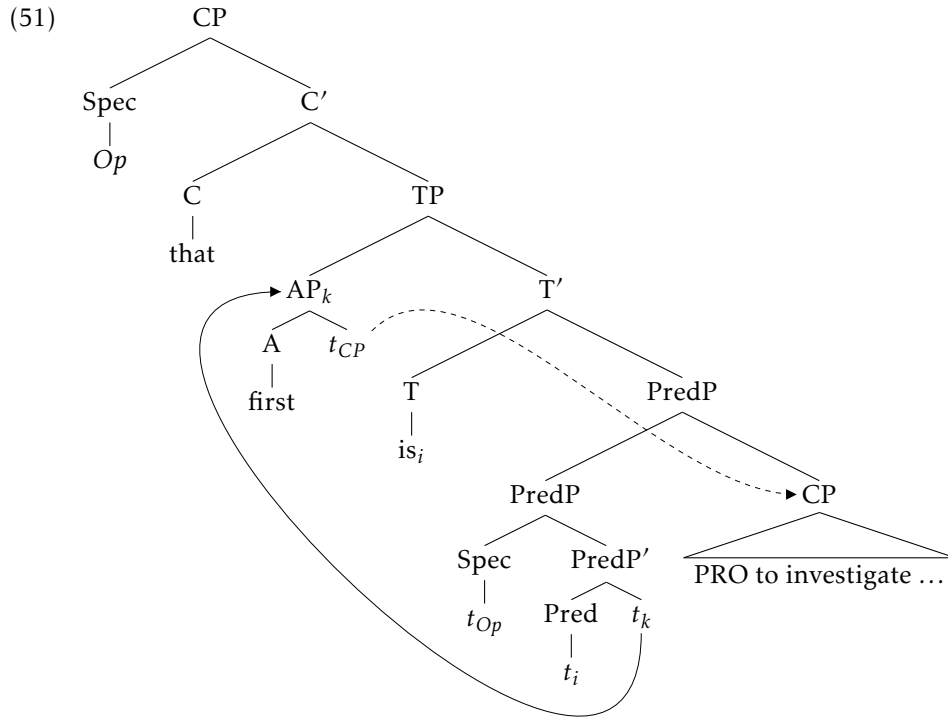
Given the option of extraposition of CPs and PPs, fronting of AP is predicted to strand complements while always pied-piping modifiers (located in Spec-A), as shown in (49).[34]

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[33]Alternatively, we could assume that SF raises the entire AP, but that CP subsequently right-adjoins to TP. In recent work of Chomsky's (Chomsky 2008, 2007), it was suggested that all operations triggered by C or T are computed simultaneously, i.e. that there is no logical order between them. In this case, extraposition of CP/PP and fronting of AP could take place simultaneously at the same derivational step. As far as I can see, at least for the purposes of this paper nothing hinges on the precise implementation.

[34]Notice that for a case like (49a), it is necessary for me to assume that the dative complement is actually a covert PP, hence an extraposable category.

Notice that this analysis easily handles the case in (45), in which the fronted adjective (phrase) leaves behind a PP. The derivation is exactly parallel: PP extraposes, and the remnant AP is fronted to Spec-T. Again, any derivation in which extraposition of the PP does not apply will be ruled out for reasons of heaviness, hence extraposition is, in effect, obligatory:

(45) Þeir sem ánægðir$_i$ eru [$_{AP}$ t_i með kaupið] kvarta ekki
those who content are with the pay complain not

    a. [$_{PredP}$ Op [$_{Pred'}$ are [$_{AP}$ content [$_{PP}$ with the pay]]]] $\Rightarrow$ extrapose PP

    b. [$_{PredP}$ [$_{PredP}$ Op [$_{Pred'}$ are [$_{AP}$ content t_{PP}]]] [$_{PP}$ with the pay]] $\Rightarrow$ raise AP

    c. [$_{CP}$ Op [$_{TP}$ [$_{TP}$ [$_{AP}$ content t_{PP}] are$_i$-T [$_{PredP}$ [$_{PredP}$ t_{Op} [$_{Pred'}$ t_i t_{AP}]] [$_{PP}$ with the pay]]]]]

I conclude that predicative adjectives uniformly undergo SF as phrases, potentially containing the trace of an extraposed complement. Pied-piping of AP-internal modifiers follows straightforwardly, since the entire AP raises. No recourse to head movement is necessary.

Let us now turn to the two remaining cases: participle verbs and particles. These are the instances of SF that, *prima facie* at least, most strongly militate against a phrasal-movement account of SF (cf. Holmberg 2006: 556). The conclusion of the discussion so far has been that NPs, PPs, AdvPs and (potentially remnant) APs undergo SF. With bare verbs and particles, we will see that the availability of remnant movement again allows for a uniform treatment in terms of XP-movement, but that some further (independently motivated) technology will be necessary for full coverage of the facts.

4.4 Nonfinite verbs

Having established that SF in Icelandic is phrasal movement in the cases of NPs/PPs, adverbs/negation and predicative adjectives, let us now consider the case of nonfinite (participial) main verbs undergoing SF. *Prima facie*, the data suggest that at least SF of nonfinite verbs should be analyzed in terms of head movement. As pointed out before, it is in principle not necessary to treat all instances of SF in a uniform fashion. However, a non-uniform analysis of SF in terms of two very different movement operations (phrasal movement in some cases, head movement in others) will not easily account for the fact that both kinds of SF are governed by exactly the same restrictions – in particular, that both kinds of SF are dependent on a subject gap, are clause-bound and semantically neutral, and obey the same locality constraints (as shown in §6). By contrast, all of this is predicted by an approach that analyzes all instances of SF in terms of the same operation, namely phrasal A-movement to Spec-T (see §§5 and 6 for elaboration). I will therefore argue that SF of main verbs is actually movement of a remnant verb phrase (*v*P).[35]

Unlike NP and PP, a verb phrase can never be fronted as a whole, i.e. containing a nonfinite main verb and its complement (examples from Holmberg 2000: 470):[36]

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[35] It is noteworthy at this point that Wiklund et al. (2007) – building on Nilsen (2003) and Müller (2004) – have proposed to analyze verb movement in Icelandic (and Norwegian) as remnant-*v*P fronting. Since their analysis relies on various *ad-hoc* assumptions and is in general not very explicit about theoretical details (in particular, evacuation movements), I will not attempt in this paper to relate their approach and the one proposed here.

[36] Holmberg has no way of accounting for these facts and resorts to a stipulation that verb phrases lack the relevant phonological features ("p-features") of their subconstituents. In his system, one would expect verb

(52) * þeir   sem [$_{vP}$ búið í Ósló] hafa t_i segja að …
   those that   lived in Oslo   have   say   that

Only fronting of *either* the participle *or* its complement is allowed:

(53) a. Þeir   sem [$_{PP}$ í Ósló]$_i$ hafa búið t_i
         those that   in Oslo   have lived

      b. Þeir   sem búið$_i$ hafa t_i [$_{PP}$ í Ósló]
         those that lived have   in Oslo

That is, complements must either be stranded or else undergo SF themselves (see also the examples in Holmberg 2006: 540 and Jónsson 1991: 2). (53a) and (53b) are equally possible, and both are clear cases of SF (recall the discussion in §2). It thus looks as if *búið* and *í Ósló* are in some sense *equidistant* for purposes of SF. The account I will propose presently will derive both this optionality and the phrasal nature of the movement in (53b).

I will assume, as is standard, that *búið* and *í Ósló* start out as sisters in VP. Furthermore, I will assume that merger of *v* results in (optional) movement of the PP to the outer edge of *v*P (as well as V-to-*v* movement). In this I am building on proposals in Chomsky (2000, 2001), where it is argued that *v* can be optionally endowed with an EPP-property that permits this movement to the edge. In the framework of "phase theory", movement to the edge is the only way for a complement XP to escape the phase, i.e. to be available for further operations at the next phase (CP). For instance, Chomsky assumes that an additional rule (which he calls "Disl") yields Scandinavian-type object shift (cf. Chomsky 2001: 30), raising the XP at the edge to a higher position above adverbs; other languages allow only A′-movement to proceed from the edge. Thus, raising to the edge as assumed here is taken by Chomsky to be universally available, although it applies optionally. In the present context, my proposal is that SF of complements of V (like object shift or A′-movement of an object) is parasitic on this edge-driven movement.

Hence, I will follow Chomsky in attributing movement of a complement XP to the edge of *v*P to a special *edge property* of that phrase, perhaps following from its status as a "phase" (cf. Chomsky 2001: 33):

(54)
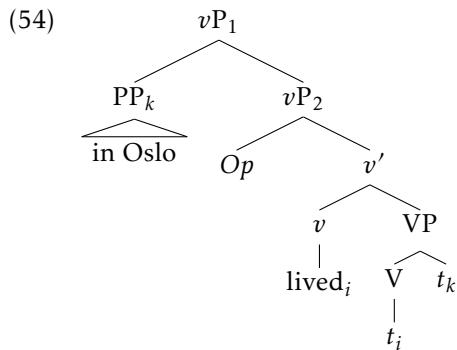
On the CP level, C attracts the operator, while T's EPP-feature scans the tree for a phrase to be attracted (this will be spelled out in more detail in §§6 and 5 below). Taking minimality into account and assuming that attraction of *v*P$_1$ is ruled out by anti-locality (42),

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phrases to undergo SF freely, since they have both phonological and semantic content (recall the discussion of his approach in §3).

we would expect it to attract the PP at the vP-edge – which, however, is only one of two possibilities, as noted. We therefore need an additional condition, proposed by Chomsky (2001: 27):

(55)   Terms of the edge of [a phase] HP are equidistant from probe P.

Based on this principle, Chomsky argues (*ibid*) that in a configuration like (54), "the shifted object [= the PP] and the *in-situ* subject … are equidistant from the probe T". But notice that PP and vP$_2$ are likewise equidistant from T, since both are sisters; I claim that this is what yields the optionality illustrated in (53).

For expository reasons, I adopt the general reasoning in Chomsky (2001) but in addition follow Hornstein and Nunes (2008) in assuming that adjuncts (at least those created by the *edge property* of a phase) are label-less.[37] A phrase XP that is adjoined to vP will thus be represented in the following way:
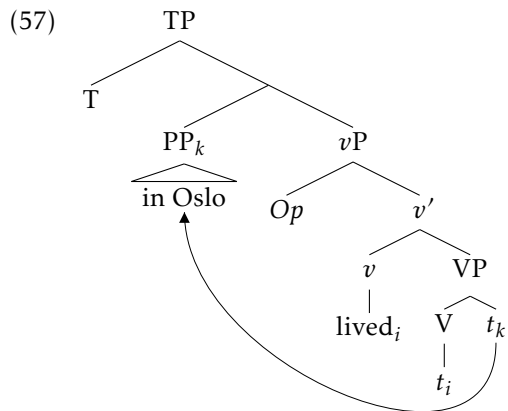
(56)
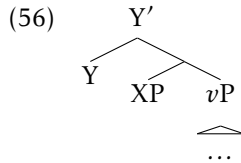
Consequently, for a higher probe (Y), XP and vP are equidistant (in the sense of Chomsky 2001: 27); i.e., XP and vP are equally close to the probe, since neither element dominates the other. Consequently, an EPP-property of Y can raise either one, and neither movement will violate minimality.[38]

In our case, what this means is that raising of PP to the outer edge of vP will not result in a new vP-node being created, and hence that both PP and vP will be equally available for SF.[39] At the TP level, we thus have the following representation:

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[37]Nothing really hinges on this formalization, which I choose mainly to make the proposal more transparent. Alternatively, one could assume that movement to the phase edge is movement to an outer specifier, as shown in (54). This requires the additional assumption that the higher vP (dominating the raised XP) and the original vP (hosting the subject in its specifier) are distinct for purposes of attraction (otherwise, both should be immobile under (42)). A further alternative is that movement to the edge is adjunction, and that adjunction yields an ambiguous label (e.g., *PP/vP*), assuming that an ambiguous label likewise results in equidistance of the two phrases from a higher probe. As far as I can see, the choice of formalization is immaterial to the proposal itself.

[38]This analysis might provide an explanation for other cases of optionality, such as "A-scrambling" in Japanese, discussed by Miyagawa (2001, 2003). Miyagawa argues that SOV and OSV orders are possible in Japanese because T's EPP can attract either the subject or the object.

[39]Notice that (as indicated above) movement to the vP edge as assumed here must be distinct from object shift (OS). First, OS never targets non-NPs (Vikner 1994). Second, OS shifts NPs to the left of (i.e., to a position above) negation and adverbs. But adverbs (including negation) block SF of an NP/PP-complement (see §6 below), hence movement to the phase edge must target a position below these blocking categories. It is likely that movement to the phase edge feeds OS, but there clearly has to be a further movement step involved (cf. the discussion in Chomsky 2001: 30).

(57)

$$
\begin{array}{c}
\text{TP} \\
\text{T} \quad \text{PP}_k \quad v\text{P} \\
\text{in Oslo} \quad Op \quad v' \\
v \quad \text{VP} \\
\text{lived}_i \quad \text{V} \quad t_k \\
t_i
\end{array}
$$

From T's point of view, PP and vP are equidistant sisters, hence either one can be attracted:

(58)   *Option 1*: attraction of PP

$$
\begin{array}{c}
\text{CP} \\
Op \quad \text{C}' \\
\text{C} \quad \text{TP} \\
\text{that} \\
\text{PP} \quad \text{T}' \\
\text{in Oslo} \quad \text{T} \quad t'_{PP} \quad v\text{P} \\
\text{have} \quad t_{Op} \quad v' \\
v \quad \text{VP} \\
\text{lived} \quad \text{V} \quad t_{PP} \\
t_V
\end{array}
$$
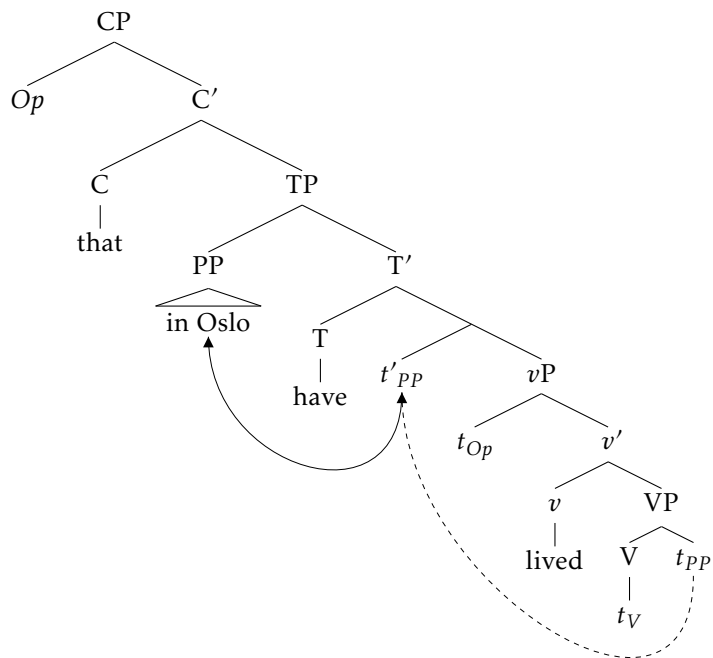
(59)   *Option 2*: attraction of vP
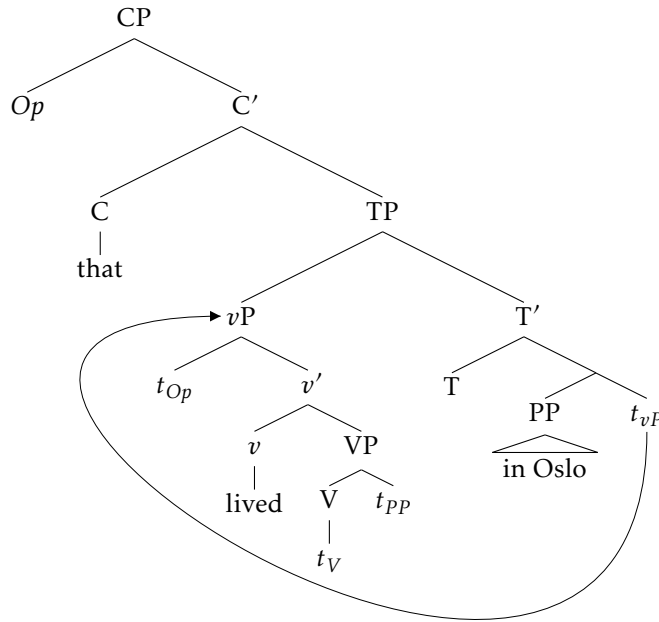
Relying on the special *edge property* of vP (attraction of complements to its left edge), the account predicts the optionality illustrated in (53a) vs. (53b): Both phrases are equidistant from T, hence either one may raise. Notice that neither option violates the anti-locality constraint (42): Since movement to the edge has created an additional node, movement of PP or vP will count as sufficiently non-local.

My proposal, then, is that SF of nonfinite verbs can be re-analyzed as fronting of (reduced) verb phrases, with evacuation movement of the object triggered by vP's edge property in the sense of Chomsky (2001). I have illustrated how the account makes empirically correct predictions, in particular concerning the head-complement optionality.[40,41] But

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[40] To the best of my knowledge, my account is the first to provide a structurally grounded rationale for this effect, although Holmberg (2000, 2006) clearly recognizes the role of sisterhood of V and the object.

[41] Notice that the account makes a potential prediction concerning object shift. According to *Holmberg's Generalization*, OS is possible only if the main verb leaves the VP (cf. Holmberg 1986, 1999), i.e. if head-movement of V^0 takes place. In this case, both full NPs and pronouns can undergo OS in Icelandic (Vikner 2006).

Unfortunately, it is virtually impossible to test whether or not SF of the nonfinite main verb licenses OS. The reason is that SF obeys minimality (see §6 below), so that adverbs or negation, when present, block SF of other categories that start out lower in the tree (Maling 1990); in particular, they block SF of a nonfinite verb. But adverbs/negation are necessary to render OS "visible", by giving an indication of the vP edge.

The only way of testing for OS-licensing, then, is to construct an example that violates minimality. According to Poole (1996: 213), example (60b) was judged unacceptable by a speaker who nevertheless accepted (60a), in which no OS has taken place:

(60)   a.   Þetta er maðurinn [$_{CP}$ sem ljúka$_i$ vildi   aldrei t_i bókinni]
             this   is the man   that finish wanted never   the book
             'This is the man who wanted to never finish the book.'

       b.   * Þetta er maðurinn [$_{CP}$ sem ljúka$_i$ vildi   bókinni$_k$ aldrei t_i t_k]
             this   is the man   that finish wanted the book   never

Notice that by minimality, it is the adverb (*aldrei*) that has to front, so neither case should be entirely acceptable. Hence, it is hard to tell precisely for which reason (60b) is bad: Is it because it violates minimality or because

the discussion so far leaves open the question of why this kind of remnant-*v*P movement disallows further overt material within *v*P to be pied-piped. Hence, I will now address this important issue.

Recall from §2 that SF is possible in the presence of "late" indefinite subjects. The question is: Why can SF of nonfinite verbs, which I have argued to undergo SF as (remnant) *v*Ps, never pied-pipe a low subject? Notice that the question does not arise for definite agentive subjects, which must move to Spec-T and thus preclude SF (Thráinsson 2007: 364), as was shown in §2.

There are two relevant cases to consider: unaccusative/passive verbs with indefinite subjects (61) and indefinite subjects of unergative verbs (62) (Rögnvaldsson and Thráinsson 1990: 27):

(61)　a.　Hann segir að　komið$_i$ sé t_i betra　veður
　　　　　he　　says that come　is　　better weather

　　　b.　Fallið hafa　t_i margir hermenn í　þessu stríði
　　　　　died　have　　many　soldiers　in this　war

(62)　a.　Ég hélt　　　að　　kysst$_i$ hefðu t_i hana margir stúdentar
　　　　　I　thought that kissed had　　　her　many　students

　　　b.　Keypt$_i$ hafa　t_i þessa bók　margir stúdentar
　　　　　bought have　　this　book many　students

In all of these cases, the indefinite subject *can* raise to Spec-T, but SF is equally possible (as shown above), with the subject surfacing late. That is, T's EPP-feature has three different options in these cases.

Consider first unaccusatives/passives (61), where the surface subject starts out as a complement of V. I follow Legate (2003) in that I take unaccusative/passive *v*Ps to be phases, at least in the sense relevant here: They have a designated edge to which complements of the lexical verb can raise, in virtue of an optional extended EPP of *v* (see the discussion above). The difference is simply that *v* in this case does not select an external argument. In a case like (61a), this yields the following:

(63)
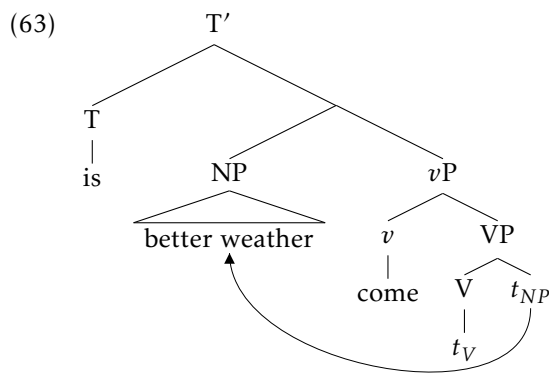
OS has taken place without being licensed? Given that Poole's informant accepted (60a) but not (60b), we can tentatively conclude that it does not seem particularly likely that SF of a nonfinite main verb licenses OS, which in turn suggests that SF is not head movement. Clearly, no firm conclusions can be drawn from this quasi-evidence, but given the impossibility of constructing fully appropriate examples I deem it fair to say that there is no evidence for SF licensing OS. Under a head-movement account, this is unexpected; under my remnant-movement account, it is not surprising, since the main verb does not raise to T.

The logical object raises to the phase edge, where it and vP are equidistant from T, hence either one can raise further to Spec-T. This makes exactly the right prediction:

(64) a. *Option 1*: attraction of NP:

  að [$_{TP}$ [$_{NP}$ betra veður   ] sé [t'_{NP} [$_{vP}$ komið t_{NP}]]
  that   better weather   is   come

  b. *Option 2*: attraction of vP:

  að   [$_{TP}$ [$_{vP}$ komið t_{NP}] sé [[$_{NP}$ betra veður   ] t_{vP}]
  that   come   is   better weather

Notice that in case the NP does not raise to the vP edge, no additional node is created, and hence the full vP is immobile for reasons of anti-locality (42):

(65) a. * Hann segir að   [$_{vP}$ komið betra veður   ] sé t_{vP}
           he   says that   come   better weather   is

  b. * [$_{vP}$ Fallið margir hermenn] hafa t_{vP} í þessu stríiði
            died   many   soldiers   have   in this   war

Thus, the system makes exactly the right predictions and allows us to treat fronting of nonfinite verbs in a straightforward manner, as remnant-vP fronting. If subjects of unaccusatives optionally move to the phase edge, they are automatically evacuated from vP in the relevant cases, so that vP-fronting to Spec-T is possible without any look-ahead. Alternatively, the raised object can move further to Spec-T, in virtue of it and vP being equidistant from T.

Next, consider a case like (62b), where the predicate is transitive. Since indefinite agentive subjects do not have to raise to Spec-T, SF is possible, as before. The complement of V raises to the edge of vP:[42]

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[42] The case of (unergative) intransitives is less clear, since for my system to work there must be some XP that raises to the edge before SF can take place. Consider the following example (Maling 1990):

(66) bæinn   þar   sem byrjað$_i$ höfðu t_i nokkrir trésmiðir
      the town where that begun   had   some   carpenters

Following Hale and Keyser (1993, 2002), I take all unergatives to be transitives (cf. also Chomsky 1995: 248), but (*pace* Hale and Keyser) I take that complement (a cognate object in the case of intransitives) to be present *in the syntax*, as an abstract NP. This NP raises to the edge, and the derivation proceeds as outlined below. However, since the abstract NP is inherently phonologically null, it presumably cannot raise to Spec-T, hence in this case only raising of vP is permitted.

(67)

T'

T — have

NP — this book

vP

NP — many students

v'

v — bought

VP

V — t_V

t_{NP}
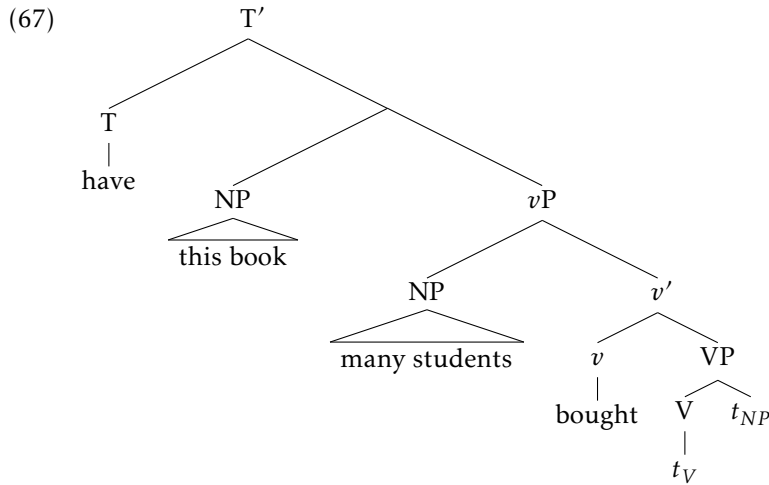
But this structure yields an unwanted result: It predicts vP (including the indefinite subject and the nonfinite verb) to be able to raise to Spec-T. This is not an option, however:

(68) a. * að [$_{vP}$ margir stúdentar kysst]$_i$ hefðu t_i hana
          that   many   students   kissed   had   her

  b. * [$_{vP}$ Margir stúdentar keypt   ]$_i$ hafa t_i þessa bók
            many   students bought   have   this book

I suggest that cases like those in (68) are bad for reasons of heaviness, as discussed in §§4.1 and §4.3: vP cannot raise to Spec-T when it contains a full subject NP. Whatever the precise reason for this constraint is, it is shown independently by the data that subjects must be postposed (rightward moved) in order for vP to be able to raise. Consider the following paradigm from Holmberg (2000: 465):

(69) a. Margir stúdentar hafa lesið þessa bók
         many   students   have read this   book

  b. * Lesið$_i$ hafa margir stúdentar t_i þessa bók

(70) a. það   hafa lesið þessa bók   margir stúdentar
         there have read this   book many   students

  b. ? Lesið hafa þessa bók margir stúdentar

The fact that SF is possible in (70b), where the subject is clearly postposed to the right of the direct object, but not in (69b), where it appears to be *in situ*, suggests that subjects must be shifted to the right in order to allow for SF of vP, by creating a (sufficiently "light") remnant that can occupy Spec-T.

I submit that in the latter case, the subject NP leaves vP when SF of that phrase applies, via the rule of "indefinite-NP postposing" (INPP) (see, e.g., Rögnvaldsson 1984b, and Maling 1990: 79 in the context of SF). Following Platzack (1987: 378), I assume that INPP is implemented as right-adjunction to the verb phrase (vP, in my terms).

As discussed by Rögnvaldsson (1984b), Icelandic allows various rightward movements of indefinite subject NPs.[43] While I will take some of the cases discussed by Rögnvaldsson

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[43]Rightward movement of definite subjects is possible in Icelandic, too, but only when the NP is sufficiently heavy ("heavy-NP shift"); cf. Rögnvaldsson (1984b: 363f.). I will leave the question of interaction between SF and heavy-NP shift for future work, but see §4.5 below for a tentative suggestion.

to involve *in-situ* subjects[44], other cases show clear rightward movement of the subject, since it ends up at the outer right edge:

(71)   a. það   hefur komið t_i hingað í dag $[_{NP}$ gamall maður]
           there has   come   here   today   old   man

        b. það   máluðu sennilega t_{NP} húsið   vandlega $[_{NP}$ margir stúdentar]
           there painted probably   the house carefully   many students

    INPP, then, can freely remove indefinite subjects from vP. I propose that this rule enters into the derivation of participle fronting, yielding the illusion of head movement, since vP is reduced to a single head.

    With this in mind, consider the derivation for (62a):[45]

(73)   a.

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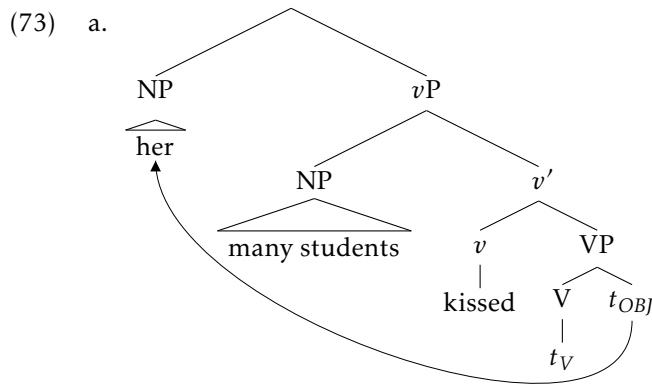
[44]Rögnvaldsson did not assume the predicate-internal subject hypothesis in his work.   But see Bobaljik and Jonas (1996) for arguments that overt subject always leave vP in Icelandic.

[45]My account predicts that the accusative-object pronoun can raise to Spec-T. While some speakers accept this, others do not. For the latter group, there seems to be a prohibition on non-nominative arguments surfacing in canonical subject position in the presence of a nominative subject.

  Notice also that when the subject raises to Spec-T, the object is linearized in its base position, not in the edge position:

(72) Ég hélt   að   margir stúdentar hefðu kysst hana
      I   thought that many   students   had   kissed her

This follows straightforwardly from the effect-on-output condition postulated by Chomsky (2001: 34, his (60)): Movement to the edge can only apply if it has an effect on outcome. This is the case when either the element in the edge undergoes further movement or its complement raises; but when the subject moves, movement to the edge is superfluous and hence does not apply. See Chomsky (2001: 34f.) for reasons why this is not a case of look-ahead, if properly formulated.

b.
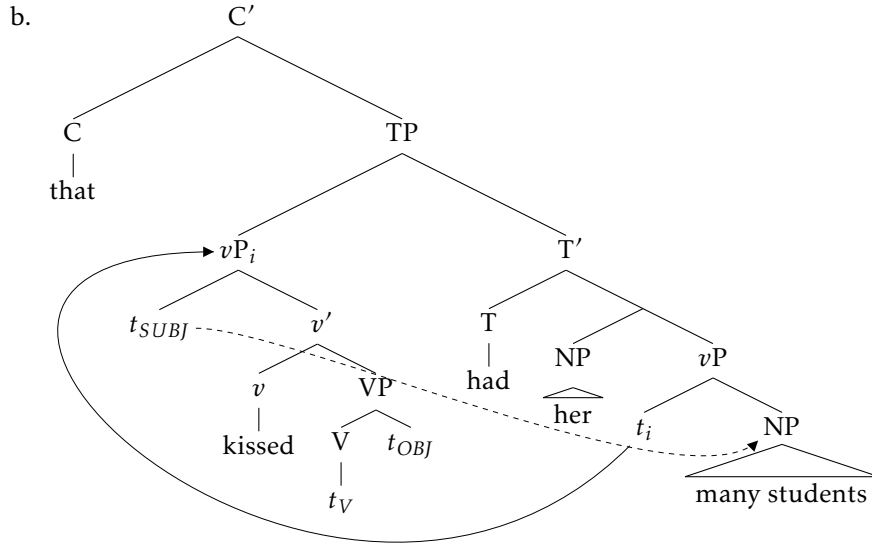
When vP is constructed, the subject shifts to the right by INPP (this requires the assumption that right-adjunction does not obey anti-locality, but notice that (42) is not defined for adjuncts or rightward movement in general). This freely available movement thus evacuates vP, which then fronts as a remnant XP, reduced to its head. INPP thus serves as an instance of "repair-driven movement", since vP is too heavy to occur in Spec-T unless evacuated. As discussed in §4.3, no look-ahead is implied, since INPP applies freely.

It might be objected that INPP of the subject creates a larger vP, which should then, by minimality, undergo SF. This is essentially the problem that was noted in §4.3 with regard to CP-extraposition.[46] I assume that evacuated constituents are, in effect, invisible for purposes of SF (cf. Müller 2004, Wiklund et al. 2007); while INPP of a subject creates a larger vP, only the original vP is visible for T's EPP. But this seems to be true for adjuncts in general, as pointed out by Holmberg (2006: 540):

(74) a. Þeir   sem hitt$_i$ hafa t_i konuna sina í Óslo
          those that met have   wife   their in Oslo

      b. * Þeir   sem [$_{PP}$ í   Óslo]$_i$ hafa hitt konuna sina t_i
          those that   in Oslo   have met wife   their

Recall from §4.1 that PP-complements can undergo SF. However, in (74) *í Óslo* is a PP-adjunct, not a complement. As (74b) shows, a right-adjoined PP of this kind cannot undergo SF, despite being closer to T.

I propose, then, that the reason why subjects cannot be pied-piped in a fronted vP is that these must be evacuated first – either by movement to the phase edge in the case of V-complements (the passive/unaccusative case) and by rightward INPP in the case of agentive subjects (the unergative case), for otherwise SF moves a phrase to Spec-T that is too heavy to occur in that position (notice that a non-subject constituent is moved to the canonical subject position). Other possible derivations are ruled out by anti-locality (42).

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[46] As before, alternative formalizations are available: Either we assume that the subject is postposed prior to SF, yielding a larger vP node which however is invisible to SF (as argued in the text below); or else, we assume that the subject is right-adjoined to TP, i.e. postposed after SF has applied. Again, nothing in my proposal hinges on the details.

This is further evidence that heaviness imposes a strong, perhaps extra-syntactic (processing-related) constraint on SF. Recall from the discussion in §4.1 that clausal complements of verbs do not undergo SF, while NP/PP objects do:

(75) a. Þeir sem [$_{PP}$ í Óslo]$_i$ hafa búið t_i
          those that   in Oslo   have lived

      b. * sá sem [að lyfta steininum]$_i$ reyndi t_i
          he that   to lift   the stone   tried

Even in the NP/PP case, it was noted in §4.1 that "heavy NPs" are unable to undergo SF. The same is true for heavy vPs, which can however be evacuated by means of INPP or standard edge-driven movement. Rightward movement of indefinite subjects (INPP) is available in principle, and while it applies optionally, it is required for SF of vP to be acceptable.

Notice that my line of reasoning makes a potential prediction:[47] Very light or structure-less subjects should be able to remain inside a vP that is fronted to Spec-T by SF. It seems like there is indeed some evidence that this possibility does exist, at least for some speakers. Hrafnbjargarson (2003, 2004) argues that SF is marginally possible in the presence of an overt weak subject pronoun. The result is considerably worse when the pronoun is stressed, i.e. made more "heavy":[48]

(76) a. Allt sem 'ann   hafði lesið í bókinni var rétt
          all   that he.WEAK had   read in the book was correct

      b. ? Allt sem 'ann   lesið$_i$ hafði t_i í bókinni var rétt
          all   that he.WEAK read   had   in the book was correct

      c. *? Allt sem hann lesið$_i$ hafði t_i í bókinni var rétt
          all   that he   read had   in the book was correct

A case like (76b) can plausibly be argued to involve SF of a vP that contains a weak pronoun in its specifier.[49] Overall then, it seems likely that some kind of heaviness constraint is indeed what prohibits vPs with heavier subjects to be fronted as a whole. The precise formulation of the relevant threshold for heaviness must be left for future work.

I conclude that bare verbs never undergo SF. I have argued in this section that SF instead targets vP, while potentially present indefinite subjects and objects are evacuated.[50] Notice that this movement to the edge of vP is not at all surprising if vP is a phase in the sense

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[47]The prediction is "potential" since there might be other factors that force subjects to leave vP in general, as argued by Bobaljik and Jonas (1996).

[48]It should be noted that Sigurðsson (2008: 20, fn. 24) and Thráinsson (2007: 389, fn. 23) disagree sharply with Hrafnbjargarson's judgments of the relevant cases. That there is variation among speakers in connection with heaviness effects is presumably not surprising. See also note 47.

[49]Platzack (1988: 227–228) mentions a similar case in Old Swedish (which had SF); see also Falk (1993: 165). But, as mentioned by Platzack, it is conceivable that the weak pronoun has shifted to some Wackernagel-like position and/or is cliticized onto the complementizer.

[50]To address an obvious objection against the analysis outlined in this section, it is of course the case that vP/VP appears to be otherwise rather immobile in Icelandic. In particular, in this language topicalization of verb phrases is generally impossible (Thráinsson 2007: 349), while my analysis obviously implies that A-movement of vP is possible (as in Wiklund et al. 2007). While I do not know what exactly the source of this discrepancy is, it should be noted that it seems to be more general – in particular, particles (which, on my analysis, move as PartPs; see below) can undergo SF but cannot be topicalized (Thráinsson 2007: 343f., 370). It should also be noted that the ban on verb-phrase topicalization in Icelandic may not be as robust as is often claimed. Thráinsson (2007: 344, fn. 2) provides the following example (attributed to Sigurðsson), involving a nonfinite verb:

of Chomsky (2000, 2001): Since objects are generally transparent for extraction, we expect them to undergo movement to the *v*P edge, as proposed by Chomsky. In such cases, then, SF targets either the extended projection of the (lexical) verb or the (equidistant) object XP.[51] The same reasoning applies to subjects (logical objects) of passive/unaccusative verbs. For the case of unergatives I have argued that a further evacuation option is available, namely that indefinite subjects can be postposed (the independently attested rule of INPP), and that SF of *v*P would otherwise result in a non-subject constituent occupying Spec-T that is too heavy for this position.

There is no reason, then, to assume that SF of nonfinite verbs is head movement. I will now turn to the second problematic case, SF of particles, and argue that here, too, SF is best analyzed as XP-movement.

4.5 Particles

A further case that seems to lend strong support to a head-movement analysis of SF is the case of particles. The reason is obvious: Particles are – impressionistically speaking – "as *nonphrasal* as it gets". In the following, I will argue nevertheless that SF of particles is actually movement of a reduced Part(icle)P (a possibility hinted at in Holmberg 2006: 555). Once this is established, the unification of all cases of SF is achieved, simplifying its theoretical analysis considerably while suggesting solutions to some long-standing problems posed by SF (to be addressed in §§5–7 below).

Recall from §4.4 that if a participle verb occurs with a direct-object NP, either one may undergo SF. A similar optionality is found with verbs and particles, as shown by Holmberg (2006: 538) (cf. also Jónsson 1991: 6). Here, too, SF can target either the verb or the particle (78), and presence of negation blocks both options (79) (see §6 for further discussion):

(78) a. fundurinn   sem fram$_i$ hefur farið t_i
          the meeting that forth has   gone

      b. fundurinn sem farið$_i$ hefur t_i fram

(79) a. * fundurinn   sem fram$_i$ hefur ekki farið t_i
            the meeting that forth has   not   gone

      b. * fundurinn sem farið$_i$ hefur ekki t_i fram

Like nonfinite verbs and their complements, the nonfinite verb and the particle are equally available for SF. Notice that verb and particle can never be fronted together (Jónsson 1991: 12):

(80) * nýustu   tölur   sem [komið fram]$_i$ hafa t_i
        the newest figures that   come   forth   have

(77) Vita$_i$ skaltu t_i að ég er vinnur þinn
      know shall-you   that I am friend your

It is not at all clear how such cases should be analyzed, but it seems plausible to assume that the fronted constituent in (77) is an XP, hence presumably a verb phrase, containing a trace of the extraposed CP complement. (Notice that since a nonfinite verb is fronted in (77), this cannot be a case of narrative inversion.)

While I cannot provide a full explanation here, I ascribe the discrepancies mentioned above to language-specific options as to which kind of constituent can undergo which kind of movement (A or A′). While A′-movement of *v*P may or may not be possible, A-movement of *v*P must be possible if my proposal is on the right track.

[51]Notice that there is always a third option if an indefinite subject is present. Hence, either the subject is likewise equidistant from T (which is plausible, since it is in the edge of *v*P), or else T always has the option of attracting the phrase it agrees with, which is for this reason exempt from minimality. See further §5 below.

This indicates that the same head-complement symmetry discussed in §4.4 for verbs and objects accounts for the behavior of verbs and particles. That is, once vP is built, PartP (being the complement of V) raises to the edge, in order to be accessible to operations at the next phase level:[52]

(81)
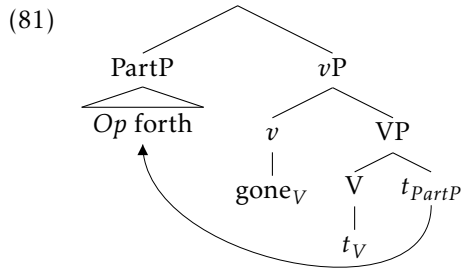
Now, at the CP level, T's EPP will trigger raising of either vP or PartP, since both are equidistant:

(82)   *Option 1 (= (78a)):*

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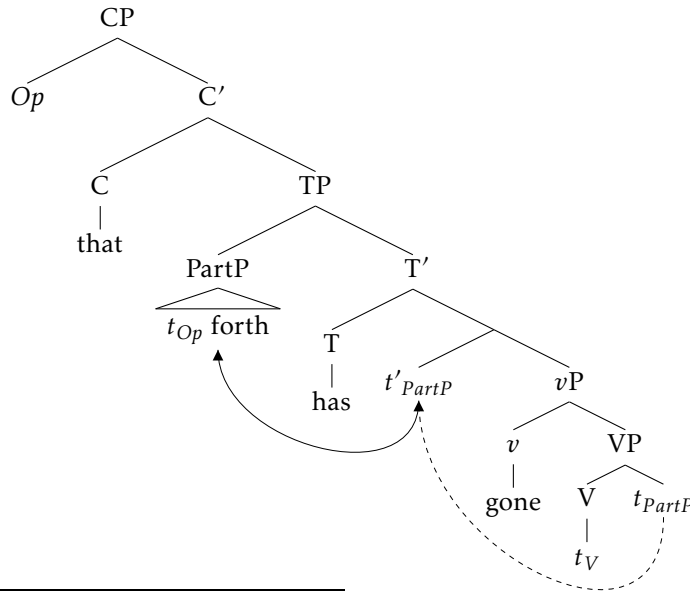
[52]I will assume that objects of particle verbs are generally specifiers of PartP, capturing the intuition that the particle is predicated of that subject (cf. Ramchand and Svenonius 2002). But nothing hinges on the precise structure of PartP for present purposes.

(83) *Option 2* (= (78b)):

```
                        CP
                   ┌─────┴─────┐
                  Op           C′
                          ┌─────┴──────┐
                          C            TP
                          │       ┌─────┴─────────┐
                        that     vP ◄─────       T′
                            ┌─────┴───┐      ┌─────┴──────┐
                            v        VP      T            ┌────┴────┐
                            │     ┌───┴───┐   │          PartP    t_vP
                          gone    V   t_PartP has      ┌───┴───┐
                                  │                    t_Op  forth
                                  t_V
```
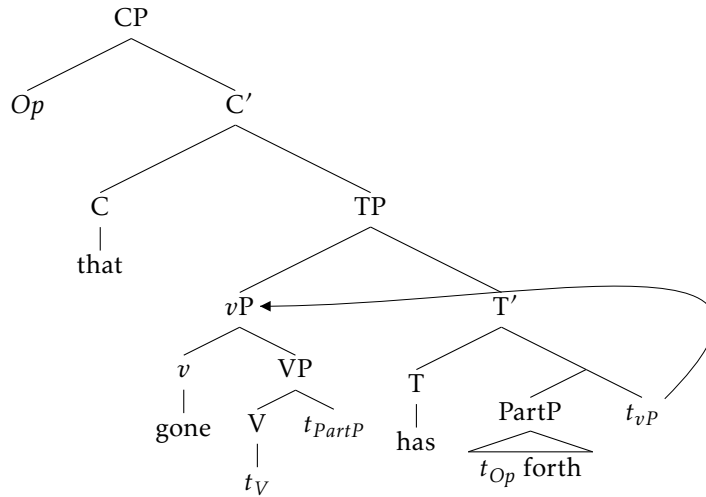
So far, SF of particles is completely parallel to fronting of object NPs/PPs: The complement of the lexical verb (in this case, PartP) is raised to the vP edge, from where it can undergo further fronting. The parallel structure correctly predicts the same optionality in both cases.

There is, in fact, direct evidence for particle fronting being phrasal movement. Holmberg (2006: 555) notes an important restriction: Particles can undergo SF only if they do not have an overt complement, as in impersonal passives and when the object is extraposed:

(84) a. Verðbólgan varð verri en   við$_i$ hafð verið [$_{VP}$ búist t_i]
          inflation   was worse than PRT had been   expected

      b. Fram$_i$ hefur [$_{VP}$ [$_{VP}$ komið t_i t_k] [$_{CP}$ að   fiskað hefur verið í leyfisleysi á
          forth has   come   that fished has   been illegally in
          chílensku   fiskisvæði   ]$_k$]
          the Chilean fishing zone

By contrast, SF of a particle is strongly degraded with transitive verbs:[53]

(85) ??/* Stelpan sem út$_i$ hefur [$_{VP}$ sleppt t_i kettinum]
           the girl that out has   let   the cat

Holmberg (2006: 555) hints at the possibility of this being evidence for movement of a particle *phrase* "consisting of just the particle and in some cases the trace of an extracted or extraposed object", but (as he notes) it is unclear why the particle phrase is unable to move as a whole, i.e. without previous evacuation of the object (on this, see below). We have already seen on independent grounds that heaviness of the fronted phrase influences acceptability of SF (recall (68)), and I will assume that the same is true in this case.

The data so far thus suggest the following analysis. SF of PartP can apply if PartP is either sufficiently light (as in (84a)), or else if it is evacuated by extraposition, as in (84b).

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[53]While Holmberg assigns the example an asterisk, my informants generally found it somewhat acceptable, albeit very marginally.

Otherwise, PartP is too heavy to be fronted to Spec-T (recall (68)). Notice that fronting of the entire PartP including a definite object is bad (Holmberg 2006: 556):

(86) a. * stelpan sem út kettinum hefur sleppt
          the girl that out the cat has let

      b. * stelpan sem kettinum út hefur sleppt
          the girl that the cat out has let

A potential prediction of this account is that objects which can be evacuated should then allow for fronting of the remnant PartP. In particular, we might expect that indefinite/nonspecific objects can be postposed, and that heavy NPs can undergo heavy-NP shift.[54] Some evidence that this is indeed the case (at least for indefinite objects) is provided by Thráinsson (2007: 331); compare (88b) to (85):

(88) a. * þá sem út$_i$ voru [$_{NP}$ einhverjir kettir] reknir t_i
          then that out were some cats driven

      b. þá sem út$_i$ voru reknir t_i [$_{NP}$ einhverjir kettir]
          then that out were driven some cats

With a definite object, (88b) is much worse:

(89) ?* þá sem út$_i$ voru reknir t_i [$_{NP}$ allir kettir]
          then that out were driven all cats

The indefinite object in (88a) appears to be leftward moved by the phonological rule Th/Ex (Chomsky 2001). The contrast with (88a) shows that INPP of the object (i.e., evacuation of PartP *in the syntax*) is necessary for SF. Thráinsson notes that both positions of the indefinite object in (88a) and (88b) are possible if SF does not apply:[55]

(90) a. þá sem það voru [$_{NP}$ einhverjir kettir] reknir út
          then that EXPL were some cats driven out

      b. þá sem það voru reknir út [$_{NP}$ einhverjir kettir]
          then that EXPL were driven out some cats

I take these data to indicate that SF is possible only in case the indefinite object is postposed by means of INPP (see note 54). In the system developed above, the derivation would run as follows:

(91) that out were driven some cats (= (88b))
      a. [$_{vP}$ driven [$_{PartP}$ out [$_{NP}$ some cats]]] ⇒ INPP of *some cats*, raising-to-edge of PartP remnant

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[54]Rögnvaldsson notes that INPP can also apply to object NPs, as long as they are indefinite:

(87) a. Ég sá t_i þarna á gær [$_{NP}$ einhvern mann]$_i$
          I saw there yesterday some man

      b. * Ég sá t_i þarna á gær [$_{NP}$ Jón]$_i$
          I saw there yesterday John

Heavy-NP shift (of essentially the English type) is also independently attested in Icelandic (Thráinsson 2007: 361).

[55]On the interaction of SF and expletive-insertion, see §5 below.

b. $[[_{PartP}$ out t_{NP}] $[_{vP}$ $[_{vP}$ driven t_{PartP}] $[_{NP}$ some cats $]]] \Rightarrow$ EPP-driven movement of PartP to Spec-T

c. $[_{CP}$ that $[_{TP}$ $[_{PartP}$ out t_{NP}] T-were $[t_{PartP}$ $[_{vP}$ $[_{vP}$ driven t_{PartP}] $[_{NP}$ some cats $]]]]]]$

Consider also the following paradigm, including the judgments given by two of my (non-linguist) informants:

(92) a. ?* stelpan sem út hefur sleppt kettinum
         the girl that out has   let   the cat

b. ?? stelpan sem út hefur sleppt kettinum sem venjulega veiðir   margar mýs
         the girl that out has   let   the cat   that usually   catches many   mice

c. ? stelpan sem út hefur sleppt { ketti   / köttum   / fjórtán köttum   }
       the girl that out has   let   some cat   many cats / some fourteen cats

Although there is considerable individual variation with data of this kind, I think we can draw some tentative conclusions. It seems like a regular definite-NP object as in (92a) (= (85)) cannot be easily evacuated from PartP. By contrast, evacuation is more readily available with a very heavy definite-NP object (92b) or an indefinite/nonspecific NP (92c).[56] But this is not too surprising, since it is independently known that Icelandic has heavy-NP shift and INPP, which evacuate the PartP in (92b) and (92c), respectively. But no standard rule allows for evacuation of the definite NP in (92a).

There is, then, some evidence that PartP can be evacuated by means of general rightward-movement operations applying to indefinite and heavy NPs prior to PartP undergoing SF. If this is indeed the case, then it strongly supports a remnant-movement account, since it is otherwise mysterious why properties of the particle *phrase* should affect the acceptability of particle fronting. Further research is necessary, and judgments are generally less sharp than one might hope for.

Let me take stock. In the system I have developed, complement-XPs of V raise to the edge of vP. In the standard case, discussed in §4.4, this XP is the direct object. Raising to the edge then yields two equidistant goals for T's EPP: the raised XP and vP itself. If vP raises, it has to be vacated by the subject NP, by means of INPP.

In this section, I have proposed a parallel treatment for particle verbs. In this case, the complement of V is PartP, containing the particle and the object. As before, PartP can raise to the edge, creating two alternatives for SF: Either vP or PartP can raise.[57] In the

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[56]But notice that evacuation of PartP is still more marked than one might expect, given the general availability of heavy-NP shift/INPP. This may be due to the fact that the NP to be evacuated is a specifier (cf. note 52) and farther away from its eventual adjunction site (vP) than a direct object, since it is located within PartP.

[57]In this connection, notice that SF of particles is somewhat reminiscent of the pattern discussed in §4.1 for prepositions/PPs (cf. Holmberg 2006: 555). In both cases, SF can target the phrase (PP or PartP) in principle, but the head of that phrase (P^0 or Part^0) cannot be stranded:

(93) a. * að   um$_i$ yrði   rætt $[_{PP}$ t_i tillögurnar   ]
            that about would-be talked   the proposals

b. * Stelpan sem kettinum$_i$ hefur sleppt $[_{PartP}$ út t_i]
       the girl that the cat   has   let   out

In both cases, the complement-NPs cannot undergo SF; notice that this differs from what we observed for past participles in §4.4, where it was noted that generally either the verb or its complement can undergo SF:

(94) a. Þeir   sem búið$_i$ hafa $[_{VP}$ t_i $[_{PP}$ í   Ósló]]
            those that lived have   in Oslo

latter case, heaviness constraints force evacuation of PartP. As we have seen, this is possible with CP-complements (which extrapose), and presumably also with indefinite objects, although the latter option seems more limited (cf. note 57). Clearly, however, definite objects cannot leave vP in this way, hence the particle cannot front. Notice that the observed restrictions strongly support the remnant-movement analysis proposed here: If fronting of particles were really just movement of a Part-head, why should the nature of the complement influence the acceptability of the resulting structure in any way? On the other hand, the restrictions receive a natural explanation once it is recognized that the entire PartP is fronted, and that this fronting requires evacuation.

This concludes our discussion of the various cases of SF. In all cases, I have argued that the moved element is a phrase, hence obviating the need for a head-movement account of SF. Given what I have said so far, I think this system is at least as plausible as earlier accounts in terms of head movement (clearly so for the cases in which the fronted element is visibly phrasal). I will now show that my remnant-movement account is superior to the proposals discussed in §3. To this end, I will argue in the following sections that my account is not only theoretically more attractive, but also makes a number of desirable empirical predictions. Before moving on, let me summarize the analysis as outlined so far:

SF is phrasal movement. Focus on cases of SF of "small" categories (in particular, main verbs and particles) has motivated claims to the contrary. Given that SF can target NPs and PPs, a head-movement analysis is untenable. Since a uniform theoretical account is more attractive than a mixed account, all SF must be phrasal.

Adverbs and negation. Essentially, I have simply argued that these categories are phrasal, and shown that they move as "visible" phrases when modified. SF of adverbs and the negation is fronting of AdvP.

Predicative adjectives. Copula sentences were taken to consist of a PredP embedded under T. While PredP is immobile for reasons of anti-locality, the embedded AP predicate can raise to Spec-T. If AP contains a PP/CP complement, it extraposes when AP moves, for reasons of heaviness. SF of adjectives is fronting of (remnant) AP.

Verbs and their complements. Verb phrases are phases (in the sense of Chomsky 2000, 2001, Legate 2003), hence embedded XPs (objects) raise to the edge. This yields a symmetric [XP vP] structure, in which both XP and vP are equidistant from T. Consequently, either one can raise to satisfy T's EPP. In case vP raises, INPP postposes the subject to a right-adjoined position, creating an appropriately reduced verb phrase. SF of past participles is fronting of remnant vP.

Particles. PartP (containing the object) is the complement of V, hence movement to the phase edge yields [PartP vP]. Either one can raise, as before. An indefinite vP-internal subject can also raise, or else must be postposed by INPP if vP-raising is to yield an acceptable result; likewise, PartP must be sufficiently light to raise to Spec-T, which

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b. Þetta er maður sem leikið$_i$ hefur [$_{VP}$ t_i nítíu   leiki   ]
   this   is a man who played has   ninety games

Why is it the case the nonfinite verbs, but not prepositions and particles can be stranded under SF? The answer follows directly from the system developed above. The complement of V raises to the edge, "stranding" the verb (phrase). For prepositions and particles, the ban on stranding the complement will simply follow from minimality: PP/PartP dominates the complement of its head, hence PP/PartP will be closer to T. Notice, in addition, that Icelandic generally allows for preposition stranding only under A-bar movement (Maling and Zaenen 1985).

can be achieved by evacuation (extraposition or INPP). SF of particles is fronting of a (remnant) PartP.

Heaviness and evacuation. For concreteness's sake I have been assuming that evacuation movements apply prior to raising of AP/vP/PartP. For postposing, this requires rightward adjuncts to be invisible to SF, which is however independently shown by the case of adverbial XP-modifiers.[58] That such rightward evacuation movements can feed remnant movement is independently known to be the case in languages like German and English (cf. Collins and Sabel 2007: 20ff.). The notion of "heaviness" employed in the course of the discussion is admittedly intuitive, but the attempt of a precise definition is beyond the scope of the present paper. Moreover, the fact that heaviness constrains SF was shown to be true independently (cf. (68)).

5 The subject-gap requirement, the EPP, and the problem of optionality

In this section, I will refine my analysis by making explicit some of the underlying assumptions of the discussion in the previous sections. In particular, I will address two closely related questions:

1. What is the nature of the subject-gap requirement?

2. What is the syntactic trigger for SF, and why is it optional?

The answers to both questions will turn out to be closely intertwined.

Recall that SF can only apply if the canonical subject position, which I take to be Spec-T, is not lexically filled (cf. e.g. Jónsson 1991: 2):

(95) *Ég held   að   Jón   séð$_i$ hafi t_i þessa mynd
       I   think that John seen has   this   film

When a definite subject is present, SF can never apply, since (for some reason) definite subjects *must* raise to Spec-T. If we extract the subject into the matrix clause, say by means of *wh*-movement, SF in the embedded clause becomes acceptable:

(96) a. Hver$_i$ heldur þú   að t_i hafi stolið hjólinu
          who   think you that   has stolen the bike
      b. Hver heldur þú að stolið$_i$ hafi t_i hjólinu

In main clauses, SF can only apply if the clause is impersonal, i.e. subject-less, either by passivization (Icelandic allows impersonal passives of the *It was danced*-type) or by an inherent lexical property of the predicate. An impersonal construction in which SF has applied is shown in (97a); an example for the third possibility, namely a main clause with a low subject, is given in (97b):

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[58]Evacuation movements are a perennial problem for remnant-movement analyses, most of which simply ignore the problem (e.g. Wiklund et al. 2007). Hinterhölzl (2006) makes use of an articulate structure of "licensing positions" above VP, forcing obligatory evacuation of the *A*-domain (see also Nilsen 2003). I have not taken this route here, although one could certainly envisage an alternative along the lines suggested by Hinterhölzl's work. In such an approach, vP would always be evacuated by both subjects and objects, and remnant fronting would be the most natural option for any kind of verb movement.

(97)   a. Keypt$_i$ hefur varið t_i tölva   fyrir starfsfólkið
           bought has   been   a computer for   the staff

       b. Keypt$_i$ hafa t_i þessa bók   margir stúdentar
           bought have this book many   students

As mentioned in §2, low subjects must be indefinite (cf. Jónsson 1991: 26); by contrast, a definite subject is not allowed to stay low and SF cannot apply in this cases. SF with low subjects is also possible in embedded clauses; consider the following example (from Holmberg and Platzack 1995: 119):

(98)   Ég hélt   að   keypt$_i$ hefðu t_i þessa bók   margir stúdentar
       I   thought that bought had   this   book.ACC many   students.NOM

The facts just reviewed led Maling (1980) to propose that SF requires a subject gap, which it then "fills". One problem for this view is that (according to standard assumptions) Spec-T is occupied by the trace of the extracted subject in embedded clauses like (96a), hence it should not be possible to move an additional constituent to this position. While not addressing this particular problem, Maling noted that presence of a trace in Spec-T appears to preclude another "EPP strategy" that is in principle available in the absence of a definite subject, namely insertion of an a subject expletive pronoun (*það*). In the words of Maling (1990: 85), "*það* can never be used to fill a subject gap created by an extraction rule."

That is, when the subject is extracted or relativized, SF applies optionally (it seems), while insertion of the expletive pronoun (*það*) is impossible (99c) (Holmberg 2006: 541):

(99)   a.   Hver$_i$ heldur lögreglan að t_i hafi framidð   glæpinn
            who   think   the police that   has committed the crime

       b.   Hver heldur lögreglan að framið$_i$ hafi t_i glæpinn

       c. * Hver heldur lögreglan að   það   hafi framið   glæpinn
            who   think   the police that there has committed the crime

By contrast, impersonal constructions *require* either SF or *það*-insertion, showing clearly that both are alternative strategies to fulfill T's EPP requirement (cf. Holmberg 2006: 540):

(100) a.   Keypt$_i$ hefur varið t_i tölva   fyrir starfsfólkið
            bought has   been   a computer for   the staff

       b.   Það hefur varið keypt tölva   fyrir starfsfólkið
            EXPL has   been bought a computer for   the staff

       c. * Hefur varið keypt   tölva   fyrir starfsfólkið
            has   been bought a computer for   the staff

The same holds for embedded impersonal clauses (cf. Thráinsson 2007: 355), which also require either SF or expletive-insertion, but are degraded when the subject gap is not filled:[59]

(101) a.   Þeir segja [$_{CP}$ að   keypt$_i$ hefur variðt_i tölva   fyrir starfsfólkið]
            they say   that bought has   been   a computer for   the staff

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[59]Thráinsson assigns only one question mark to examples like (101c), but other authors deem similar cases strongly degraded. There is considerable idiolectal variation with regard to expletive-insertion.

b. Þeir segja [$_{CP}$ að það hefur varið keypt tölva   fyrir starfsfólkið]
    they say   that EXPL has   been bought a computer for   the staff

c. ?? Þeir segja [$_{CP}$ að   hefur varið keypt   tölva   fyrir starfsfólkið]
    they say   that has   been bought a computer for   the staff

I assumed above that all SF is EPP-driven phrasal movement to Spec-T. Thus, I claim that SF is on a par with regular subject raising, as witnessed with definite subjects. With some additional, independently motivated assumptions, the optionality of SF in embedded clauses and the observed interaction of SF and expletive-insertion follow immediately from this account.

As will be shown in more detail in §6, T's EPP triggers raising of the closest XP, obeying Attract Closest and anti-locality. As we saw, movement of an XP-complement of V to the phase edge leads to a situation of equidistance, in that either the XP at the edge of vP or vP itself can raise to Spec-T. Assume that in cases where a low indefinite subject is present, there is a third option: T can raise the phrase it agrees with, i.e. the subject (starting out in Spec-v); cf. note 51. This follows since all terms in the edge of a phase are equidistant (Chomsky 2001: 27); cf. (55) above.

Furthermore, assume that – as proposed by Chomsky (2008, 2007) – A-chains (triggered by attraction by T) and A′-chains (triggered by attraction by C) are formed *simultaneously* when both heads enter the derivation. That is, C and T are "parallel probes" in Chomsky's terminology, attracting XPs to their specifier positions at the same derivational step. This view entails that C raises A′-moved subjects directly from their base position (Spec-v), since the A-chain formed by T raising the subject to its specifier is invisible to C. In English, when the subject is a *wh*-phrase, it will be attracted by both C and T, leading to two occurrences, the lower one of which is deleted under identity (Chomsky 2007: 25):

(102)   [$_{CP}$ *wh* C [$_{TP}$ ~~*wh*~~ T [$_{vP}$ *t* …]]]

This view of chain formation provides a straightforward answer to the question why movement into subject position by means of SF is possible: C extracts subjects directly from their base position; there is no intermediate trace in Spec-T. Any A-chain that terminates in Spec-T is formed independently at the same derivational step. In a language like English, T always raises the phrase it agrees with (the subject); if the subject is also A′-moved by C, the situation in (102) arises. In Icelandic, however, C and T can target *different* XPs in this case: While C attracts the subject (*wh*-phrase or operator) to its specifier, T merely agrees with this subject in its base position and assigns nominative, but is free to attract some other XP to its specifier. I claim that this is responsible for the phenomenon of SF in this language.

But notice that this system also provides a simple solution to the problem of optionality. If SF applies in an embedded clause with extracted or relativized subject, this is because C has targeted the subject while T has raised some other (closest) XP to its specifier. But if in addition T always has the option of raising the phrase it agrees with (the equidistant subject), then the situation depicted in (102) will always be available as an alternative to SF in embedded clauses with extracted/relativized subject. In other words, if C and T raise the same XP (the subject), this will result in both Spec-C and Spec-T hosting copies of the same XP, one of them deleted under identity – yielding what looks like a subject gap (103a). By contrast, if C and T raise different XPs, this will yield SF (103b):

(103)   Options with subject extraction (= (99)):

a. Subject attracted by both probes ("subject gap"):
   [$_{CP}$ who$_i$ that [$_{TP}$ ~~who$_i$~~ has [$_{vP}$ t_i committed the crime]]]]
b. Subject attracted by C, SF triggered by T:
   [$_{CP}$ who$_i$ that [$_{TP}$ [$_{vP}$ t_i committed t_k] has [[$_{NP}$ the crime]$_k$ t_{vP}]]]]

The question remains, however, why expletive-insertion cannot apply in the situation in (103b) as an alternative to SF, while this is possible in impersonal constructions.

To solve this remaining problem, I assume that *það* is merged in Spec-T (cf. Ottósson 1989, Rögnvaldsson and Thráinsson 1990, Hornstein 1991, Thráinsson 1996, Holmberg 2000), but that it can only occupy this position if there is no phrase in Spec-C. It is well-known that there is a strong preference for *það* to be the leftmost element in a clause (Thráinsson 1979: 187), and I take this requirement to be evaluated at each CP (phase) level:

(104)   * [$_{CP}$ XP [$_{TP}$ það [$_{T'}$ ...]]]

This constraint on *það*-insertion suffices to derive the pattern described above. In impersonal constructions, T can attract some postverbal element (= SF) or the object, if present. Similarly, in clauses with late indefinite subjects, T can either attract the subject or else some other phrase, as outlined above. In both of these cases, expletive-insertion in Spec-T is possible as an alternative strategy, since nothing gets raised to Spec-C; the situation in (104) cannot arise in principle.

By contrast, in embedded clauses with extracted or relativized subjects, the situation in (104) *always* arises if expletive-insertion applies, since the subject raises successive-cyclically through Spec-C. Hence, at the CP-level, some XP will be above (to the left of) *það*, incurring deviance. In a nutshell, the natural constraint in (104) rules out A'-movement of some XP to Spec-C in the same clause in which expletive-insertion takes place. The underlying reason for this constraint might be that the expletive itself must raise to Spec-C, as argued by Cardinaletti (1990) (see also Vikner 1995: 186).

In this section, I have argued for two claims. Adhering to my general assumption that SF is EPP-driven movement to Spec-T, I have shown that the optionality of SF in embedded clauses is only apparent. Following recent proposals concerning chain formation, it is much more natural to assume, as I have argued, that in the "subject-gap" case it is actually the subject itself that is in Spec-T, but deleted under identitiy with an occurrence in Spec-C (which then moves on into the matrix clause). The dissociation of C and T in Icelandic (both heads can attract *different* XPs in this language) straightforwardly predicts this pattern. Secondly, I have argued that the interaction of SF and expletive-insertion follows from a simple *leftmost*-constraint (104) on the latter operation: Within a given CP, *það* can only be merged in Spec-T if C has not attracted anything to its specifier. No further assumptions are necessary.

Notice that the account allows for an elegant reformulation of Maling's original idea, according to which SF literally fills an empty subject position. Most of the later accounts reviewed in §3 abandoned this view in favor of head movement, providing no satisfactory account for the subject-gap requirement. On my account, there is no subject-gap requirement either, strictly speaking; rather, T has the option of attracting some constituent other than the subject (unless independent principles force the subject to raise, as is the case with definite subjects). The novel remnant-XP movement account of SF developed above allows for a coherent formulation of this traditional take on SF.

6 Locality conditions on SF

In this section, I will discuss the locality conditions that govern SF in Icelandic, first discussed by Maling (1980). I will demonstrate that the locality effects observed in the literature strongly support a generalized phrasal-movement account of SF, as developed above. To this end, I will show that the goal for T's EPP requirement is always the closest phrase, while X^0-categories (in particular, auxiliaries) do not intervene. The overall picture that emerges is incompatible with the assumption that SF is head movement (Jónsson 1991, Holmberg and Platzack 1995), or that it can be either head or phrasal movement (Hrafnbjargarson 2003, 2004).

Implicit in the discussion so far was my assumption that Icelandic clause structure looks roughly as follows:

(105)
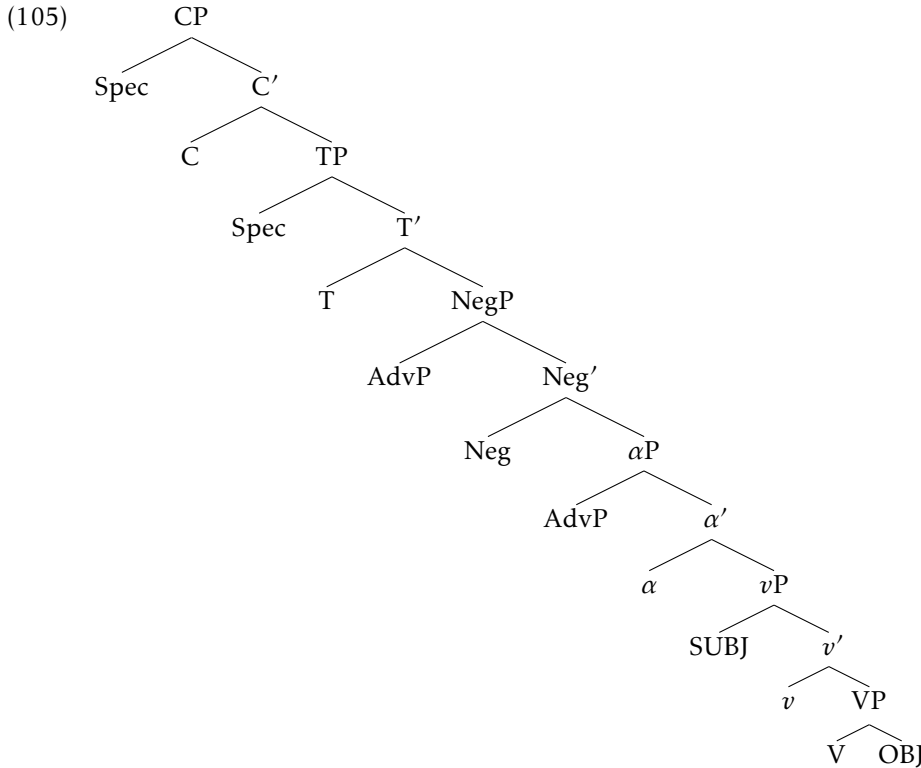
The core functional heads are C, T, and v, while Neg and α (which is a placeholder for potentially several heads that host adverbs in their specifiers, cf. Cinque 1999) are optional. In §4.3, I assumed that in copula clauses T selects PredP, which hosts subject and predicate (AP); in this case, too, PredP is ordered below NegP/αP.

This rather parsimonious clause structure is sufficient to account for all locality constraints on SF.[60]

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[60]I am sweeping under the rug here a host of complicating factors. To mention just one, it has been argued (Jonas 1994) that different kinds of adverbs in Icelandic adjoin at different nodes in the tree. If this is the case, then my structure in (105) entails that adverbs are mobile (as argued by Alexiadou 1997). Some other complications, such as the apparent availability of three subject positions in Icelandic (Bobaljik and Jonas 1996), can be reformulated in a simpler structure like (105). These complications are beyond the scope of the present paper, and I believe that my proposal can be evaluated without these inevitable gaps being filled at this point.

The relevant question at this point is what exactly happens when more than one candidate category for SF is present (recall from §2 that adverbs, participles, particles, and NPs/PPs can undergo SF). According to Maling (1980, 1990), SF is governed by the following "accessibility hierarchy":[61]

(106) *Accessibility hierarchy* (based on Maling 1990: 81)
$$\left\{ \begin{array}{c} \text{negation} \\ \text{adverbs} \end{array} \right\} \gg \left\{ \begin{array}{c} \text{past participle} \\ \text{verb particle} \end{array} \right\} \gg \text{predicative adjectives}$$

Maling supports her claim by showing that adverbs and the negation uniformly block SF of lower material. A nonfinite verb cannot undergo SF when the negation is present:

(107) þegar búið$_i$ var t_i að borða
when finished was   to eat

'… when we had finished eating'

(108) a.   þegar ekki$_i$ var t_i búið   að borða
when not   was   finished to eat

b.   * þegar búið$_i$ var ekki t_i að borða

Likewise, the negation blocks SF of a predicative adjective:

(109) nokkuð   sem hægt$_i$ er t_i að gera við
something that possible is   to fix   PRT

(110) a.   nokkuð   sem ekki$_i$ er t_i hægt   að gera við
something that not   is   possible to fix   PRT

b.   * nokkuð sem hægt$_i$ er ekki t_i að gera við

Recall from §4.5 that particle-verb constructions allow for optionality: Either the particle (111a) or the nonfinite verb (111b) may move:

(111) a.   fundurinn   sem fram$_i$ hefur farið t_i
the meeting that forth has   gone

b.   fundurinn sem farið$_i$ hefur t_i fram

But as soon as a negation is present, it blocks SF of both particle (113a) and participle (113b):

(112) fundurinn   sem ekki$_i$ hefur t_i farið fram
the meeting that not   has   gone forth

(113) a.   * fundurinn sem fram$_i$ hefur ekki farið t_i

b.   * fundurinn sem farið$_i$ hefur ekki t_i fram

Recall now that Jónsson (1991) and others have argued that SF is head movement in all cases. For instance, the negation in (112) would be taken to adjoin to T (head adjunction). By contrast, according to my own analysis the negation is a phrase in the specifier of a functional projection above vP that is attracted by T to Spec-T. A natural assumption to make within the Jónsson-style head-movement analysis (and in fact defended in Jónsson 1991)

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[61] Adverbs were not included in Maling's original formulation of the hierarchy.

is that SF is governed by the Head Movement Constraint (HMC, Travis 1984), deriving the effects of Maling's hierarchy. By contrast, on my own analysis SF is governed by Shortest Move/Attract Closest (essentially, Relativized Minimality): Only the phrase that is closest to T (but sufficiently non-local in the sense of (42)) can undergo SF.[62]

The data presented above are in principle compatible with both theories. On Jónsson's account, the categories undergoing SF are heads, and only the highest head (the negation, on his account) can move. On my account, the categories are phrases, either by themselves (negation/adverbs) or because they are actually remnants (verbs, particles, adjectives), and only the highest phrase (the AdvP in Spec-Neg) can move. Thus, the following fixed clause structure accounts directly for the contrast in (110):

(114)

```
              T′
         ┌────┴──────┐
         T          NegP
         │       ┌───┴────┐
        is_i    AdP      Neg′
                 △    ┌───┴─────┐
                not  Neg       PredP
                     │      ┌───┴──────┐
                    t′_i   Spec       Pred′
                     │      └─┐    ┌────┴────┐
                             Op  Pred        AP
                                  │      ┌────┴────┐
                                 t_i     A         CP
                                         │         △
                                      possible   PRO to fix
```
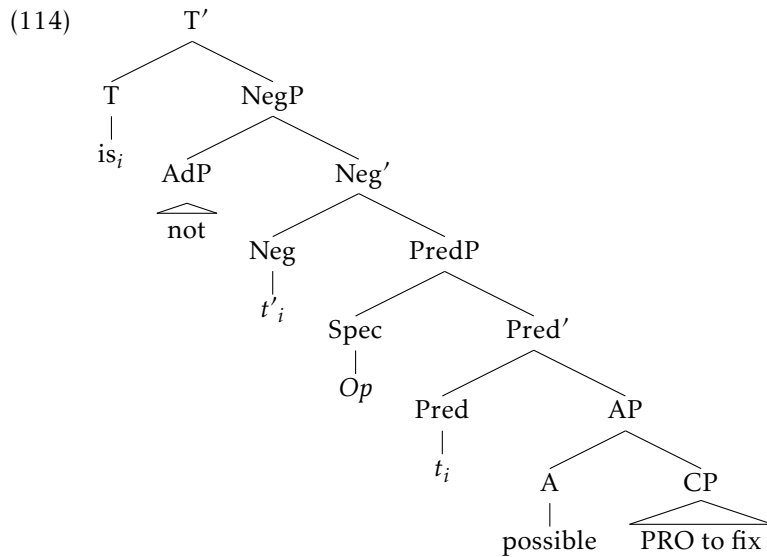
Transparently, AdvP in Spec-Neg is the closest XP for T's EPP-feature to attract in compliance with anti-locality (42). The data presented above follow straightforwardly.

In order to evaluate both approaches, it is necessary to consider cases for which they make different empirical predictions: Can a clearly phrasal category (e.g., a PP) undergo SF when a negation or an adverb is present? Consider the following data from Thráinsson (2007: 381) (cf. also Holmberg 2000: 454f.):

(115) a. Þeir   sem hafa ekki verið í   Danmörku
           those that have not   been in Denmark

       b. Þeir sem ekki_i hafa t_i verið í Danmörku

       c. * Þeir sem í Danmörku_i hafa ekki verið t_i

(116) Þeir   sem í   Danmörku_i hafa verið t_i
       those that in Denmark   have been

The contrast between (115b) and (115c) demonstrates that presence of a negation blocks SF of a lower PP. When the negation is removed, PP-fronting is possible (116). This shows that the HMC cannot be the relevant locality condition on SF; the PP, being a maximal

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[62]I will remain agnostic here about the precise formalization of this constraint. One could invoke, for instance, the *Minimal Link Condition* (Chomsky 1995: 355f.), relativized to phrases since attraction is to a specifier.

projection, cannot be governed by this constraint. The interaction (blocking) between the negation and the PP shows, then, that fronting of the negation cannot be governed by the HMC, either. A Shortest Move/Attract Closest-based account, however, can easily account for the facts: Both the negation and the PP are XPs, hence both fall under the same locality condition (Attract Closest).

Data like (115) demonstrate straightforwardly that the head-movement theory of SF is wrong. By contrast, the phrasal-movement theory of SF makes exactly the right prediction.

Although Maling's original hierarchy does not mention adverbs, it is clear that these (when in preverbal position, at least) block SF of other categories just like the negation does. Consider the following example (from Holmberg 2006: 539), which is on a par with (110):

(117)   a.   nokkuð   sem sennilega$_i$ er t_i hægt   að gera við
             something that probably is   possible to fix   PRT

        b.   * nokkuð sem hægt$_i$ er sennilega t_i að gera við

All of these facts follow directly from the clause structure shown in (105). NegP/αP are structurally located above vP and predicative APs (the latter embedded under a PredP selected by T [cf. §4.3], as in (114)), hence Spec-Neg/Spec-α is always the closest goal for T whenever a negation or an adverb is present.[63,64]

Notice that for my analysis it is crucial that the negation (*ekki*) is a phrasal element located in Spec-Neg. Although this is not uncontroversial, I think there is good evidence for the negation element being phrasal. Jónsson (1991: 9) notes that while negation does (of course) not block V-to-T movement, it does block SF of a participle verb, as we've seen already:

(119)   Jón   las   ekki t_i bókina
        John read not   the book

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[63]Recall from §5, however, that it must always be possible for T to chose the "English option", i.e. attract the phrase it agrees with. This assumption is necessary to allow for an indefinite subject to raise to Spec-T instead of application of SF, in which case it crosses NegP/αP, and to derive the optionality effect, as argued in §5.

[64]A potential problem for the Attract Closest/Relativized Minimality-based approach suggested here is that there appears to be optionality involved in clauses that contain both a negation and an adverb. According to Hrafnbjargarson (2004: 93) either one is allowed to be fronted:

(118)   a. Hann henti   öllu sem ekki$_i$ hafði t_i áreiðanlega   verið tæmt
           he   threw away all   that not   had   undoubtedly been emptied

           'He threw away everything that had not undoubtedly been emptied.'

        b. Hann henti   öllu sem áreiðanlega$_i$ hafði t_i ekki verið tæmt
           he   threw away all   that undoubtedly had   not been emptied

           'He threw away everything that undoubtedly had not been emptied.'

It could be argued that the optionality observed here contradicts my proposal that the locality conditions on SF follow directly from the structure in (105): According to that structure, the negation is higher than adverbs, hence it should count as closest XP. But notice that Hrafnbjargarson translates both examples somewhat differently: In (118a), the negation scopes over the adverb, while the opposite appears to be the case in (118b). Given that SF generally is claimed not to have any semantic effects, this is surprising. (Hrafnbjargarson disagrees with this consensus; see note 72.)

But we can easily overcome this apparent problem once we allow some flexibility in the hierarchy, as seems necessary anyway (Cinque 2004). That is, I claim that the difference in meaning (for those speakers who share Hrafnbjargarson's intuitions on these cases) follows from different possible base orders: Either the negation merges above the adverb, in which case it has scope over it and prevents it from fronting (118a), or else the adverb merges in a higher position, scopes over the negation and counts as the closest XP for purposes of SF (118b).

(120) a. þegar ekki$_i$ var t_i búið   að borða
           when not   was   finished to eat

       b. * þegar búið$_i$ var ekki t_i að borða

I take this to be rather strong evidence in support of my claim that the negation is a
phrasal element (in the Spec of NegP), and that nonfinite verbs move as remnant vP (for
purposes of SF), as outlined in §4.4. While V-to-T in (119) is head movement, hence not
affected by the presence of a phrasal negation, the latter does affect availability of (phrasal)
SF.[65] Finally, notice that Icelandic allows for topicalization of the negation (Jónsson 1991:
38, fn. 13), a further indication of its phrasal nature. See Jónsson (1996: 95–100) for a
summary of arguments for the phrasal nature of negation in Icelandic.

As stated in (106), Maling also claims that predicative adjectives block SF of nonfinite
verbs. She provides the following pair to support this claim:

(121) a. hvað hægt$_i$ hefði verið t_i
           what possible had   been

       b. * hvað verið$_i$ hefði t_i hægt

But as observed by Holmberg (2006: 539), the difference between the two cases is not
due to a blocking effect of the adjective; rather, the copula *vera* 'be' (here in its participial
form) does not undergo SF in general. This follows directly from my account (as I will
show presently) but is in fact a major problem for both Jónsson's head-movement analysis
and the theory developed by Holmberg (2000). Consider the base structure of (121):

(122)
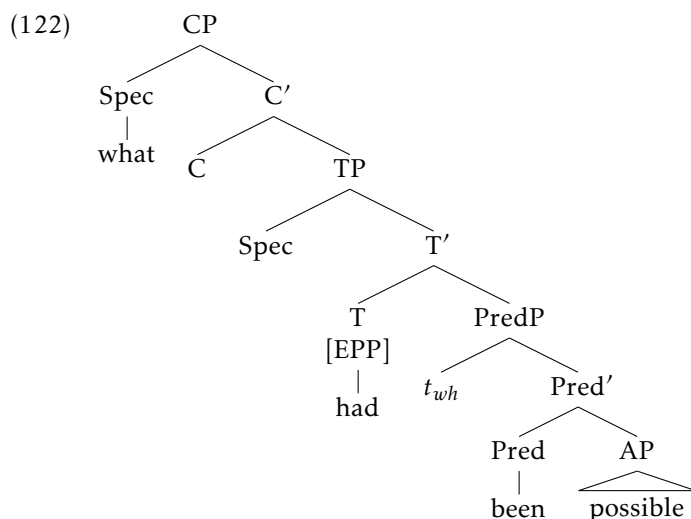
The head-movement analysis, according to which SF is governed by the HMC, predicts
Pred to be able to raise to T, contrary to fact (121b). But the same unwanted movement is
predicted by Holmberg (2000), since the copular verb is the closest element with a phono-
logical matrix. In fact, cases like (121b) are the reason why Holmberg refrains from as-
cribing SF to the PF-component, since this allows him to add the stipulation that semantic

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[65]In order to analyze SF as head movement, Jónsson (1991) is forced to relativize Relativized Minimality such
that only "relevant heads" count for minimality purposes, i.e. while negation is an intervener for SF, it is not an
intervener for V-to-T. Clearly, however, this line of reasoning has an air of circularity and is not independently
motivated in any way.

content is also necessary for an element to undergo SF. Apart from the questionable assumption that copular verbs lack semantic content, this is clearly an *ad-hoc* solution.[66] By contrast, notice that the theory developed above directly predicts both the possibility of (121a) and the impossibility of (121b).[67] The only phrases that T's EPP could target are PredP and AP (setting aside the *wh*-phrase for the moment, attraction of which would yield a "subject gap" [§5]). But PredP cannot raise because this movement is too local (by (42)). Hence, only AP can raise, as in (121a).[68]

Likewise, we have a straightforward explanation for why the auxiliary *hafa* 'be' is inaccessible for SF:

(124) a. * Verið hefur tekin erfið   ákvörðun
           been has   taken difficult decision

     b. * þeir   sem hafa munu skrifað verkefnið   á morgun
           those that have will   written the assignment tomorrow

In Holmberg's words, auxiliaries are "not candidate[s] for SF" (p. 539). This follows since *hafa* is the head of some phrase (perhaps Asp[ect]P) above *v*P, selected by T:

(125)
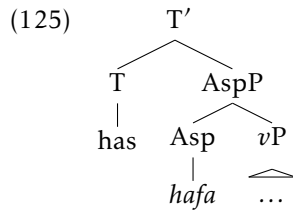
It (*hafa*) cannot move as a head, since Spec-T is a phrasal position; and it cannot move as a phrase, since the phrase it heads will be selected by T, hence movement would be too local (42). Thus, in contrast to all other theories that I am aware of, my account directly predicts the pattern that is found. It thus predicts correctly that SF generally "skips" auxiliaries (cf. Jónsson 1991: 5):

(126) Þetta er versta   bók   sem skrifuð$_i$ hefur verið t_i
       this   is the worst book that written   has   been

---

[66]The motivation given by Holmberg (2000: 468f.) is that semantic content is required for SF because it is an "A'-type of movement". But I do not see how this could be the case, given the fact that SF never targets the operator position (Spec-C); in fact, it seems to be incompatible with Holmberg's theory, where SF is movement to Spec-T.

[67]Jónsson (1991) notes exceptional cases in which *vera* appears to undergo SF, as an exception to the rule:

(123) Jón var í   burtu meðan verið var að mála
       Jon was away while been   was   to paint

    'Jon was away while the painting was done'

I assume that in these cases, *vera* can be analyzed as a main verb, projecting *v*P. The derivation then proceeds as outlined in §4.4, with remnant *v*P raising to Spec-T. There appears to be considerable variation among speakers concerning these exceptional cases.

[68]Since the copular verb in (121a) is perfective, we might also assume that there is an Asp(ect)P above PredP, to which the head of PredP raises (Pred-to-Asp head movement). AspP would then be immobile under anti-locality, while PredP would be rendered immobile under Takano's constraint on remnant movement, according to which "headless" phrases cannot move (see Takano 2000).

Here, *skrifuð* raises across both *hefur* and *verið*. If this were head movement, the HMC should prevent *skrifuð* from moving across other heads. On my account, however, this follows naturally, since T attracts *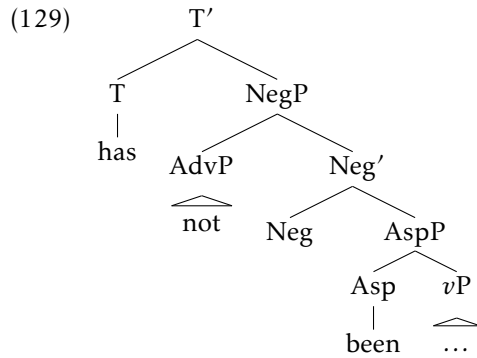v*P in (126), which moves across the head of AspP, which itself is selected by T, hence unable to raise for reasons of anti-locality:[69]

(127)

```
                        CP
              ┌──────────┴──────────┐
            Spec                    C′
             │            ┌──────────┴──────────┐
            Op            C                     TP
                          │            ┌─────────┴─────────┐
                        that          vP                   T′
                                  ┌────┴────┐       ┌───────┴───────┐
                                  v        VP       T              AspP
                                  │      ┌──┴──┐    │         ┌──────┴──────┐
                               written   V   t_Op  has      t′_vP         Asp′
                                         │                            ┌─────┴─────┐
                                        t_V                          Asp   t′_Op  t_vP
                                                                      │
                                                                    been
```
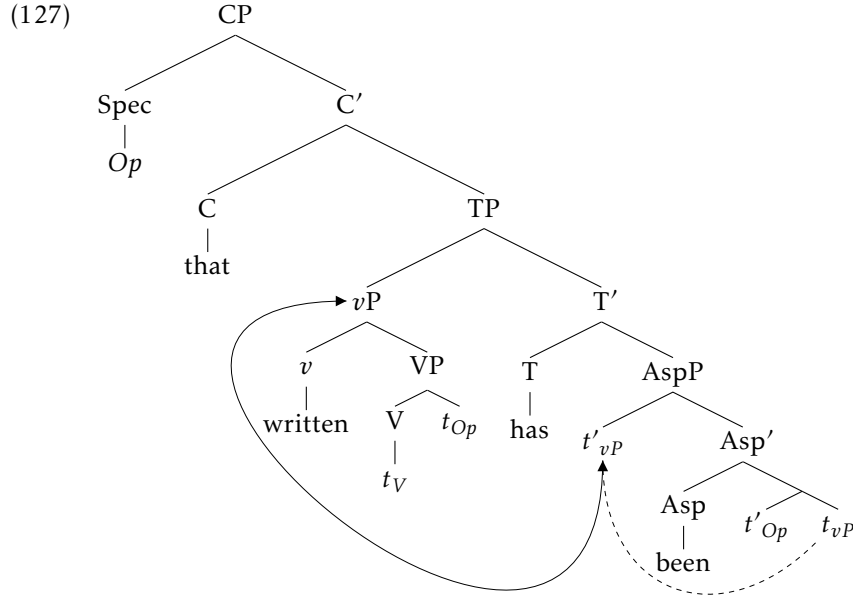
Notice that once we insert a negation, located in Spec of NegP above AspP as seen in the base structure (128a), my theory correctly predicts the negation to undergo fronting (128b) (cf. Thráinsson 2007: 353), assuming that AspP, being part of the (extended) verbal domain, must be right above *v*P:

(128)   a.   þetta er mál   sem hefur ekki verið rætt
             this   is an issue that has   not   been discussed
         b.   þetta er mál sem ekki$_i$ hefur t_i verið rætt

(129)

```
                   T′
         ┌─────────┴─────────┐
         T                  NegP
         │          ┌────────┴────────┐
        has        AdvP              Neg′
                    △         ┌───────┴───────┐
                   not       Neg             AspP
                                        ┌──────┴──────┐
                                       Asp            vP
                                        │             △
                                      been           …
```

I take this to be rather strong evidence for my claim that the fronting in (126) is phrasal, i.e. that *skrifuð* is actually a remnant *v*P, moving across the phrase headed by *verið* (that

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[69]For concreteness's sake, I assume that *v*P moves through Spec-Asp on its way to Spec-T.

phrase itself being immobile due to anti-locality (42)). Only on this approach can it be correctly predicted that the auxiliaries (located in T and Asp, as I have assumed) are skipped by the movement without any further stipulations.

It seems, then, that we can derive Maling's accessibility hierarchy once we adopt the clause structure in (105) and the theory of phrasal SF developed above. The important point is that the locality conditions of SF need not be stipulated as a descriptive hierarchy; rather, they follows naturally from the clause structure in (105), in connection with standard assumptions about Attract Closest. NegP and phrases hosting adverbs in their specifiers are ordered above the predicate (PredP/vP), and presumably ordered among each other (but see note 64). For the remaining cases the theory outlined in §§4.4 and 4.5 makes the right predictions, once it is assumed that complements of V raise to the edge to create a symmetrical [XP vP] structure, where XP and vP are equidistant from T.

Given the locality theory outlined in this section, it seems unlikely that SF is movement in the phonological component (cf. Holmberg 2006: 552), unless it is granted that the hierarchical structure of the clause is fully accessible to that component. Recall, furthermore, that auxiliaries never undergo SF, showing clearly that SF is not simply movement of the closest phonological matrix to the gap position. If SF were "PF-movement", it would be necessary to ascribe articulate syntactic structures and sensitivity to syntactic notions like head vs. phrase to that component, a move that blurs the line between PF and narrow syntax to a significant extent.[70] The only motivation left for ascribing SF to the phonology is its semantic vacuity; but as I will show (*inter alia*) in the next section, there is a rather straightforward syntactic explanation for this fact. Thus, the theory of SF outlined here can be taken as evidence for the EPP – at least in Icelandic – being syntactic rather than a linearization requirement.[71]

7 Some further issues

Having outlined my general theory of SF in Icelandic, I will now address some remaining issues. In particular, I will attempt to show how answers to the following questions fall out quite naturally under the present analysis:

1. Why does SF never have any semantic or information-structural effect?

2. Why does SF only occur almost exclusively in Icelandic, not in, say, Mainland Scandinavian?

I will address each of these important questions in turn.

7.1 Semantic neutrality

I take it to be a fact that SF in Icelandic in and of itself does not have any semantic or pragmatic effect, although it may be *compatible* with, e.g., a focus reading of the fronted

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[70]As Holmberg (2006: 553) notes, ascribing SF to the phonological component would presumably entail ascribing the EPP *as such* to that component, given the evident parallelism between SF and expletive-insertion discussed in §5.

[71]Notice in this connection that the natural account of SF in EPP-terms outlined in §5 relies on XPs raising to Spec-T that can never be phonetically realized there. This, too, can be seen as evidence for a syntactic (rather than purely phonological) EPP.

constituent (cf. Sigurðsson 1997: 2).[72] The strongest case for the semantic neutrality of SF can be made on the basis of scope facts, as reported by Jónsson (1991: 35, fn. 1). Consider the following pair:

(130)   a. Þetta er maður sem hefur ekki spilað fótbolta í mörg ár
            this is a man that has   not played soccer   for many years

     b. Þetta er maður sem ekki$_i$ hefur t_i spilað fótbolta í mörg ár
            this is a man that not   has   played soccer   for many years

Given the surface order, one might expect that SF of the negation in (130b) extends its scope. However, Jónsson notes that the natural interpretation of *both* variants in (130) is that in which the temporal adjunct *í mörg ár* has scope over the negation (*for many years* ≫ *not*). One simple solution to this particular problem would be to assume that *both* base position and landing site (Spec-T) of the negation are below the adjunct. But since a wide-scope reading of the negation appears also to be possible (according to Jónsson), albeit more marginally, I take it that the negation does indeed move across the attachment site of the adjunct when it undergoes SF.[73] Thus, in this case and those discussed above, we want SF to reconstruct at LF, to account for its general semantic vacuity.

But *prima facie*, it is not clear why SF should reconstruct. It is a rather traditional (though ill-understood) assumption that A′-movement, but not A-movement, shows reconstruction effects at LF (Chomsky 1993, Lasnik 1999). Although cases of reconstruction with A-movement are occasionally reported in the literature (see, e.g., Sauerland 2003), it is clearly not desirable to abandon the idea that A-movement in Icelandic can in principle affect scopal relations. In particular, it has been claimed by Diesing (1996, 1997) that object shift can have this effect:

(131)   a. Hann les   sjaldan lengstu bókina
            he   read rarely   longest the book

     b. Hann les   lengstu bókina$_i$ sjeldan t_i
            he   read longest the book rarely

Diesing (1996: 79) (see also Diesing 1997: 418) claims that the relative scope of the adverb (*sjeldan*) and the definite NP (*bókina*) is read off the surface order in both cases, i.e. it is *rarely* ≫ *the longest book* in (131a) but *the longest book* ≫ *rarely* in (131b). Thus, OS appears to feed semantic interpretation in a way that SF does not.

Since it is usually assumed that OS is A-movement (Déprez 1994, Vikner 1994) and I have argued above that SF is A-movement (to Spec-T), this asymmetry is unexpected. It follows, however, once we adjust the traditional assumption about A-movement and reconstruction along the lines suggested by Boeckx (2001). Roughly, Boeckx argues that whether or not A-movement reconstructs depends on where Case is assigned (checked): A-moved elements can only be interpreted in the position where their Case-feature is deleted. Boeckx adduces various kinds of evidence to support his proposal that Case position correlates with scope-taking. According to this theory, A-movement does not reconstruct whenever

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[72]The only work on SF in Icelandic that rejects this general consensus is that of Hrafnbjargarson, who claims SF can have truth-conditional, focus-related effects (Hrafnbjargarson 2003, 2004). Sigurðsson (2008: 24, fn. 37) sharply disagrees with Hrafnbjargarson's intuition (as does Thráinsson 2007: 389). I cannot resolve the issue here and will adopt the consensus position, according to which SF is semantically neutral.

[73]It is actually not quite clear where exactly the adjunct attaches, given that NegP is above vP; I will set the issue aside, and likewise abstract away from problems having to do with "c-command out of phrases".

case is assigned in the derived position; but if no case is assigned there, reconstruction takes place.

With this in mind, let us now reconsider the aforementioned contrast between SF and OS. It is a fairly common assumption that OS is case-driven movement, i.e. movement to a case position. In the first generative study of OS, it was argued that OS results from case-assignment by verb traces being optionally suppressed (Holmberg 1986: 176): If the main verb raises and OS applies, case is optionally assigned (not by the trace of V but) by V in its derived position.

Vikner (1994: §4) provides two arguments for the view that OS is movement to a case position. First, he notes that PPs may never undergo OS. This is rather surprising, given that they can participate in many other movement operations (e.g. German-type scrambling) alongside NPs. But it follows once we assume that PPs must not be case-marked, presumably since P itself is a case-assigner. Second, Vikner provides evidence that case is assigned to a shifted object by T (which hosts the raised verb). He shows that an immediate prediction of this claim is borne out: Since case-assigner and case-marked category must be adjacent, a shifted object and T must be adjacent, too. Consider the following Icelandic data (from Vikner 1994: 494):

(132) a.   I gær   las   Pétur bókina$_i$ eflaust   ekki t_i
           yesterday read Peter the book doubtlessly not

      b. * I gær   las   Pétur eflaust   bókina$_i$ ekki t_i
           yesterday read Peter doubtlessly   the book not

From this contrast, Vikner concludes that a shifted object must always end up in a position that is adjacent to the case assigner (Infl/T); the same contrast can be observed with pronouns, which shift obligatorily in Icelandic (Vikner 1994: 494). To support this argument, Vikner (1994: 496) notes that floated quantifiers cannot appear in positions non-adjacent to T, suggesting that the shifted object has indeed directly moved to the putative case position. Vikner concludes from these facts that OS targets a case position adjacent to the case-assigner raised to T. I will assume – with Boeckx (2001) – that it is precisely this movement to a case position that results in the interpretation of the shifted object in its surface position, resulting in the scope alternations discussed by Diesing and others. The case-feature of the shifted NP is deleted in its derived position, hence it is interpreted in that position.[74]

I submit that the semantic neutrality of SF follows from SF never being "Case-driven": The fronted element is never case-marked in the derived position (Spec-T). The clearest indication of this asymmetry is the fact that the categorial scope of SF is much broader than that of OS. As observed by Vikner, only elements in need of case-marking (i.e., NPs) can undergo OS; by contrast, SF targets NPs, PPs, adjectives, adverbs, participles, and particles. That is, SF standardly fronts categories that can not – and, presumably, *must not* – be case-marked. Hence, SF must be in principle dissociated from case-assignment.

Assuming that Boeckx's proposal concerning A-movement and reconstruction is on the right track, the facts follow immediately. OS is movement into a case position, while SF is purely EPP-driven movement to an A-position that is dissociated from case assignment; hence, SF, but not OS, exhibits total reconstruction of the moved element. Both movement

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[74]It is not quite clear how to reformulate Holmberg's proposal in current terminology, but I will set this question aside here. It should also be noted that there are by now various alternatives to his claim; see Vikner (2006) for a survey.

types, however, are directly predicted to be clause-bound (recall (18)), this being a general property of A-movement.

7.2 Beyond Icelandic

Finally, I want to address the question of crosslinguistic availability of SF. It has been claimed (e.g., Holmberg 2000) that SF is contingent on the existence of V-to-T movement in a language, since the Mainland Scandinavian languages (which do not have V-to-T) lack SF. It must be noted, however, that Faroese is a potential counterexample to the purported correlation: For many speakers, the finite verb in this language follows the negation and adverbs in relative clauses and embedded interrogatives, but nevertheless SF is clearly attested in these environments (see Hrafnbjargarson 2004: 89, Thráinsson 2007: 377f., 385).

Although I cannot resolve the issue conclusively here, I tentatively propose that not V-to-T, but rather particularly "strong" agreement features on T, disconnected from its EPP-property, are crucial for SF, and perhaps also responsible for morphological subject-verb agreement (found in Icelandic, but not in the Mainland Scandinavian languages; Platzack 1987). Rather than V-to-T movement being a *cause* for SF, I take it to be another *consequence* of strong features on T, alongside SF.

In non-SF languages, the EPP-property of T must be directly connected to (abstract) agreement: T universally raises the phrase it agrees with, i.e. it is invariably the subject that gets attracted to Spec-T. By contrast, in Icelandic agreement does not imply movement; subject case is assigned under Agree at a distance, but some other category can be fronted in order to extend the tree past T. In other words, in Icelandic the φ-probe on T and T's EPP-property are dissociated[75], presumably because of the particular strength of Icelandic φ on T. I suspect that the Icelandic-style EPP is in fact related (not to agreement-features but) to *finiteness*, i.e. to tense/agreement-properties of T. Notice that SF is acceptable only in finite clauses, as observed by Holmberg and Platzack (1995: 117):

(133) a. * María lofaði   [að ekki$_i$ lesa t_i bókina   ]
           Maria promised   to not   read   the book

       b. * María lofaði   [að tekið$_i$ hafa t_i út   peninga úr   bankanum í morgum]
   Maria promised   to taken have   out money   from the bank   tomorrow

This fact casts serious doubt on the assumption that V-to-T is a prerequisite for SF; at the very least, it cannot be a *sufficient* condition for SF, since Icelandic has V-to-T even in infinitival clauses (Holmberg and Platzack 1995: 117). Moreover, the assumption that V-to-T alone licenses SF falsely predicts SF to be available in Romance (and many other languages).[76] Thus, I suggest that instead of V-to-T, it is dissociation of φ-features and EPP that is crucial for SF, the latter perhaps being related to tense/agreement instead.[77] This idea supports the parallelism between SF and Japanese-style "A-scrambling" (movement of a non-subject NP to Spec-T) noted in fn. 38, although I will not pursue this suggestion here. The following figures illustrate schematically:

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[75]This is a possibility in principle in frameworks like that of Chomsky (2000), where agreement relations are not established in Spec-head relations, and all movement is triggered by EPP-features.

[76]Recall from §3 that a strong causal relation between V-to-T and SF is crucial for Jónsson (1991) and Holmberg (2000), in particular.

[77]Given all this, it is tempting to trace the difference between Icelandic and Mainland Scandinavian to a difference in the feature-inheritance relation between C and T, in the sense of Chomsky (2007). I will leave this question for future work, however.

(134)   a.   Icelandic/Faroese(/Japanese?):
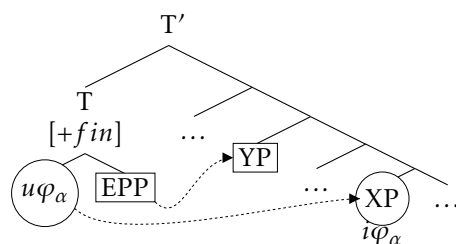
  b.   English *et al.*:
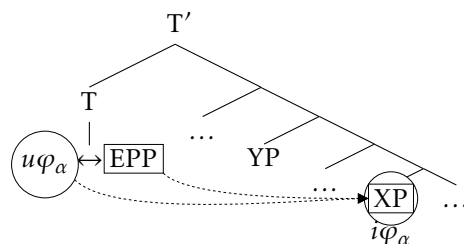
While in English, Mainland Scandinavian, etc. the EPP on T is a 'feature-of-a-feature' (cf. Pesetsky and Torrego 2001), it is an independent probe in Icelandic. Therefore, in Icelandic but not in Mainland Scandinavian, any phrase can move to the derived subject position (provided that no definite subject is present; see below). Notice that in this respect, quirky (non-nominative) subjects, found only in Icelandic and Faroese among the Scandinavian languages, bear some resemblance to (the output of) SF: In this case, too, a non-agreeing category can occupy Spec-T. Like SF, quirky subjects are not found in Mainland Scandinavian.

This preliminary explanation entails that the traditional view, according to which SF is dependent on V-to-T movement, is mistaken; rather, SF is the result of certain "strong" φ-properties of T, which are dissociated from the EPP-requirement of that head. As a result, the Icelandic EPP is maximally "liberal", while T's EPP in Japanese retains the requirement that the attracted element be nominal. Such considerations suggest that the EPP is much more fine-grained than standardly assumed, and perhaps not a unitary feature or property at all (cf. Sigurðsson 2008).

Biberauer and Roberts (2005) propose that the nature of the EPP is an important dimension of variation across languages (see also Biberauer 2003, Biberauer and Richards 2006). In particular, they propose that a language can choose to attract vP to Spec-T in order to sastisfy T's EPP-requirement; this happens either because the [D]-feature that EPP looks for is on the finite verb in v (German), or because EPP-driven movement pied-pipes the larger XP containing the goal NP (Old English). In other languages, EPP on T attracts the NP in Spec-v (the subject, bearing [D]).[78] An example of the former type (attraction of vP to Spec-T) is German[79], while English and many other languages choose the second option (subject raising). Crucially, for Biberauer and Roberts, EPP on T in both instances

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[78]Needless to say, Biberauer and Roberts's model is more complex than presented here; they assume that further "modes of EPP satisfaction" exist. See Biberauer and Roberts (2005: 8f.).

[79]Biberauer and Roberts assume a Kaynian universal-base framework, in which German is underlyingly SVO. The derivation of a standard German subordinate clause proceeds as follows, according to their theory:

attracts an element bearing a [D]-feature, located on the finite verb (German) or on the subject NP (English). In this theory, then, "German differs [from Modern English] only in respect of the D and EPP features assumed to be (obligatorily) associated with v, and, secondly, in respect of the mechanism by means of which the EPP feature on T is satisfied (i.e., pied piping rather than … subject raising)" (Biberauer and Roberts 2005: 13). Old English, finally, allows vP to be pied-piped to Spec-T, EPP on T attracting an NP contained in it.

Icelandic can be neatly integrated into this system.[80] The obvious conclusion is that the existence of SF in this language is the result of two parameters: First, the [D]-feature is present on definite NPs in Spec-v *only*; and second, the Icelandic EPP on finite T is maximally underspecified, allowing for attraction of *any* closest XP in the absence of a [D]-feature. Presence of a [D]-feature (= presence of a definite subject) overrides all other options, yielding the "English way" (subject raising). By contrast, absence of a [D]-feature issues a *carte blanche* to T's EPP-property (not an option in German, Mainland Scandinavian, etc.), without further qualifications except general locality constraints (§6).[81] I take it to be a virtue of the theory of SF developed in the preceding sections that it conforms to – and supports on independent grounds – Biberauer and Roberts's general hypothesis that "the only [crosslinguistic] variation lies in the mode of satisfaction of [EPP features]" (2005: 20).[82]

8 Conclusion

As Holmberg (2006: 554) observes, "The hypothesis that SF moves heads is primarily based on the case of the non-finite verbs." In this paper, I have argued against this hypothesis. I have shown that all cases of SF in Icelandic can be analyzed as phrasal A-movement to Spec-T, with the fronted phrase often being a remnant. Supplemented with a small number of independently motivated assumptions (such as anti-locality and movement to the phase edge), this rather simple theory of SF was shown to allow for an elegant treatment of various properties of SF – in particular, the head-complement optionality, the interaction with expletive-insertion, locality conditions, and reconstruction. In effect, this theory vindicates the null hypothesis about SF – stated but not explicated in any theoretical detail in

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(135) dass Johann das Buch gelesen hat
     that John   the book read   has

    a. $[_{vP}\ v\ [_{VP}\ \text{gelesen}\ [_{NP}\ \text{das Buch}\ ]]] \Rightarrow$ V-to-v movement

    b. $[_{vP}\ \text{gelesen}+v\ [_{VP}\ t_V\ [_{NP}\ \text{das Buch}\ ]]] \Rightarrow$ remnant-VP raising to Spec-v

    c. $[_{vP}\ [_{VP}\ t_V\ [_{NP}\ \text{das Buch}\ ]]\ [_{v'}\ \text{gelesen}+v\ t_{VP}\ ]] \Rightarrow$ merger of subject NP in outer Spec

    d. $[_{vP}\ \text{Johann}\ [_{VP}\ t_V\ [_{NP}\ \text{das Buch}\ ]]\ [_{v'}\ \text{gelesen}+v\ t_{VP}\ ]] \Rightarrow$ merger of T, vP raising to Spec-T

    e. $[_{TP}\ [_{vP}\ \text{Johann}\ [_{VP}\ t_V\ [_{NP}\ \text{das Buch}\ ]]\ [_{v'}\ \text{gelesen}+v\ t_{VP}\ ]]\ [_{T'}\ \text{hat-T}_{EPP}\ t_{vP}\ ]]$

[80]In fact, Biberauer and Roberts (2005: 26) briefly discuss instances of SF in Old English, arguing (without presenting a detailed analysis) that it represents "a further perfectly regular case of vP-fronting to SpecTP" (in the sense illustrated in fn. 79).

[81]Likewise, EPP on v (which also plays a role in Biberauer and Roberts's theory) cannot be specified for [D], since – as we saw above – it uniformly attracts the complement of V.

[82]EPP-related variation is, of course, also a point of variation in the diachronic dimension. Thus, Biberauer and Roberts argue at length that English had vP-raising to Spec-T at earlier stages, but has now lost this option, replacing it with the more "specific" EPP-requirement that Spec-T be filled with a nominal element (Biberauer and Roberts 2005: 40). Icelandic may be undergoing a similar change right now; notice that SF sounds rather formal and/or archaic to most younger speakers.

Maling (1980, 1990) – that SF moves a category into an empty subject position.

To summarize the main findings of the paper, let me revisit the crucial properties of stylistic fronting in Icelandic and recap how the theory proposed in this paper accounts for each in turn.

SF is phrasal movement to subject position. My account takes this claim to be literally true, and can do so in connection with the assumptions that a) all SF is XP-movement (§4) and b) subject extraction proceeds from the base position (as in Chomsky 2008, 2007), not leaving a trace in Spec-T (§5). From a) it follows that SF of adjectives, nonfinite verbs and particles is remnant fronting if these strand complements (§§4.3, 4.4, 4.5); assumption b) allows Spec-T to be the landing site of the fronted nonsubject-XP since it does not contain a trace in the relevant contexts (§5).

SF requires a subject gap. While definite subjects must move to Spec-T, indefinite or extracted/relativized subjects need not do so, "freeing up" Spec-T for the closest non-subject XP (§5). Where the subject is extracted or relativized, hence attracted by C, there are several options for T: Either it also attracts the subject, which does however not get pronounced in this derived position, yielding the impression of a subject gap; or else T attracts some other phrase, yielding SF. In impersonals, where there is no subject, expletive-insertion is available as an alternative to fronting of a nonsubject, because nothing is raised to Spec-C (*ibid*). Hence, on this view, it is somewhat misleading to say that "SF requires a subject gap;" rather, it is one of several options in a derivation where there is no definite subject.

SF is EPP-driven and obeys Attract Closest. EPP on T in Icelandic is disconnected from agreement: T can agree with some XP while raising YP to its Spec. This is impossible in a language like English, where agreement of T with XP (= the subject) always leads to raising of XP to Spec-T (§7.2). I have shown that this general idea, combined with standard assumptions about clause-structure, allows for the reduction of (a revised version of) Maling's hierarchy to a natural locality condition of the Attract Closest-type – essentially, Relativized Minimality. A particular advantage my account was shown to have over all previous accounts is that it derives the immobility of auxiliaries and copular verbs, while correctly predicting the competition between PPs/NPs and other (seemingly head-like) categories (§6).

SF reconstructs fully. While A-movement is typically assumed not to reconstruct for interpretive purposes, SF appears to be semantically vacuous. I argued that this follows once we take into account that SF is never case-driven (but, on the contrary, in principle dissociated from agreement with the attracting head), and that A-moved elements get interpreted in their case-checking position (Boeckx 2001). Once visibility for interpretation is linked to Case assignment in this way, the semantic vacuity of SF follows immediately, allowing nevertheless for a classification of SF as A-movement, accounting for its clause-boundedness (§7.1). The semantic difference between SF and object shift, which affects scopal relations, derives from precisely this difference (object shift targets a case position and moves only NPs, i.e. the category that requires Case).

Throughout this paper, I have been assuming a rather simple clause structure, essentially limited to the core functional categories (C, T, *v*). More elaborate structures have,

of course, been proposed in the literature (see, e.g., Jonas 1995, Bobaljik and Jonas 1996, Collins and Thráinsson 1996, Wiklund et al. 2007) to handle certain facts of Icelandic syntax. While I think that many of the facts can be recast in the more minimal framework I have been assuming here, an attempt to demonstrate this is obviously beyond the scope of this paper; I will leave it to the reader to decide whether its reliance on a "bare-bones" theory of clausal structure is strength or weakness of the present proposal.

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