Stylistic Fronting
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Abstract: Stylistic Fronting (SF) is a phenomenon where a syntactic constituent is moved to what looks like the subject position in finite sentences with a subject gap, that is subject relatives, embedded subject questions, other embedded sentences with the subject extracted, and various types of impersonal sentences. The phenomenon has mainly been studied in the context of Icelandic, Faroese, and Old Scandinavian, but is now known also to occur in Old Romance languages, and SF-like phenomena can be observed in various other languages, too.

A striking property of SF is the range of categories that can undergo the movement: they include participles, infinitives, predicative adjectives, verb particles, adverbs, the negation, PPs and DPs. Although SF looks like movement to a vacant subject position, the categories moved are mostly not subject-like at all. Another striking property of SF is the lack of a distinctive semantic effect. One of the key questions in the research on SF is: What kind of movement is SF? Does it fall into any of the established types of movement (A-movement, A-bar movement, head movement), or is it a distinct, new type of movement? Is it movement in the phonological component (which would explain the lack of semantic effect)? What function does it have? What is the movement trigger?

The paper will enumerate and discuss the syntactic, diagnostic properties of SF, taking SF in Icelandic as the standard. It will discuss and compare the various syntactic analyses proposed in the literature for SF, and the theories proposed to explain the properties of SF.

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1 Introduction

Stylistic Fronting is an operation where a category is moved to what looks like the subject position in finite sentences with a subject gap, that is subject relatives, embedded subject questions, other embedded sentences with the subject extracted, and various types of
impersonal sentences. In the framework of generative linguistics it was first investigated and
discussed in detail in the context of Icelandic, but it is also found in Faroese, Old
Scandinavian, Old and Middle English, Yiddish, and a range of Old Romance languages. The
examples in this paper are all Icelandic, except where indicated otherwise.2

(1) Þetta er versta bók sem skrifð hefur verið. (J)
this is worst book that written has been
‘This is the worst book that has ever been written.’

(2) Þeir voru að tala um hvað hægt hefði verið. (M)
they were to talk about what possible had been
‘They were talking about what had been possible.’

(3) Ef gengið er eftir Laugaveginum . . . (RT)
if walked is along the Laugavegur
‘If one walks along Laugavegur . . .’

(4) Fram hefur komið að fiskað hefur verið í leyfisleysi á chilensku fiskisvæði.
forth has come that fished has been illegally in Chilean fishing zone
‘It has been revealed that illegal fishing has taken place in the Chilean fishing zone.’

In some earlier literature this movement is also known as Stylistic Inversion. I will henceforth
use the abbreviation ‘SF’. The attribute ‘stylistic’ implies that the movement is optional in a
sense to be detailed below, subject only to stylistic variation. It is stylistic in a different sense
than for example topicalization or heavy NP shift, since unlike these operations, SF need not
even have any discourse semantic effects. This is a controversial point, though, as will be
discussed. It appears that there is variation on this point among the languages which exhibit the
phenomenon (see sections 7 and 9 below). In connection with subject extraction, as in (1) and
(2), the alternative to SF is no movement, leaving the subject position (the position
immediately preceding the finite verb) empty.
In impersonal clauses, embedded as well as main, the alternative to SF is insertion of an expletive pronoun (EX = expletive pronoun):

(6) a. Ef þad er gengið aftir Laugaveginum . . .
    if EX is walked along the Laugavegur

In the context of generative grammar the key questions are: What kind of movement is SF? Does it fall into any of the established types of movement (A-movement, A-bar movement, head movement), or is it a distinct, new type of movement? Is it movement in the phonological component? What function does it have, or, in other words, what is the movement trigger? Are there similar movements in other languages?

One of the things that makes SF interesting is that it looks like movement to a vacant subject position, but the categories that are moved are most of the time not at all subjectlike. In fact, in many cases they look like heads, and the movement has, indeed, been analyzed by some as head movement. The categories which may undergo SF include participles, infinitives, predicative adjectives, verb particles, adverbs, and the negation, all arguably heads. However, it also includes PPs and DPs, so SF cannot be head-movement universally. As we shall see, there are arguments to the effect that it is never head-movement, but instead, apparent cases of head-movement are movement of remnant XPs where only the head is spelled out (see sections 4 and 8 below).

Broadly speaking, SF relates to the complex of problems concerning the ‘subject position’. Looking at cases like (1), it might relate to the notorious *that-trace (that-t)* phenomenon: SF has the effect of masking a *that-t* configuration. On the other hand, looking at cases like (3) and (4), where SF alternates with an expletive pronoun, it seems to relate to the EPP, or, especially in the case of (4), the Germanic V2 condition. In many languages, including the Scandinavian languages, the subject position has to be filled, either by a thematic subject or, in the absence of a subject, an expletive pronoun. In Icelandic and some other languages it looks like SF is another way to fill that position.

In the following I will review some important works, each of which discusses the properties of SF in detail, and offers its own analysis of the construction/operation (sections 2–7). In sections 7 and 8, I discuss some alternatives that have been seriously considered in
the literature: that SF is a PF operation, and that SF is remnant XP-movement. Section 9 is a discussion of SF in old Romance languages, section 10 is about a construction which is suspiciously similar to SF, namely Long head Movement, and section 11 is a discussion of the that-trace effect and its relation to SF. Section 12 is a conclusion.

2 Maling (1980/90)

This article, the first work discussing SF in a generative framework, was first published in *Islenskt mál* (1980), and later reprinted in Maling and Zaenen (1990). I will discuss what I take to be the four most important findings of Maling (1980/90): the distinction between topicalization and SF, the characterization of the contexts of SF, the so-called accessibility hierarchy, and the partial complementary distribution of SF and the expletive pronoun.

2.1 Topicalization vs. SF

In her paper, Maling “[argues] for a distinction between two kinds of fronting processes, *topicalization* and another kind of movement referred to as *stylistic fronting*” (p. 71). Maling summarizes the differences between topicalization and SF as follows:

(7) **Topicalization:**

- applies to NPs, PPs, etc.,
- emphasis or focus on fronted constituent,
- uncommon in embedded clauses,
- judgments vary on fronting in relatives, questions, etc.,
- unbounded,
- subject gap not required.

**Stylistic Fronting:**

- applies to past participles, adjectives, some adverbs, particles, etc.,
• emphasis or focus on fronted constituents not necessarily present,
• common in embedded clauses,
• accepted by all speakers,
• clause bounded,
• subject gap required.

Maling’s characterization of the dichotomy has by and large been confirmed by later research, except for one property: It appears that NPs and PPs, too, can undergo SF, as there are instances of NP or PP-fronting which exhibit all the other properties listed by Maling as diagnostic of SF, plus some other SF-like properties which are not on the list (but will be discussed below). This is most easily determined with regard to the subject gap condition. Consider first the following set of sentences, illustrating the subject gap condition (for expository reasons the category fronted by SF will be in bold type throughout the paper):

(8) a. hún sem var fyrst til að lýsa stilfærslu
   she that was first to investigate Stylistic Fronting
b. hún sem fyrst var til að lýsa stilfærslu

(9) a. afleiðslan sem hún var fyrst til að lýsa
   the derivation that she was first to investigate
b. *afleiðslan sem hún fyrst var . . .
c. * . . . sem fyrst hún var . . .
d. * . . . sem fyrst var hún . . .

Fronting the predicative adjective is possible in the subject relative (8) but not in the object relative (9), due to the presence of the (overt) subject in the latter. (10) and (11) present another example:

(10) a. Hver heldur þú að hafi stolið hjólín? (J)
who think you that has stolen the bike

‘Who do you think has stolen the bike?’

b. Hver heldur þú að stolið hafi hjólinu?

(11) a. Hvaða hjóli heldur þú að hann hafi stolíð?

which bike think you that he has stolen

‘Which bike do you think that he has stolen?’

b. *Hvaða hjóli heldur þú að stolið hann hafi?

c. *... að hann stolið hafi?

d. *... að stolið hafi hann?

Fronting the participle is possible in the complement clause if the extraction gap is a subject gap, not if it is an object gap.

Now consider (12) and (13):

(12) a. Þeir sem hafa búið í Ósló segja að...

those that have lived in Oslo say that

b. Þeir sem í Ósló hafa búið segja að...

(13) a. Hver heldur þú að verði að taka þessa erfiðu ákvördun?

who think you that has to take this difficult decision

b. Hver heldur þú að þessa erfiðu ákvördun verði að taka?

who think you that this difficult decision has to take

‘Who do you think has to take this difficult decision?’

(12) is a subject relative, where in (12b) the locative verb complement, a PP, has been fronted.

(13) is a case of subject extraction from a complement clause, where in (13b) the object has been fronted. Now compare (12) with (14), and (13) with (15):

(14) a. vinnan sem hann hefur haft í Ósló
the job that he has had in Oslo
b. *vinnan sem hann í Ösló hefur haft
c. *vinnan sem í Ösló hann hefur haft
d. *vinnan sem í Ösló hefur hann haft

(15) a. þegar hann hafði tekið þessa erfiðu ákvöðun
when he had taken this difficult decision
b. *þegar hann þessa erfiðu ákvöðun hafði tekið
c. *þegar þessa erfiðu ákvöðun hann hafði tekið
d. *þegar þessa erfiðu ákvöðun hafði hann tekið

The generalization that emerges is: A PP or object DP can be fronted in embedded clauses only if there is a subject gap. Later on we will see other evidence that fronting of PPs and object DPs in subject gap clauses has the properties of SF. It could be noted here that there is an issue whether SF can only ever apply in clauses with a subject gap; see Fischer (2010: 94-96), Poole (2007), and section 9 for discussion.ENDNOTE 5

It is important to note that Topicalization and SF do not operate on disjunctive sets of categories. If they did, they could plausibly be two special cases of a more general phenomenon, the differences being explained by the choice of category. As it is, the sets of categories which Topicalization and SF operate on are partially overlapping: predicative adjectives can undergo topicalization as well as SF. So can many adverbs, and as shown above, so can DPs and PPs.

2.2 The two contexts of SF

Maling (1980/90) showed that SF applies in two types of finite sentences: (i) sentences where the subject has moved out (subject extraction sentences), and (ii) impersonal sentences, which either have no (visible) subject at all (impersonal passives and sentences with a generic pronominal subject), or where the subject is realized in postverbal position (existential and
presentational sentences and extraposition sentences). Maling only discussed embedded sentences. However, as pointed out by Rögnvaldsson and Thrainsson (1990) among others, SF occurs in impersonal main clauses as well (see section 12 on the stylistic status of the construction).

(16) a. **Keypt** hafa þessa bók margir stúdentar. (RT)

   bought have this book many students

   ‘Many students have bought this book.’

   b. **Greinilegt** er að okkur vantar meiri peninga.

   obvious is that we need more money

   ‘It’s obvious that we need more money.’

These sentences have the properties of SF, not Topicalization. In (16a) the moved category is not among the categories which can be topicalized, in both there is a subject gap, and there need not be any focus or emphasis on the fronted category.

SF is not found in main clause subject questions:

(17) a. *Hver **lokið** mun hafa verkefnið á morgun?

   who finished will have the assignment tomorrow

   Intended meaning: ‘Who will have finished the assignment tomorrow?’

   b. *Hver mun **lokið** hafa verkefnið á morgun?

   who will finished have the assignment tomorrow

(17a) may be ruled out as a ‘violation of the V2 condition’, but why is (17b) ill formed, if main clause questions have a subject gap, as is generally assumed for the Scandinavian languages? 6

   It is also noteworthy that SF is not found in control infinitivals, although they have a subject gap in the sense that there is no visible subject in the structure. This is all the more noteworthy since Icelandic control infinitivals have a word order which is superficially similar
to that of finite clauses: the verb seems to move to a position in the I-field, in front of the
negation and other sentential adverbs (see Sigurðsson 1989; Rögnvaldsson and Thráínsson
1990; Johnson and Vikner 1994).

(18) a. Ég ætla að hafa lesið þessa bók á margun. 
    I intend to have read this book tomorrow

    b. *Ég ætla að lesið hafa þessa bók á morgun.

    c. *Ég ætla lesið að hafa þessa bók á morgun.

2.3 The accessibility hierarchy

Only one category per clause can be moved by SF. If there are several candidates for SF in the
same clause, they move according to an ‘accessibility hierarchy’, as first observed by Maling
(1980/90). Her formulation of the hierarchy is the following:

(19)  ekkí > predicative adjective > past participle/verbal particle

(20) and (21) illustrate this hierarchy:

(20) a. Það fór að rigna, þegar búið var að borða. (M)
    EX went to rain when finished was to eat
    ‘It began to rain when we had finished eating.’

    b. . . . þegar ekkí var búið að borða.
    when not was finished to eat

    c. * . . . þegar búið var ekkí að borða.
    when finished was not to eat

In the embedded clause in (20a), an impersonal passive, the participle has been fronted by SF.
In the negative counterpart (20b) the negation has been fronted (the finite verb normally
precedes the negation in Icelandic finite clauses). (20c) shows that the participle cannot be
fronted if the negation is present (the fronted category as well as the blocking negation is in boldface):

(21) a. þetta er nokkuð sem hægt er að gera við. (M)
    this is something that possible is to fix PRT
b. . . . sem ekki er hægt að gera við.
    that not is possible to fix PRT
c. *. . . sem hægt er ekki að gera við
    that possible is not to fix PRT

In the relative clause in (21a), a predicative adjective is fronted by SF. In (21b), the negation is fronted. (21c) shows that the negation blocks fronting of the adjective.

(22) a. fundurinn sem fram hefur farið (J)
    the meeting that forth has gone
b. fundurinn sem farið hefur fram
    the meeting that gone has forth
   ‘the meeting that has taken place’
c. fundurinn sem ekki hefur farið fram
    the meeting that not has gone forth
d. *fundurinn sem fram hefur ekki farið
    *the meeting that forth has not gone
b. *fundurinn sem farið hefur ekki fram

(22a, b) show that either the verb particle or the verb (a participle) may undergo SF. (22c) contains a negation, which has been fronted. (22d, e) show that the negation blocks fronting of the particle as well as the verb.

The formulation of the hierarchy is controversial, however. To begin with, not only the negation, but any sentence adverb (or any adverb which can occur in preverbal position) blocks SF of any lower category (as observed by Jónsson 1991). Consider (23), which is like
(21) except that the negation is substituted by the adverb *sennilega* ‘probably’. As shown, the
adverb undergoes SF (optionally; the usual position for adverbs in Icelandic is following the
finite verb):

(23) a. . . . *sem sennilega* er hægt  að gera við
     that probably is possible to fix   PRT

b. * . . . *sem hægt er sennilega*  að gera við
     that possible is probably to fix   PRT

Second, the reason why Maling places adjectives higher than participles in the hierarchy is
based on pairs such as (24b, c):

(24) a. Þeir voru  að  tala  um  hvað  hefði verið  hægt.
      they were to talk about what had been possible

b. . . . hvað  hægt  hefði verið.
      what possible had been

 c. * . . . hvað  verið  hefði hægt.
      what been had possible

The participle of *vera* ‘be’ does not block movement of the adjective, and does not itself
undergo SF. But there is good reason to think that this is something special for *vera*, or more
generally, for *vera* ‘be’ and auxiliary hafa ‘have’ (this will be discussed in some detail in
section 5). Consider, for example, (25):

(25) a. maðurinn sem er talinn ríkur
      the man that is considered rich

b. maðurinn sem *talinn* er ríkur
      the man that considered is rich

 c. *maðurinn sem ríkur* er talinn
the man that rich is considered

Here the participle can undergo SF, but the predicative adjective (the head of a small clause) cannot. So adjectives are not in general ‘higher on the accessibility hierarchy’ than participles. As will be discussed in more detail later, the reason why the predicative adjective cannot undergo SF here is the fact that the participle is another candidate for undergoing SF, and being closer to the SF target, blocks SF of the adjective. In (24), the auxiliary *vera is not a candidate for SF (see discussion in section 5), and hence does not block SF of the adjective.

Third, the generalization that the verb particle and the verb are equally accessible to SF is probably a special case of a more general phenomenon: a head and its complement are equally accessible to SF (see Holmberg 2000, Ott 2009, Wood 2011, and section 8). Consider (26):

(26) a. þeir sem búið hafa í Ósló
   those that lived have in Oslo
b. . . . í Ósló hafa búið

(27) a. hundurinn sem hefur drepið minkinn
   the dog.N that has killed the mink.A
b. hundurinn sem drepið hefur minkinn
   the dog.N that killed has the mink.A

In (26a, b) the locative is a complement of the verb (selected by the verb), and either the verb or the locative may undergo SF. In (26d, e) the locative is an adverbial, not selected by the verb, and here the locative cannot undergo SF. Consider also (27) (N = nominative, A = accusative):

(27) a. hundurinn sem hefur drepið minkinn
   the dog.N that has killed the mink.A
b. hundurinn sem drepið hefur minkinn
   the dog.N that killed has the mink.A

c. hundurinn sem minkinn hefur drepið (M)
the dog.N that the mink.A has killed

The object *minkinn* is a complement of the verb/is selected by the verb. Again either the object or the verb may undergo SF.⁷

In the light of recent work on locality conditions on movement (Relativized Minimality, Shortest Move, the Minimal Link Condition) it seems fairly obvious that the accessibility hierarchy falls under some such general locality condition. This will be discussed in more detail in the next section. Meanwhile, note that the accessibility hierarchy provides another useful criterion to distinguish between SF and Topicalization, since the latter is not sensitive to the presence of an adverb, adjective, or participle, etc. between the launching site and the landing site of the movement.

### 2.4 SF and the expletive pronoun

As discussed by Maling, there are contexts in Icelandic where the expletive pronoun *það* and SF have complementary distribution, and other contexts where SF is possible but not *það*. In general impersonal sentences, main or embedded, accept *það* or SF, and furthermore must have one or the other:

(28) a. Ef gengið er eftir Laugaveginum . . . (RT)
   if gone is along Laugavegur
b. Ef það er gengið eftir Laugaveginum
   if EX is gone along Laugavegur
c. *Ef er gengið eftir Laugaveginum

(29) a. Ég veit að ekið er vinstra megin í Ástralíu. (M)
   I know that driven is left side in Australia
b. . . . að það er ekið vinstra megin í Ástralíu
   that EX is driven left side in Australia
Sentences where the subject gap is the result of movement generally accept SF or a gap, but not َpað:

(30) a. Hver heldur lögreglan að ___ hafi framið glepinn? (M)
   who think the police that has committed the crime
   ‘Who do the police think committed the crime?’

b. Hver heldur lögreglan að framið hafi glepinn?

c. *Hver heldur lögreglan að َpað hafi framið glepinn?

Maling suggests that (30c) falls under a general prohibition against extraction from a clause headed by َpað. But as noted by Rögnvaldsson and Thráinsson (1990) and Jónsson (1991), extraction is marginally possible, subject to idiolectal variation, from َpað-headed clauses, as long as the extracted phrase is not the subject, as in (30c). See Sigurðsson (2010) for a recent account of (30a,b,c), and also section 6. see Angantysson (2011: 162-171) for experimental and corpus data comparing expletive insertion and SF in Icelandic as well as in Faroese.

3 The analysis and function of SF

Maling does not actually present an explicit analysis of either SF or Topicalization, but Platzack (1987) does, based on her observations: SF is movement of a category to Spec,IP, while Topicalization is movement of a category to Spec,CP. Movement of non-subject categories to Spec,IP, normally the place where the nominative-marked subject is found, is possible in Icelandic, but not, for instance, in Swedish, since the nominative case normally assigned to Spec,IP is absorbed by an abstract pronominal element postulated in C in Icelandic but not in Swedish. (This is also the mechanism which allows for oblique-marked subjects in Icelandic in Platzack (1987); in Holmberg and Platzack 1995: ch. 5 the element absorbing the nominative case was redefined as AgrS, the contrast between Icelandic and Swedish being related to richness of agreement morphology – Icelandic, Faroese, and Old Scandinavian have rich agreement morphology compared with the Mainland Scandinavian languages.) This
accounts for the subject gap condition, straightforwardly in the sense that if the subject is itself in Spec,IP there is no vacant target position for SF. One or more auxiliary assumptions are necessary, however, to account for subject extraction sentences, where Spec,IP would seem to be occupied by the trace of the nominative subject. Given that Spec,CP, but not Spec,IP, is associated with “emphasis and focus” it also follows that Topicalization but not SF will be different in this respect, and that Topicalization but not SF will be found mainly in main clauses.

As for the ‘function’ of SF, or (in derivational terms) the trigger of SF, Maling assumes that it is related to the V2 condition: “this kind of fronting can therefore be viewed as a generalization of V2 to clauses that would otherwise begin with the finite verb” (p. 71). Maling does not discuss the ontological status of the V2 condition, but the idea is presumably that there is a global V2 condition which (in terms of a standard C-1-VP analysis of finite sentences) requires the filling of Spec,CP in case the finite verb happens to be in C, or Spec,IP if the finite verb happens to be in I, a condition which would hold in some languages but not others. Those who do not accept the idea of such a condition may prefer the following: the trigger is whatever it is that requires the Spec,IP position of finite clauses to be filled, where the filler may be the thematic subject, or an expletive pronoun, or a category fronted by SF, all subject to cross-linguistic variation. In other words, the trigger is (some version of) the EPP.

This idea is elaborated in Holmberg (2000), and discussed below in sections 6, 7, and 8.

In either case, the optionality of SF, in those cases where it is optional, presents a complication. Recall the facts: In impersonal clauses SF has complementary distribution with the expletive *huə*, but either SF or insertion/merge of an expletive pronoun must apply. In that sense SF is obligatory. In subject extraction clauses, on the other hand, SF alternates with an empty subject position. Assuming that the trace of the extracted subject counts as a filler for the purposes of the EPP, why does SF apply at all? Assuming that the trace does not count as a filler, how come SF is not obligatory?
Rögnvaldsson and Thráinsson (1990) take issue with Platzack’s (1987) analysis of SF and Topicalization, and argue instead that both are movement to the same position, namely Spec.IP, construed as an A-bar position, or perhaps a mixed A and A-bar position along the lines of Diesing (1990b). They conclude that “[topicalization and SF] are syntactically a unified process, even though they are certainly different functionally . . .” (p. 28, original emphasis). They do not, however, make any suggestions regarding how the observed differences between Topicalization and SF could be explained in functional terms. They do note another difference, though, between SF and Topicalization: SF in an embedded clause does not block extraction out of that clause, but Topicalization does (see also Jónsson 1991). (31a) exemplifies extraction across a category fronted by SF, and (31b) extraction across a category fronted by Topicalization (D = dative):

(31) a. Þennan mann, hét og [að farið hefði verið með þ, á sjúkrahús]. (RT)
   this man thought I that gone had been with to hospital

   ‘This man I thought had been taken to hospital.’

b. *Marfú, veit og [að þessum hring, lokaði Ólafur þ, þj]. (RT)
   Maria.D know I that this ring.D promised Olaf.N

   ‘I know that Olaf promised Maria this ring.’

This clearly supports assigning different structures to the embedded clauses, along the lines of Platzack (1987). Topicalization blocks extraction by virtue of occupying or creating an A-bar position, namely Spec.CP, which extraction cannot skip, either because the movement needs Spec.CP as an escape hatch (following Chomsky 1977b), or because some version of Relativized Minimality prohibits extraction (A-bar movement) across the A-bar position Spec.CP. SF, being movement to Spec.IP, does not have any such effect.5 This difference can thus be used as another diagnostic to distinguish between SF and topicalization in critical cases.
Let us summarize the diagnostic properties identified so far. The following is our revision of Maling’s list of properties characteristic of SF:

(32) (i) It requires a subject gap.

(ii) It alternates with the expletive pronoun in impersonal clauses, it is optional in subject extraction clauses.

(iii) The categories which can undergo SF include nonfinite verbs, adverbs (including the negation), adjectives, particles, DPs, and PPs.

(iv) No emphasis or focus on the fronted category is necessary.

(v) Found in Icelandic, Faroese, and Old Scandinavian but not Mainland Scandinavian.

(vi) Locality: only the closest candidate for movement to an SF target T may move to T.

(vii) Extraction is possible across an SF target.

4 Jónsson (1991): SF as head movement vs. SF as XP-movement

Jónsson (1991) argues that SF is head-to-head movement: the moved participle, adverb, adjective, etc. does not land in Spec.IP but adjoins to I. The same hypothesis is elaborated in Holmberg and Platzack (1995) and Poole (1996). I will refer to it as ‘the head movement hypothesis’. According to it the analysis of for example (10a) is roughly (33):
Given that SF of participles, adverbs, adjectives and particles is indeed movement of a head, the analysis according to which the target is Spec.IP (as in Platzack 1987; Rógnvaldsson and Thráinsson 1990; and implicitly Maling 1980/90) obviously violates standard assumptions regarding movement and phrase structure within Principles-and-Parameters theory, according to which XPs move to Spec-positions or adjoin to XPs, while heads adjoin to heads. The head movement hypothesis does not have this problem. The other advantages of the head movement hypothesis discussed in the references mentioned are the following:

(i) The lack of emphasis or focus follows since the moved category is a form of clitic; clitics are generally not focused or emphasized.

(ii) The accessibility hierarchy can be subsumed under (an appropriate version of) the Head Movement Constraint (HMC; Travis 1984, 1991). Consider (34) (= (20c)), for example:

\[(34) \quad \text{a.} \quad \ast \ldots \text{negar } \text{búið} \quad \text{var } \text{ekki } \text{að } \text{börða} \]
\[
\text{when finished was not to eat}
\]

\[
\text{b.} \quad [\text{IP } \text{var+I } [\text{Neg} \text{ Neg } [\text{VP } \text{búið } \ldots ]]]
\]

Given that the negation is a sentential head, as in (34b), it will block head movement of the participle to I by virtue of the HMC, which requires head movement to target the closest c-commanding head position.
(iii) Extraction is predicted to be possible across an SF target.

(iv) The fact that Mainland Scandinavian, in contrast with Icelandic, Faroese, and Old Scandinavian, does not have SF follows from the fact that Mainland Scandinavian has no general V-movement to I. Therefore there is nothing in I in these languages to which a head moved by SF could adjoin, assuming that adunction/cliticization to an empty category is not possible. This point is elaborated in Holmberg and Plat Zack (1995 1f., 115ff.). It is consistent (by and large) with the findings of Falk (1993: 178ff.), who showed that SF disappeared from Swedish in connection with the loss of embedded V-to-I.

However, the head movement hypothesis of SF is obviously inconsistent with the observation that DPs and PPs may undergo SF: XP cannot adjoin to/be incorporated in X°. Jónsson 1991 as well as Holmberg and Plat Zack (1995) simply follow Maling (1980/90) in assuming that fronting of DPs and PPs falls under Topicalization (or possibly some other type of XP-movement) but not SF. Since the head movement hypothesis has been to some extent influential (see Poole 1996; Richards 1998, Bošković 2001a,b), let us dispel any doubts that the cases of DP and PP movement discussed earlier have the properties expected of SF.

Consider again (12), repeated here as (35):

(35) a. þeir sem hafa búið í Ósló segja að . . .
   those that have lived in Oslo say that

   b. þeir sem í Ósló hafa búið segja að . . .

   c. þeir sem búið hafa í Ósló segja að . . .

According to the head movement hypothesis (c) is SF but (b) is something else. So let us see whether they differ from each other in any relevant respect. I will go through the properties listed in (32) one by one.
(i) *The subject gap condition:* It was shown in section 1 above that fronting of the locative PP requires a subject gap.

(ii) *Optionality:* A comparison of (35a, b) shows that fronting the PP is optional, in the subject extraction context (there is controversy, though, over whether the fronting induces focus or contrast; see discussion in section 7). A comparison of (36a, b, c) shows that it is obligatory, in the relevant sense, in impersonal sentences:

(36) a. Hann spurohvort það sé búandi í Ósló.
   he asked whether EX is living in Oslo
   ‘He asked whether one can live in Oslo.’

b. * . . hvort búandi sé í Ósló.

(c) * . . hvort í Ósló sé búandi.

d. * . . hvort sé búandi í Ósló.

Merger of það may be preferred to SF here, but crucially (36b) and (36c) are equally good, while (36d) is out.

(iii) *Categories:* This is what we are trying to establish.

(iv) *Focus:* (35b, c) or (36b, c) do not necessarily differ in terms of focus or other discourse semantic properties.

(v) *Distribution among the Scandinavian languages:* Constructions such as (35b, c) occur in Faroese and Old Scandinavian, represented here by Old Swedish:

(37) a. Tey sum verið hafa í Danmark, siga . . . [Faroese; Barnes 1987]
   those that been have in Denmark say . . .

b. Tey sum í Danmark hafa verið, siga

c. þen sum fangit hauær uinium [Old Swedish; Delsing 2001]
   he that caught has the.friend

On SF of PP’s in Old Swedish, see Falk (1993: 181, n. 13). On SF of NPs, see Delsing (2001: 156-158). Constructions such as these are ill formed in the Mainland Scandinavian languages, though, represented here by Norwegian:
(38) a. de som har bodd i Oslo
   those that have lived in Oslo
b. *de som bodd har i Oslo
c. *de som i Oslo har bodd

(vi) **Locality:** If the accessibility hierarchy of SF is explained by the HMC, the prediction
is that movement of a PP or any other XP should not fall under it. However, fronting of a PP
in a subject gap sentence is blocked by, for instance, a negation: the only category which can
be fronted in (39) is the negation itself:

(39) a. þeir sem hafa ekki búið í Ósló
   those that have not lived in Oslo
b. þeir sem ekki hafa búið í Ósló
c. *þeir sem búið hafa ekki í Ósló
d. *þeir sem í Ósló hafa ekki búið
e. tey sum ikki hafa verið í Danmark (Faroese; Barnes 1987)
   those that not have been in Denmark
f. *tey sum í Danmark hafa ikki verið (Faroese; Barnes 1987)

This confirms on the one hand that fronting of the PP is indeed SF, and on the other hand that
SF is not head-to-head movement. Consequently the accessibility hierarchy does not fall under
the HMC, but under some more general locality condition.

(vii) **Extraction:** If PP-fronting in cases like (36c) is SF it is predicted that extraction
across a fronted PP should not be any more marked than extraction across a fronted participle.
Again the prediction is borne out:

(40) a. Hversu lengi heldur þú að búið hafi verið í Ósló?
   how long think you that lived has been in Oslo
b. Hversu lengi heldur þú að í Ósló hafi verið búið?
how long think you that in Oslo has been lived

‘How long do you think that people have lived in Oslo?’

(40b) should be compared with, for example, (41), where there is no subject gap, and the
fronting accordingly has the properties of Topicalization:

(41) *Hversu lengi heldur þú að í Ósló hafi hann búið.
how long think you that in Oslo has he lived

We may safely conclude that fronting of the PP in (36b), (40b) and similar examples is a case
of SF. Consequently, unless we are willing to accept adjunction of phrases to heads, SF cannot
be derived by adjunction to I, at least not universally.

As will be discussed in section 8, there are good reasons to think that the negation in
Icelandic is not a head but a maximal category, in which case there is good reason to think that
it undergoes SF not as a head but as a maximal category. As for sentential adverbs, they are
analysed as phrasal, maximal categories in Cinque (1999) and much subsequent work, and
may undergo SF as such. This leaves only non-finite verbs, prepositions, and verb particles as
possible instances of heads undergoing SF. We will return to this issue in section 8.

Meanwhile, another serious drawback with the hypothesis that SF is adjunction to I is that
within this theory there is no non-ad hoc explanation of the subject gap condition (as
discussed in Holmberg 2000). The explanation that is given in Jónsson (1991), Holmberg and
Platzack (1995), and Poole (1996) is that the head adjoined to I gets in the way of a crucial
relation between I and Spec,IP, either Case (Jónsson and Poole) or agreement (Holmberg and
Platzack). Therefore SF is impossible if Spec,IP is filled by a lexical (phonetically realized)
DP. The only category which can occupy Spec,IP would be expletive pro, which does not
need Case and does not induce agreement. But there is no reason to expect adjunction of a
verb, adverb, or adjective, etc. to I to have that effect. Consider a head-adjunction configuration such as (42):

(42)  [[H₂ α H₁] [t]]

The derived category H₂ resulting from adjunction of α to H₁ has all of the features of H₁ (except possibly those which are checked by α). This is standard X-bar and movement theory. But then there is no reason why, say, a verb, adverb, or adjective adjoined to I would affect the Case-checking or agreement-checking properties of I, since they do not themselves check either Case or agreement. See Holmberg 2000 for additional arguments against the head movement hypothesis.

We may conclude that the head movement hypothesis of SF has serious disadvantages.

5 Auxiliaries and locality

The role of the auxiliaries vera and hafa in SF was briefly noted above in section 2.3. Discussing Maling’s accessibility hierarchy, Jónsson (1991) observed that SF of the copula verb vera ‘be’ is restricted.

(43)  a. *ðeir töludu um hvað sem verið hefði hægt að gera.
      they talked about what that been had possible to do
     b. *ðetta er versta bók sem verið hefur skriðuð.
      this is worst book that been has written
     c. *ðeir sem verið hofðu að mála voru orðin þreyttir.
      those that been had to paint were become tired
      ‘Those who had been painting were tired.’
     d. *hetta er brotsmaðurin íð verið hefur dömdur.
      this is the criminal who been has condemned
This illustrates three uses of *vera* ‘be’: predicative, passive, and progressive, respectively.

None of them undergoes SF. Instead, the next category down the tree may undergo SF, if it is a category of the right sort (which the infinitive *að mála* in (43c) is not).9

(44) a. Þeir talaði um hvað sem *hægt* hefði verið að gera.
    they talked about what that possible had been to do
b. Þetta er versta bók sem *skrifud* hefur verið.
    this is worst book that written has been
c. Hetta er brotsmaðurin, íð *döndur* hefur verið
    this is the criminal who condemned has been

(Faroese; Barnes 1987)

Holmberg 2000 observed that the same is true of auxiliary *hafa* ‘have’:

(45) a. Þeir sem munu hafa *skrifað* verkefnið á morgun
    those that will have written the assignment to Morrow
b. *Þeir sem *hafa* munu skrifað verkefnið á morgun
    c. Þeir sem *skrifað* munu hafa verkefnið á morgun

As shown in (b) the auxiliary cannot itself undergo SF, but allows the participle to be fronted instead.

Jónsson (1991) proposed that the reason why the copula is transparent to SF in this way is indeed that it cannot itself undergo SF. Essentially, in a configuration [X . . . Y . . . Z], where Y c-commands Z but not X, Y will block movement of Z to X only if Y can itself move to X.10 Jónsson expressed this formally as a modification of Rizzi’s (1990b) Relativized Minimality. The same idea is later codified by Chomsky (1995c: ch. 4) as the Minimal Link Condition within a theory where movement is triggered by properties of the target: a functional category C which has a feature F that needs to be checked will always attract the
closest category capable of checking F. In that sense the closest category with F will block
movement of a more distant category with F to C.

Whether or not all movement is triggered by properties of the target (by Attract, in terms
of Chomsky 1995c: ch. 4, or by generalised EPP, in terms of Chomsky 2000) is an open
question. However, in the case of SF there is little doubt that the trigger is some property of
the target, not a property of the category that is moved. This is indicated by the fact that SF
affects such a wide range of categories which on the face of it have virtually nothing in
common apart from being in the 'domain of I' (leaving it open what this means exactly),
having phonetic content, and (as indicated by the auxiliary facts discussed above) having
semantic content. There is nothing about these properties that, in itself, would trigger
movement.

As noted in Holmberg (2000), it is not even clear that the categories moved under SF have
any discourse semantic feature in common. I will return to this important question in section
7.

The generalization concerning auxiliaries is complicated by the fact that some occurrences
of *vera* can undergo SF. Jónsson (1991) gives (46a, b) as well formed and (c) as marginal. See
(37a) for an example from Faroese.

(46) a. Jón var í burtu meðan verði var að mála. (J)
   Jon was way while been was to paint

b. þeir sem verði hafa veikir (J)
   those that been have ill

c. 'Völlurinn er mjög blautur þegar verði hefur rigning. (J)
   the field is very wet when been has rain

As an additional complication, there seems to be considerable dialectal/idiowlectal variation
regarding these data.
6 Holmberg (2000): SF as expletive movement

An additional weakness of the head movement hypothesis of SF is that it is unclear what the trigger for SF could be. In Holmberg (2000) I reject the head movement hypothesis of SF, and propose that SF is triggered by a condition that Spec,IP must be overtly filled. This condition, formalized as a feature [P] in I, is taken to be one half of the Extended Projection Principle (EPP), the condition which, in its original form in Chomsky (1981) required every sentence to have a subject. The other half is a condition which requires linking finite I with a nominal constituent. In Holmberg (2000) this condition is formalised as a feature [D], a property of I, along the lines of Alexiadou & Anagnostopoulou (1998), which needs checking by a nominal category. In Holmberg (2010a,b) it is formalised in terms of the feature theory of Chomsky (2001) (the ‘probe-goal system’), as an unvalued feature [uφ], needing valuation by a nominal constituent in its c-command domain. The nominal constituent is the highest NP which is ‘active’ meaning that it is not assigned case independently of I, that is, usually the subject, which is itself assigned nominative case by virtue of this relation. Working together, the two features trigger movement of the subject NP to specIP in most finite clauses: [uφ] ensures the link between I and the subject, [P] triggers movement of the subject. If there is no lexical subject, a nominal expletive will ensure that both features are satisfied.

The claim is now that in some languages the two features [P] and [uφ] can operate independently of each other: [uφ] is satisfied by entering a feature valuation relation with the closest nominal category, i.e. the subject, while [P] can be satisfied by movement of a category to specIP. All that is needed is that this category should have a phonological matrix. This is, then, what SF does: It moves the closest category with a phonological matrix to specIP to satisfy the ‘phonological half’ of the EPP in constructions where subject movement is not called for independently. This is, furthermore, related to Platzack’s (1987) idea that SF is dependent on richness of agreement. Basically, in languages with a rich set of φ-features in I the [uφ]-nominative relation can be established at a distance, opening for the possibility that
[P] attracts some other constituent to specIP. In languages with an impoverished set of -features in I, the subject has to move closer to ensure the relation. See Holmberg (2010a,b) for details.

The claim is, therefore, that the category fronted by SF is effectively an expletive in its derived position: all it does is ensure that specIP is phonologically spelled out. This hypothesis is, furthermore, embedded in a theory assuming feature movement, along the lines of Chomsky (1995c: ch. 4). The claim is that just as formal (syntactic) features can move without pied-piping the rest of the category, including the phonological matrix (pp. 261ff.), the phonological matrix can move without pied-piping the formal features. The latter would be the case in SF. In this sense the fronted category is, indeed, a pure expletive, a piece of pure form moved to satisfy the phonological half of the EPP.

Let us see how this accounts for the properties of SF.

(i) *The subject gap condition:* This follows straightforwardly: A subject moved overtly to SpecIP will check the feature [P], excluding SF.

(ii) *Optionality:* It follows that SF alternates with the expletive pronoun in impersonal constructions; SF is just another form of expletive. More needs to be said about the optionality of SF in subject extraction contexts, though. The following is a possibility: there are two routes for subject extraction – either the extracted subject moves via SpecIP, in which case it will check the feature [P] once it reaches SpecIP, or the subject moves directly from its base-position, say Spec of vP, to SpecCP, skipping SpecIP. In the latter case the feature [P] has to be checked by an expletive, provided by SF. Ott (2009), whose theory will be discussed in more detail in section 8, adopts Chomsky’s (2008) idea that A-bar movement and A-movement of the subject apply simultaneously, forming two parallel chains. Wh-movement of the subject yields a configuration (47), with two chains, an A-bar chain and an A-chain, and no link between the head of the A-bar chain in specCP and the head of the A-chain in specIP, although usually only the higher one gets spelled out.
Now given the option that [P] can attract another category than the subject to specIP, SF can take place to satisfy [P].

(iii) *Distribution of SF among the Scandinavian languages:* Essentially following Platzack (1987) and Holmberg and Platzack (1995), I assume in Holmberg (2000) that the finite verb in Mainland Scandinavian does not have the nominal features it takes to check the [D]-feature in I. Therefore these languages have to have a nominal, D-marked category moved to SpecIP or externally merged with I, that is either the subject DP moves to SpecIP, or a nominal expletive is merged with I. SF is never an option.

(iv) *Categories that undergo SF:* This theory predicts that, in fact, any category which is accessible for movement to SpecIP at all (that is not, for example, too deeply embedded) can undergo SF, since the movement only affects the phonological matrix of the category anyway. That the range of categories affected by SF is so wide is therefore expected. The problem is, instead, that in fact not quite any category can undergo SF. As mentioned, the auxiliaries *vera* and *hafa* do not undergo SF, nor do infinitival clauses.

(v) *Absence of focus:* Since the fronted category is an expletive, it is predicted not to have any focus or emphasis.

(vi) *Locality:* The prediction is that SF should affect the closest category with a phonological matrix. More exactly, the feature [P] in I will attract the closest category with a phonological matrix. If it is the subject, then the subject moves, if it is the negation, then the negation moves, if it is a participle, then the participle moves, etc. If two categories are equally close to the target, as in the case of a verb and its complement PP or DP, either may move. Hence the fact that, for instance, the negation blocks movement of a participle as well as a PP is accounted for. What need to be explained away are all those cases where the category which undergoes SF to target T is not strictly the closest phonologically realized...
category to T (cf. the problem of the auxiliaries). For example, it is predicted that a verb and its complement are equally good candidates for SF since they are equally close to the target T. But in fact, without additional assumptions, the theory predicts that neither should undergo SF separately, but instead the VP containing both the verb and its complement should do so, being closer to T than its constituent parts.

(vii) *Extraction:* Since SF is movement of an expletive to Spec,IP it is predicted that it should not affect extraction. The theory does not, however, predict a difference between SF and expletive pronoun insertion with regard to extraction.

As noted by Jónsson 1991, not only does SF not affect the discourse-semantic properties of the sentence, but SF also does not affect the scopal properties of the category moved. For instance SF of the negation has no effect on the scope of the negation. From the point of view of LF, or more generally, semantic interpretation, it is as if SF had not occurred; in Sauerland and Elbourne’s (2002) terms it is subject to total reconstruction. This is consistent with the idea that the moved category is an expletive, and as such invisible at LF.

Why, however, if the moved category is an expletive, is an expletive pronoun not an alternative to SF in subject extraction sentences? In Holmberg (2000) I note that some languages in fact have an expletive subject pronoun in subject extraction sentences. The following is an example from the Romansh dialect Vallader, provided by Taraldsen (2002):

(48) a. Qual giat crajast **chid** es gnù per prùm?

    which cat think-you that is arrived first

    b. [CP ch- [IP id es+I VP]]

As Taraldsen shows, the form *chid* is a contracted form of the complementizer *ch(a)* and the expletive pronoun *i(d)*. This form is used only when there is a subject gap, that is in subject extraction sentences and impersonal sentences. Taraldsen’s analysis of (48a) is shown in (b): the expletive pronoun occupies Spec,IP. This suggests that the absence of the expletive pronoun option in the Icelandic subject extraction sentences is a historical accident, or an
effect of some relatively superficial parameter: see Holmberg (2000) for discussion and references. Ott (2009) points out that it follows if it is the case that the Icelandic expletive *pað*, unlike the corresponding expletive in Mainland Scandinavian, is merged as a spec of IP but obligatorily moves to specCP, as argued by Platzack (1987). In that case, the expletive cannot be combined with wh-placement to specCP, ruling out the word order in (31c), repeated here as (49b). (31b), repeated here as (49a), is licit because SF does not involve specCP.

(49) a. Hver heldur lögreglan að *framið* hafi glæpinn?

   who think the.police that committed has the.crime

   ‘Who do the police think that committed the crime?’

   b. *Hver heldur lögreglan að *pað* hafi framið glæpinn?

   Who think the.police that EXP has committed the.crime

Larsdóttir (2010) discusses the contrast between (49a,b) in the context of a theory where sentential constituents enter into a variety of feature-matching relations. Movement to the left periphery, which includes subject movement and SF, is associated with several such relations. SF satisfies one such relation, expletive *pað* satisfies one more, and the subject one more still. Informally speaking, the reason for the contrast between (49a,b) is that *pað* is too much of a nominal subject to allow movement of the thematic subject to move across it (Larsdóttir 2010: 180). See also Franco (2009) for discussion of the interplay of SF and expletive insertion.

7 Is SF a PF-operation?

The fact that SF appears to have no effect on the semantic interpretation of the sentence suggests that SF does not belong to narrow syntax (in Chomsky’s 2000 terminology) but to the phonological component, following spell-out.11
This hypothesis is rejected in Holmberg (2000), for reasons which I will comment on below. There is a problem, however, pertaining to the theory in Holmberg (2000), concerning SF in connection with subject extraction, which disappears if SF is relegated to the phonological component. Assume, for the sake of argument, that SF is a movement in narrow syntax, prior to spell-out. By standard assumptions the underlying order of the embedded sentence in (10), repeated here as (50a) is (b), prior to SF and wh-movement: the agentive wh-phrase is merged as a specifier of the functional verb v in a layered VP; see Hale and Keyser 1993; Chomsky 1995, ch. 4).

(50) a. Hver heldur þú að stolið hafi hjólínu?
   who think you that stolen has the bike

   b. [IP hafi+I [vp hver v [vp stolið hjólínu]]]

Assuming a derivational theory observing strict cyclicity, at the point when SF applies, the closest visible category to the SF target is the as yet unmoved wh-phrase, which therefore should block movement of any lower category, which apparently it does not do in (50a) (but perhaps does do in subject extraction clauses where SF has not applied, for instance (5a, b)).

This problem disappears if SF is considered as an operation of the phonological component, following spell-out. Given that wh-movement is an operation in narrow syntax, we do not expect any interaction between wh-movement and SF: at the point when the structure is spelled out, there is only the trace (or copy) of wh-movement in Spec,vP, which does not count as a visible category.

This will also solve a related problem pertaining to theories where SF is movement to Spec,IP: by standard assumptions the relativized subject or extracted wh-phrase moves through this position. But if SF is movement to Spec,IP in narrow syntax, it will erase the trace, which arguably should not be allowed (alternatively it will block wh-movement to Spec,IP, depending on which applies first). In the phonological component the trace of wh-movement is invisible/not represented, and hence cannot prevent SF to Spec,IP.
Finally, the fact that SF appears to be interested only in whether a category is overt (has a phonological matrix) or not, paying virtually no attention to its syntactic categorial features, is consistent with the hypothesis that it belongs to the phonology rather than narrow syntax. But, as discussed, SF is not totally blind to non-phonological features: in particular, the fact that the auxiliaries *hafa* ‘have’ and *veura* ‘be’ do not undergo SF seems to show that SF is sensitive to the presence or absence of semantic features. This is one of the arguments in Holmberg (2000) against locating SF in the phonological component. Another argument is that SF clearly is sensitive to syntactic hierarchic structure, not just to linear order. Consider for example the fact that either of two sister categories may undergo SF, while a (visible) category c-commanding the two sisters will block movement of either of them.

We may conclude that if SF applies in the phonological component, as part of the derivation of PF, then the phonological component must have a subcomponent with operations which are syntactic in the sense that they operate on syntactic categories (words and syntactic phrases), are dependent on syntactic hierarchic structure, and have access maybe not to individual semantic features but to the presence or absence of semantic features. They would differ from the operations of narrow syntax in that they have no effect on LF: they affect only form, not content. In this sense (only) they are phonological. Chomsky (2000, 2001b) argues that head movement in general may belong to such a component, as suggested by the fact that it is typically triggered by morphological needs (the need to merge an affix and a head) and does not affect the scope or other semantic properties of the moved head. See also Aoun and Benmamoun (1998), who argue for a distinction between syntactic movement and post-spell-out PF-movement.

As we have seen, in impersonal constructions SF alternates with expletive insertion. Apparently they satisfy the same condition. If SF is phonological, then expletive insertion is too, presumably. If the conclusion is that the trigger of SF and expletive insertion is the EPP, then the EPP is phonological. The consequences of locating SF in the phonological component are thus far-reaching, but certainly worth investigating in greater detail.
It was mentioned at the outset that SF appears not to have any semantic interpretive effects, not even any clear effects on information structure, in Icelandic. This is controversial, though. In the following I will briefly review three works which challenge this position.

Hrafnbjargarson (2003, 2004) argues that SF can have a focusing effect. He discusses the following examples:

(51)  

(a) Hann sýndi mér flöskurnar sem hafði verið smyglð inn.  
he showed me the bottles that had been smuggled in
(b) Hann sýndi mér flöskurnar sem inn hafði verið smyglð.  
he showed me the bottles that had been smuggled
‘He showed me the bottles that had been smuggled IN.’
(c) Hann sýndi mér flöskurnar sem smyglð hafði verið inn.  
he showed me the bottles that smuggled had been in
‘He showed me the bottles that had been SMUGGLED in.’

According to Hrafnbjargarson, (51b) is ambiguous: It can have a contrastive reading, focusing the bottles that were smuggled in, rather than out. It can also have a ‘verum focus reading’ (Höhle 1992), which is that he showed me the bottles which had been smuggled in, as opposed to the ones that had not been smuggled in. Similarly (51c) can have a contrastive focus reading and a verum focus reading. These data are also discussed in Fischer (2010: 102-103, and 91).

This is not just an issue about interpretation, but also has consequences for the syntactic analysis, in particular if we subscribe to something like the cartographic theory of information structure (following Rizzi 1997). For Hrafnbjargarson, it provides a crucial argument for assuming that the landing site of SF is not specIP, the standard subject position, but a higher projection, identified as FocP (either the head of the projection, in the case of SF of a head, or its specifier position, in the case of SF of a phrasal constituent). Fischer (2010) draws similar conclusions from data of this kind, in Icelandic and other languages.
It seems not to be the case, though, that (51b,c) necessarily have a narrow focus or verum focus reading, certainly not for all speakers of Icelandic. ENDNOTE 14 If the constituents fronted by SF can have a contrastive focus reading, this may be taken as evidence that that they can move to a designated Focus position (depending on one’s prior assumptions). But it leaves open what the landing site is in structures where there is no focus associated with the fronting. An alternative is that the focus on the constituent fronted by SF is because the constituent happens to have focal stress and the associated focal reading assigned to it in situ, which follows it under movement (as implied by Thráinsson 2007: 389; see note 14). ENDNOTE 15

A partly different account of the information-structural import of SF is presented in Molnár (2010). She argues that SF in Icelandic, and perhaps more generally, should be split into two types, which she dubs ‘fronting’ and ‘inversion’. Inversion would be the cases like (1), (2), and (3): typically the moved item is a single word, and the movement is subject to strict locality (the ‘accessibility hierarchy’). This movement type can, but need not have any effect on the meaning. The effects it can have include contrastive focus, but also backgounding of the moved constituent with the effect that the IP, or a constituent of IP, is focused (see more below on this effect of SF). The other type of movement, “true” Stylistic Fronting, induces emphasis, particularly contrast. Examples of this type, mentioned by Molnár, are (12b) and (13b), repeated here:

(12) b. Þeir sem í Ósló hafa núð segja að . . .

(13) b. Hver heldur þú að þessa eruðu ákvöðun verði að taka?

‘Who do you think has to take this difficult decision?’

As already mentioned, the fact that the SF’d constituent can have focal accent and a contrastive reading does not entail that this is the movement trigger, if it is the case that the same effect can be had without SF, as appears to generally be the case. It is still noteworthy, though, if some subcategory of SF is always associated with emphasis/contrast. This appears to be the case with (12b) and (13b). Molnár claims that they are furthermore not subject to the same locality conditions
as the inversion type movement. However, examples like (39d), repeated here as (52a), and (52b) show that they are subject to SF-like locality, quite unlike A-bar movement. Insertion of a negation or adverb close to the vacant subject position blocks movement of the PP or DP, explained because by locality the negation or adverb have priority to SF.

(52)  

| a. | *Deir sem í Ósló hafa ekkî búið | 
|    | those that in Oslo have not lived |
| b. | *Hver heldur þú að þessi afkvörðu erfðun verði sennilega að taka? | 
|    | who think you that this difficult decision has probably to take |

The data in (26) above were also included to demonstrate that SF of a PP as in (12b) is subject to locality: only the complement of the verb can undergo it. In general, the hypothesis that some instances of SF are cases of A-bar movement, or at least are more akin to A-bar movement than to the more familiar cases of SF in (1)-(4), meets with an overgeneration problem, as discussed above in section 2: A-bar movement can move any argument as well as adverbial XPs, and is unbounded. SF can only move complement XPs subject to very strict locality conditions.

Another recent contribution to the debate is Egerland (2013). Egerland compares fronting in Sardinian and Icelandic.

(53)  

| a. | Certu esti ka teneus abbisungiu de prus dinai. | Sardinian |
|    | obvious is that (we) have need for more money |
| b. | Greinilegt er að okkur vantar meiri peninga. | Icelandic |
|    | obvious is that we need more money |

‘It’s obvious that we need more money.’

On the face of it they are highly similar, meaning that Sardinian has SF, which is not so surprising since SF is an operation widely attested in Romance, although particularly in older varieties of Romance; see section 9 below. However, Egerland shows that on closer inspection the conditions on the fronting are quite different in the two languages. The main difference, Egerland argues, is that the fronting in Sardinian has the effect of placing narrow focus on the fronted constituent while the following IP is backgrounded, but the effect of the fronting in Icelandic is backgrounding of the fronted constituent, placing focus on the following IP: “[A]n item located within the focus domain is
raised from this domain without altering it essentially. The backgrounded element itself does not receive any focal or topical reading.” (Egerland 1913: 67). In this manner the fronting has the same effect as merge of an expletive: It “closes off the left periphery, ensuring that the rest of the sentence in focus.” (Egerland 1913: 68).

The examples that Egerland uses are cases of SF in main clauses (as in (52)) or impersonal sentences. The anti-focusing effect is less perspicuous in cases of SF in subject relatives, such as, say, (1), repeated here.

(1) Þetta er versta bók sem skrifð hefur verið. (J)

this is worst book that written has been

‘This is the worst book that has ever been written.’

The relative clause IP contains no focused element, so the fronting can hardly be characterised as backgrounding, in Egerland’s sense. There is still a case to be made for Icelandic SF as a purely formal or stylistic operation with no information-structural import.

Mölner (2010) and Egerland (2013) both claim that they can explain Holmberg’s (2000) generalisation that purely functional categories such as the auxiliaries ‘have’ and ‘be’ do not undergo SF. Functional categories cannot be focused, only referential categories can be, so arguably functional categories also cannot be backgrounded. Egerland’s apt comparison of the backgrounding effect of SF with that of expletive insertion complicates the issue, though, as the expletive pronoun is, by any measure, a purely functional item.

The following is an exception to the generalization that SF has no semantic effect: in the following example it looks as though a nonspecific DP does not undergo SF, while the specific counterpart does:

(52) a. hundurinn sem minkinn/*minka drap (M)

the dog.N that the mink/minks.A killed

b. hundurinn sem drap minkinn/minka

the dog.N that killed the mink/minks.A

The example is from Maling (1980/90), where it is classified as a case of Topicalization. However, it has the diagnostic properties of SF: it requires a subject gap (see (53)); it is optional (see (54)); it is not found in Mainland Scandinavian (see (55)); it is local in the...
manner of SF, being blocked by an adverb (see (56)); and it permits extraction, at least marginally (see 57)):

(53) *hundurinn sem hann minkinn sýndi

the dog.D that he the mink.A showed

Intended reading: ‘The dog that he showed the mink to.’

(54) hundurinn sem drap minkinn/minka

the dog that killed the mink/minks
The specificity effect is not predicted under the expletive movement hypothesis of Holmberg (2000), nor under the hypothesis that SF is part of the phonology. As Molnár (2010) points out, it is predicted if SF is movement of a backgrounded (hence typically definite) constituent. 16

8 SF as remnant movement

We have shown that SF is not restricted to heads, but moves (some types of) phrases to Spec.IP. According to Holmberg (2000), following Platzack (1987), all SF is movement to Spec.IP, which violates standard assumptions about movement and landing sites in those cases where the moved category is a head. We should therefore seriously consider the possibility that all of the categories moved by SF are, in fact, phrasal, but that some of them consist of nothing but a head.

The categories moved by SF include nonfinite verbs, adverbs, predicative adjectives, prepositions, and verb-particles. The hypothesis that SF moves heads is primarily based on the case of the non-finite verbs, since only in that case does the movement leave behind a complement of the head, as in (58) (= (10b)):

(58) Hver heldur þú að stolið hafi hjólinu?
who think you that stolen has the bike

In all the other cases the fronted category may well be a complete maximal phrase, but consisting of just a head. In the case of adverbs this is entirely uncontroversial; adverbs, including the negation adverb, are known to undergo movement to Spec,CP, triggering V2 in Icelandic and the other Scandinavian languages.

(59) Loksins kom Jón.
finally came Jon

‘Finally Jon came’

The sentential negation, too, can undergo movement to specCP, triggering V2 in Icelandic (and in Scandinavian generally except for Danish); Holmberg and Plat Zack (1995: 17). Thus we may assume that it undergoes SF as an XP, not as a head.

(60) Ekki kann ég að tala rétt.
not can I to speak Russian

In the cases where a preposition has undergone SF it is very likely that we are dealing with PP-movement: 17

(61) a. maðurinn sem um var rætt.
that about was talked
’the man that was talked about’

b. *þeir sem í hafa búið Ósló
those that in have lived Oslo

According to Sigurðsson (1997), a preposition can undergo SF if and only if the complement of the preposition is itself extracted, as in (61a), unlike (61b). This suggests that the analysis of (61a) is (62):
(62) maðurinn, sem [IP [PP um t₃] var rætt t₃]

The situation for particles is similar. It seems that the particle can undergo SF only if the verb-particle complex is intransitive or passive. Cf. (63a), where the verb-particle complex is passive, (63b) where the sole argument is an extrapolated clause, and (63c) where the verb-particle complex is transitive:

(63) a. Verðbólgan varð verið en við hafði verið búist. (M)
    the inflation was worse than PRT had been expected
    b. Fram hefur komið [að fiskað hefur verið í leyfisleysi á
      forth has come that fished has been illegally in
      chilensku fiskisvæði] the Chilean fishing zone
    c. *stelpað sem út hefur sloppið kettinum
       the girl that out has let the cat

This follows if the particle head cannot undergo SF on its own. What does undergo SF is a Particle Phrase, consisting of just the particle and in some cases the trace of an extracted or extrapolated object.

It is not inconceivable that even SF of a participle is derived by first evacuating the VP, then moving the remnant VP to specIP, by SF. This is what Ott (2009) argues for, concluding that SF is never head-movement. Ott’s argument starts from the observation that while the constituents of a verb phrase, the verb or its complement, can undergo SF, the verb phrase never undergoes SF as a whole.

(64) a. þeir sem í Ósló hafa búið
    those that in Oslo have lived
    b. þeir sem búið hafa í Ósló
those that lived have in Oslo

c. * þeir sem búið í Ósló hafa

those that lived in Oslo have

This is noted in Holmberg (2000) as a problem for the statement of the locality condition on SF: The VP is closer to the head triggering SF than any of its constituents, yet does not undergo SF.\footnote{\textit{ENDNOTE 18}}

Ott’s (2009) account of (64a,b,c) has the following ingredients: First he postulates that the complement of a verb always undergoes movement to the edge of VP, following Chomsky (2001). In the case of (64), the result will be (65); the verb undergoes head-movement to v, by standard assumptions (Chomsky 1995: ch. 4).

In this configuration, the complement PP at the edge of vP and its sister vP are equidistant from I, containing the trigger for SF. This is why either of them, can undergo SF, according to Ott (2009): Either the PP moves, deriving (64a), or the vP moves, deriving (64b). Since the relativised subject has moved out of the vP and the complement of the verb has moved to the edge, the only category that the vP now contains that will be spelled out is the verb.

This is the source of the impression that the non-finite verb undergoes SF: It does, but always along with the remnant vP, evacuated by all constituents except the verb. Ott (2009) argues that SF is subject to a ‘heaviness condition’: the phrase undergoing SF must be light, in
some sense which he does not attempt to specify. This would be sufficient to rule out
movement of the entire construct (65). However, Ott also mentions a theoretically more interesting alternative: The construct (65) cannot be moved because it does not have a label. It does not have a label because, following Chomsky (2013), the grammar cannot assign a label to a set made up of two phrasal constituents; the construct is too symmetrical (see also Moro 2000), Still following Chomsky (2013) this also means that one of the constituents has to move, in order to create the asymmetry needed for interpretation of the structure (and, following Moro 2000, in order for the structure to be linearised). The theory therefore even provides independent motivation for SF, although it also raises a number of questions, including how to derive the word order in an ordinary declarative sentence Peir haфа bûð í Ósló ‘They have lived in Oslo’, where the subject undergoes movement to specIP and the order of the verb and its complement does not show evidence of PP-movement.

The heaviness condition is still called upon, though, to account for cases such as the following:

(66) a. Keypt hafa þessa bók margir stúdentar. [RT]

bought have this book many students

‘Many students have bought this book.’


many students bought have this book

(66a) is a case of SF in an impersonal construction, more specifically an impersonal version of a transitive sentence where the subject, instead of moving to specIP to satisfy the EPP, is left in a low position, and instead SF satisfies the EPP. The subject in this case must be indefinite. What (66b) then shows, according to Ott (2009), is that the subject must first evacuate vP to allow SF. Assuming an analysis along the lines of in (65), step 1 in the derivation of (66a,b) is movement of the object to the edge of vP.
Once the auxiliary verb and I is merged, we expect SF to be possible, moving vP to spec,IP to satisfy the EPP. However, prior to SF, the subject must evacuate vP, by rightwards movement with adjunction to a projection higher than vP (see also Platzack 1987). This is step 2, below.

Step 3 is movement of the remnant vP to spec,IP. The result is spelled out as (66a)

2. \[ [\text{IP hafa}+I [\text{AUXP } t_{\text{AUX}} [pessa bók } [\text{vP } \text{margir } stúdentar}> [\text{vP } \text{keypt}+v [\text{vP } t_{\text{OBJ}} ]]]] \]

3. \[ [\text{IP } t_{\text{SUBJ}} [\text{vP } \text{keypt}+v [\text{vP } t_{\text{OBJ}} ]] [\text{I hafa}+I [\text{AUXP } t_{\text{AUX}} [pessa bók } t_{\text{IP }} \text{margir } stúdentar]]] \]

The reason why the subject has to evacuate the vP, according to Ott (2009), is heaviness.ENDNOTE 19

This account of SF of the participle in impersonal constructions may have a few questions marks. For one thing, the heaviness condition itself needs explanation. But on the plus side, the theory allows a unified account of SF as phrasal movement, arguably a less exotic account than the one in Holmberg (2000) in terms of expletive feature movement (see section 6), or a mixed head movement-phrasal movement theory as in Hrafnbjargarsson (2004). The signature properties of SF are accounted for the most part along the same lines as in section 6 above:

i. \textit{The subject gap condition:} As in section 6, SF is triggered by the EPP, formally the feature [P] of I.
ii. Optionality: Ott (2009) adopts Chomsky’s (2008) hypothesis, mentioned in section 6, that subject wh-extraction from IP is derived by two separate movements: A-bar movement of the subject directly from specvP to specCP, and A-movement of the subject from specvP to specIP triggered by the EPP of I. In Icelandic EPP can trigger movement of other constituents than the subject to specIP. If the subject moves to specIP, it will be deleted under identity with the locally c-commanding whP in specCP. If some other constituent moves, we get SF.

iii. Distribution of SF among the Scandinavian languages: In the other Scandinavian languages the EPP of I strictly triggers movement of the subject (Holmberg 2010b).

iv. Categories that undergo SF: The theory predicts that any phrasal constituent which is structurally accessible can undergo SF, provided, crucially, that it is not too heavy.

v. Absence of focus: Since the movement is triggered by the EPP of I, there is no reason to expect it to have any focus or emphasis.

vi. Locality: SF moves the phrasal constituent which is closest to I. This predicts the accessibility hierarchy. If two constituents are equidistant from I, either can move.

vii. Extraction: Since SF is movement to specIP it is predicted that it should not affect extraction from IP.

9. SF in Romance languages

It was noted in Dupuis (1989) and Roberts (1993) that Old French has SF. Lema and Rivero (1991) and Fontana (1993, 1996) showed that this was also the case in Old Spanish.

(68) a. come cil  font qui en queste doivent entrer [Old French: Mathieu 2006]
    like those do who in quest must enter
    ‘Like those who must start the quest do.’

b. que fuerte es & dura de quebrantar  [Old Spanish: Fischer 2010: 125]
that strong is and hard to break‘that is difficult and hard to break’

It is presently widely accepted that SF is a common feature in a variety of old Romance languages, as illustrated by the following examples (the dash in (69b,c) indicates the source of the SF’ed constituent).

(69) a. Per una grande pioggia che venuta era [Old Italian; Franco 2009: 82]
   For a big rain that come was‘Because of a lot of rain that had come’

   b. aquels qui falsament la han ___ encolpada [Old Catalan; Fischer and Alexiadou 2001: 120]
      those who wrongly her have smacked

   c. E [...] dix que anat se n’era ___ ja la nuit ... [Old Catalan; Fischer 2010: 116]
      & said.3SG that gone REFL there’was.3SG already the night
      ‘and he said that the night had already gone’

   d. pues que dicho auemos de los veniales [Old Spanish; Lema and Rivero 1991]
      given that told have.1PL of the venial
      ‘given that we have talked of venal sins’

(69a,b,) exemplify SF in subject relatives. (69c) exemplifies SF in an impersonal construction with a postposed subject (comparable to Icelandic (16)). In (69d) the subject gap is the effect of subject pro-drop. This is a kind of SF not found in Icelandic or any other
Scandinavian language; it could not occur in these languages because they do not have referential subject pro-drop. Constructions which look like SF in main clauses are also found in Old Romance; see (70). I will return to these in the next section.

(70) Dar-te he un exemplo. [Old Spanish: Borsley & al. 1996]
give-you will.1SG an example
‘I will give you an example.’

It is not the case that all Old Romance languages have SF, though. According to Labelle (2005), Early Old French did not have SF. Apparent cases of SF would, instead, be instances of embedded V2.

Let us see how SF in Romance fares with respect to the signature properties of SF based on Icelandic:

i. The subject gap: There is usually a subject gap, but according to Fischer and Alexiadou (2001), Fischer (2010: 143-145) and Labelle (2013) this is not an absolute condition in the Romance languages. This point will be discussed below.

ii. Optionality: SF is optional in Old Romance. See Mathieu (2006: 236-238) for a discussion and examples comparing sentences in Old French where SF has occurred and sentences where SF could have occurred but hasn’t.

iii. Categories: A variety of categories can undergo the movement. In Old French we find SF of participles, infinitival verbs, adverbs, including negation adverbs such as pas, adjectives, and even degree modifiers of adjectives (see (72c) below). There are also clear cases of SF of phrasal constituents: PPs and DPs (Mathieu 2006: 231-232, passim; Fischer 2010: 119-120). There are no clear cases of SF of phrasal constituents in Old Spanish and Old Catalan, according to Fischer (2010: 127).
iv. Focus: SF is argued to have information-structural effects in the different languages, but not necessarily the same ones. This point will be discussed below.

v. Locality: The movement appears to be subject to locality very much as in in Icelandic. This cannot be confirmed by negative data in the case of Old Romance, as the languages are dead. However, Fischer (2010: 120, 125) points out that there seem to be no instances of SF across an adverb; if there is SF in the presence of a sentence adverb, it is always the adverb which undergoes it. There are also no constructions that would be derived by non-clause-bounded SF: Fischer (2010: 120-121, 125). See, however, Cardinaletti (2003: 48) on SF in Modern Italian, apparently subject to less strict locality than, for example, Icelandic.

vi. Extraction: The question whether SF, as opposed to topicalisation, in an embedded clause allows extraction of material out of the clause is not discussed in the literature on Old Romance, as far as I have seen, presumably in part because the required examples would be exceedingly rare in the written records.

As for the subject gap condition, the first point to note is that the Old Romance languages allow SF in sentences with a null referential subject (see (71d)). This is as predicted by the hypothesis in Holmberg (2000) according to which SF is triggered by the feature [P] of I, calling for a phonologically spelled out specIP (see section 6). On the other hand, under this hypothesis we would need an explanation why SF is optional in such sentences. The following is an example where SF could presumably have applied, since the subject is null, but hasn’t.

(71) Je suis le sire à cui volez parler. [Old French: Mathieu 2006: 227]

I am the lord to whom wish.2PL speak

‘I am the lord to whom you wish to speak.’
The intuition we would need to express formally is that the null subject can check [P], let us say, before it gets deleted, but can also leave [P] unchecked, in which case SF steps in.

The second point is that it appears that, even though SF typically occurs when there is a subject gap, it can occur in the presence of an overt subject, as in the following examples, where the subject is underlined (and the SF’d constituent in bold type, as usual).

(72)a.  E amigos, **yo dicho he lo que avía a dezir.**  [Old Spanish: Lema and Rivero 1991]  
and friends I said have it that you had.1SG to say  
‘Friends, I have told you what I have to tell you.’

b.  car el **Infante fuerte es & muy dultadorio** [Old Spanish: Fischer 2010: 126]  
since the Infant strong is and very...’  
‘since the Infant is strong and very...’

c.  et sa **puissance moults es povre**  [Old French: Fischer 2010: 126]  
and his power very is poor  
‘and his power is very poor’

d.  Les .III. galies la ou **entred nous** estion en prison [Old French: Labelle 2013: 10]  
the four boats there where entered we were in prison  
‘the four boats where we were kept in prison’

Various authors agree on taking this to mean that SF is not movement to spec,IP, but to the head of a separate projection in the case of SF of heads, or the specifier of this head in the case of phrasal SF; Mathieu (2006), Franco (2009), Fischer (2010), Labelle (2013).
Poole (2007) points out that if it is the case that initial subjects in null-subject languages of the Romance type are fronted to A-bar position in the C-domain, then sentences like (72a,b,c) may have a subject gap in spec,IP after all. This is particularly plausible in the case of (74a): in a consistent null-subject language (see Holmberg 2010a) a subject pronoun is spelled out only if it is focused or a shifted topic; in both instances we may assume it has moved to the C-domain, leaving a subject gap in spec,IP, which can be filled by SF. This cannot be the case in (72d), though, where the landing site of SF precedes the subject.

As for categories that can undergo SF, an interesting feature observed in some Old Romance is that there are cases where a whole VP has undergone SF, (73a,b), or a remnant VP containing more than just the main verb, (73c). This has been observed in Old French, in particular.

(73)a. qui avoec lui aler devoient [Old French: based on Mathieu 2006: 234]
who with him go must
‘who must go with him’

b. Einsi comme après le sarez, Quant bien leü ce livre arez,[Old French: Labelle, 2013]
just as later it will know when well read this book have
‘as you will now later, when you have read this book well’

c. n’ onques oí parler n’ avoie de chevalier [...] qui [Old French: Labelle, 2013]
and not ever heard speak NEG have of knight who
‘and I have never heard of a knight who...’
For the texts Mathieu (2006) considers, he claims the generalisation is that when two constituents appear to have undergone SF, one is a phrase and the other a head, in that order; see (75a). However, Labelle (2013) and Labelle and Hirschbühler (2013) show that there are many examples of participle fronting (the more neutral term that Labelle (2013) uses for the construction) or ‘Leftward Stylistic Displacement’ (the term used by Labelle and Hirschbühler 2013) in Old French where this generalisation does not hold; see (73b,c). Note also that while in some cases the construction can be analysed as having base-generated OVAux order, e.g. (73a), in other cases it clearly cannot, e.g. (73b,c). Labelle (2013) points out that the Old French construction can be likened to VP-fronting as observed in (modern) Sardinian, as discussed in Egerland (2011).

As for the semantic or pragmatic effect of SF, which obviously can be difficult to determine in data from a dead language, this is linked with the question of landing site for SF. Fischer (2010: 154-159) argues in favour of a sentential phrase called FocusP/ForegroundingP as landing site of SF, situated between the subject position and the complementiser. Mathieu (2006) discussing Old French proposes a designated SF position which he terms TopP, in the ‘Topic domain’ of the left periphery, but distinct from the usual Topic position. Labelle (2013), discussing participle-fronting in Old French, identifies as many as four different landing-sites: two in IP, between the subject and the finite verb or preceding the subject, two in the left periphery, in spec,FinP or spec,FocP.

The differences between Scandinavian SF and Old Romance (the subject gap, the semantic/pragmatic effect, the landing site) raises the question whether they really are the same operation. Indeed, Labelle (2013), Labelle and Hirschbühler (2013), discussing SF-like fronting of participles in Old and Middle French, demonstrate that it is distinct from Icelandic SF, being a set of fronting rules which all happen to be allowed by the grammar of Old and Middle French. Highly relevant in this context is Egerland’s (2013) comparison of (apparent) SF in Sardinian and Icelandic, showing that they are alike in certain respects but different in other respects, which, according to Egerland, is crucially linked with the different information-structural effects of the movement in the two languages, as was discussed in section 7.
9 SF in other languages

Most linguistic research today, certainly within generative grammar, assumes as a guiding principle that languages are more alike than they appear to be on the surface. So an obvious question to ask at this point is, do other languages than a few Germanic and Old Romance ones have something corresponding to SF? There is one phenomenon, quite extensively studied in the context of European languages, which resembles SF at least superficially, namely Long Head Movement (LHM). There is another phenomenon or set of phenomena which also resembles SF, but in a different way, namely phenomena related to *that*-trace. I will deal with LHM first.

1 Long Head Movement

LHM is the name of a construction/operation known from various South and West Slavic languages, Old Spanish, pre-twentieth-century European Portuguese, and Breton, characterized by Borsley et al. (1996) as “a process which moves a verb directly to C over certain intervening heads” (p. 53; all the examples of LHM are from Borsley et al. unless stated otherwise).

(74) a. Napisal som list
    written have.1SG letter
    ‘I have written a letter.’

b. Lennet en deus Yann al levr
    read 3SGM has Yann the book
    ‘Yann has read the book.’

c. Dar-te he un exemplo
    give you will.1SG an example
    ‘I will give you an example.’
In the literature on LHM, Scandinavian SF is never counted as LHM, due to some obvious differences, mainly the fact that SF applies in embedded clauses, while LHM is a root phenomenon (see Jónsson 1991). But as noted, SF applies in main clauses, too, and when it does, the resemblance is striking. LHM and SF have at least the following properties in common:

(i) The moved category is generally a one-word expression (hence looks like a head).
(ii) The movement has no effect on the semantic interpretation. LHM and SF both have the character of last resort movement in order to fill a ‘first position’, unlike Topicalization.
(iii) They are clause bounded.
(iv) They are blocked by a negation.
(v) They are blocked by a fronted XP, for instance a wh-phrase or a fronted DP.

Property (iv) is exemplified by (75a, b), and property (v) by (76a, b):

(75) a. Ne sum procel knigata. [Bulgarian]
                 Neg have.1SG read the.book

     b. *Procel ne sum knigata.

(76) a. Al levr en deus lennet Tom. [Breton]
            the book has read Tom

     b. *Al levr lennet en deus Tom.

In the Slavic and Romance languages LHM is associated with ‘second position clitics’. The movement can be seen as triggered by the need to find a lexical host for an enclitic moved to sentence-initial position, either C or I – although for instance Borsley et al. do not adopt this view. The explanation why LHM is not found in embedded clauses would then be that the complementizer is a licit host for the clitics, and the reason why the negation blocks LHM is that the negation is also a licit host for the clitic. Breton does not have second position clitics, though, so at least in the case of Breton the trigger cannot be the need to find a host for
a clitic. This makes the comparison of Scandinavian SF and Breton LHM particularly interesting. Indeed, Jouitteau (2005, 2008) argues that Breton LHM is closely related to SF. To begin with, it is not specifically movement of a head, but movement of whatever constituent happens to be the closest one to the finite verb fronted to Fin, the lowest head in the articulated CP-domain; it can be a participle, as in (74b), or an adverb or the negation, but it can also be the subject or a PP. Jouitteau adopts essentially the theory proposed in Holmberg (2000), according to which some languages have an EPP condition which rules out V-initial sentences, and therefore triggers movement of a phonologically spelled-out constituent, regardless of its semantic content, to preverbal position, or external merge of an expletive in that position (Breton has a variety of expletives). If Jouitteau is right, it is no coincidence that ‘LHM’ in Breton has properties similar to SF in Icelandic: it is the very same operation, where any differences are due to other differences between the languages. The reason why Breton does not exhibit SF in embedded clauses is that, unlike Icelandic or any of the other languages discussed here, a complementiser can satisfy the ‘phonological EPP’ condition (see also Holmberg, to appear).

9.2 That-trace phenomena

The effect of SF in embedded clauses is to mask or obliterate (depending on the analysis) a that-configuration. If we ignore SF in main clauses and impersonal embedded clauses, we might be tempted to regard this as the function of the movement, in some sense.

Languages resort to a variety of means to avoid that. As already mentioned, there are languages where an expletive pronoun appears in what looks like the position of the subject gap (see (48)). Other languages resort to a resumptive pronoun, for example Northern Norwegian, according to Fiva (1991):

(66) Han Paul trur æ ikke at han har læst denne søknaden.

 he Paul think I not that he has read this application
‘I don’t think that PAUL has read this application.’

And then there are languages where the *that*-*t* effect disappears if an adverb appears between the complementizer and the verb. In connection with English this is known as the adverb effect; see Culicover (1993), Browning (1996). The following examples are from Culicover (1993).

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

b. Robin met the man *[that/who] Leslie said that *(for all intents and purposes) was the mayor of the city.

We cannot detect any movement here. Still, apparently the adverb does something in relation to the subject gap in English, which may be essentially what it does in Icelandic, in an example like (23), except that in the Icelandic example the adverb is moved into that position.

Dutch presents an interesting case. A *that*-*t* structure where the complementizer is followed directly by the finite verb seems to be quite generally unpreferred:

(78) *Wie denk je [dat komt]?

who think you that comes

One way of avoiding this is inserting the expletive *er*:

(79) Wie denk je [dat er komt]?

who think you that EX comes

‘Who do you think is coming?’

For some speakers, a nonfinite verb in front of the finite auxiliary improves acceptability (in subject gap clauses), so that there is a contrast between (80a, b):

(80) a. Wie denk je [dat komen zal]?

who think you that come shall
‘Who do you think will come?’

b. ‘Wie denk je dat zal komen.

For some speakers even just an adverb between the complementizer and the finite verb helps (according to Reuland 1985):

(81) Wie denk je dat morgen komt?

who think you that tomorrow comes

‘Who do you think is coming tomorrow?’

Finally, if there is an object (which by virtue of the word order rules of Dutch will be preverbal), the sentence is fine:

(82) Wie denk je [dat het vlees snijdt]?

who think you that the meat cuts

‘Who do you think cuts the meat?’

See Holmberg (2000) for discussion. Note in particular (80a), which is strikingly similar to SF. But (81) and even (82) can be analyzed as SF, in the sense of movement of a category to the subject gap position, although the movement in this case would be string-vacuous.

It appears, then, that SF is included in a group of operations, including movements and lexical insertions, which all serve to mask or oblitera a that-t configuration. Why such things are needed depends on what the source of the that-t effect is in the first place, a notoriously controversial question. A thorough discussion of this issue goes far beyond the remit of this paper. My own feeling at the present time is, though, that some version of the theory articulated in Rizzi and Shlonsky (2005) is right: the effect is due to the (assumed) fact that the subject once moved to spec,IP cannot be moved further (it is subject to ‘criterial freezing’ in Rizzi and Shlonsky’s terms). For this reason languages resort to various devices to move the subject out of IP without passing through spec,IP, while at the same time satisfying the EPP. One of these devices, available in some languages, is SF. Looking at the examples in this
section, the EPP condition which must be satisfied is something quite different from the
traditional EPP; it is a phonological EPP, perhaps adequately encoded by the [P] feature of
Holmberg (2000), but even as such it is subject to cross-linguistic variation.

In impersonal clauses SF is needed basically for the same reason, to satisfy the EPP when
the subject cannot do it, but in this case because the subject remains in a lower position or a
postposed position for information-structural reasons. As we have seen, SF is subject to the
same conditions in the two cases regarding the choice of categories moved and the locality
conditions, and we can therefore be confident that we are talking about the same operation in
the two cases.

10 Conclusion

In the introduction I posed the following questions, identified as key questions in the study of
SF: What kind of movement is SF? Does it fall into any of the established types of movement
(A-movement, A-bar movement, head movement), or is it a distinct, new type of movement?
Is it movement in the phonological component? What function does it have, or, in other
words, what is the movement trigger? Are there similar movements in other languages?

We can be fairly confident that SF is not head-to-head movement, in spite of the claims that
have been made to that effect in the literature. At least it cannot be head-to-head movement
universally, since unmistakable phrases undergo SF. We have clear examples of SF of PP's and
DPs. But also adverbs undergoing SF, including the negation, can be analysed as maximal
categories undergoing movement. There is also good reason to think that remnant phrases,
including remnant VP (or vP) can undergo SF. This suggests that, possibly, all SF is phrasal
movement. This raises the question why the SF-moving phrasal constituents so often consist of
just one word. Ott’s 2009 conjecture is that it is to do with heaviness, a notoriously slippery
notion.
It may well be argued that SF is a form of A-bar movement: the fronted category does not check case or agreement in the target position, and it is typically (or even always) reconstructed, i.e. interpreted in its pre-movement position. On the other hand, as discussed already by Maling (1980/90) it differs in several crucial respects from classical cases of A-bar movement such as Topicalization and focus movement. For instance, it does not affect scope relations, and at least not necessarily information structure. This is consistent with the hypothesis that SF is in some sense phonological; it satisfies some condition which purely concerns form, and has no direct relation to meaning, similar in this sense to a phonological condition or rule (say, word stress rules or contraction rules). In a T-model grammar this could be formally expressed by locating SF after spell-out, on the PF-side. Some complicating factors were discussed, though, including the fact that SF treats purely functional auxiliary verbs differently from other verbs, implying that it is sensitive to the presence or absence of semantic features, and the fact that some instances of SF of phrasal constituents are consistently associated with specificity and contrast.

It was pointed out that the effect of SF in subject extraction contexts can be characterized as ‘avoiding that’. As discussed, languages seem to use a variety of means to avoid that, some of which look rather similar to SF. If Rizzi and Shlonsky (2005) are on the right track, this is an effect of the EPP. In impersonal clauses SF is a last resort operation to lexically fill the subject position, which is to say, it is there to satisfy the EPP and, in some languages, satisfy V2. It is formally similar to LHM, perhaps more so than has been acknowledged in the literature.

As mentioned, the operation is aptly called stylistic, since its use is governed largely by stylistic considerations. The stylistic considerations vary from case to case, though. Many cases of SF in main clauses, including (4) and (16), belong to a formal, or even archaic, register. But (75) may occur in less formal discourse:21

(75) Greinilegt er að okkur vantar meiri peninga.

obvious is that we need more money

‘It’s obvious that we need more money.’
Angantysson (2011) found that SF in Icelandic is generally considered more or less formal and “sophisticated”, especially by younger speakers. It is much more typical of written than spoken language, and may, slowly, be losing ground to expletive insertion, particularly in impersonal sentences (Angantysson 2011: 155, 183).

The optionality of SF in subject extraction contexts may, in fact, be a peculiarity of Icelandic, related to the fact that that-t is a perfectly acceptable configuration in this language. In Faroese that-t is not acceptable (see Thráinsson et al. 2004: 216f.), and, as shown by Angantysson (2011: 175-179), SF is not optional in Faroese in the same manner as in Icelandic. The Dutch counterparts to SF discussed in section 9 are also not optional in quite the same sense as SF is in Icelandic.

NOTES

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2 The examples are mainly taken from the literature. The source is shown within parentheses. The abbreviations are:

   J = Jónsson (1991)
   M = Maling (1980/90)
   RT = Rögnvaldsson and Thráinsson (1990)
   S = Sigurðsson (1997)

3 There are a couple of small changes in the revised version. One is that the term ‘stylistic inversion’ is replaced by ‘stylistic fronting’. The page numbers refer to the (1990) version.

4 There is topicalization in embedded clauses in Icelandic; see Rögnvaldsson and Thráinsson (1990). The examples are chosen to exclude this possibility, though: it does not occur in relative clauses, adverbial clauses, or in combination with extraction from an embedded clause.
According to Hrafnbjargarson (2003,2004) Icelandic marginally allows SF when the subject is a weak pronoun, the fronted constituent landing to the right of the pronoun. In (i) ‘ann represents a phonologically weaker form than hann ‘he’.

(i)  Allt sem ‘ann/*hann lesið hafði í bókinni var satt.
     all that he / he read had in the.book was true

As noted by Hrafnbjargarson (2004: 117), Icelandic speakers do not all accept such sentences.

Sigurðsson (2010: 177) claims never to have encountered such sentences in any form of ‘live Icelandic’. Platzack (1988) has data from Old Swedish, and Hrafnbjargarson (2004: 114) from Middle Danish which arguably instantiate SF in conjunction with a subject pronoun. Whether they actually do, is questionable; see Poole (2007). Platzack’s (1988) analysis is that the sentences have a subject gap, with the pronoun adjoined as a clitic onto the complementiser.

So (17b) may be construed as an argument that there is no overt wh-movement in main clause subject questions in languages which have SF.

In (25) the adjective is not a complement of the verb, and is thus predicted not to undergo SF. Why, however, cannot the whole small clause move (given that some phrasal categories do undergo SF)? This general question will be discussed in section 8, including note 18.

Rögnvaldsson and Thráinnsson obviously want to avoid this conclusion, but their counterargument is unconvincing.

Neither the infinitive að nála, nor any one of its constituents can undergo SF, for some reason.

Jónsson needed this also to explain why, for instance, the negation blocks SF (analyzed as head movement to I) but does not block verb movement to I (V-to-I). The reason would then be that V-to-I is adjunction to the tense and agreement affix in I, which the negation cannot itself do, while SF is adjunction to V+Tns/Agr, which the negation can do. Therefore the negation blocks SF of a lower head but does not block V-to-I.

The term ‘narrow syntax’ implies that there is something like ‘broad syntax’, which would include at least some of the post-spell-out phonological component; see the text below.
That is a theory where sentences are derived strictly from bottom up by adding categories one by one to a derived structure, and movement is strictly cyclic in that once a movement has targeted a position P in the structure, no subsequent movement can target a position lower than P. See Chomsky (1993).

Cf., however, the classical analysis of wanna-contraction in Chomsky (1976), according to which a wh-trace blocks the contraction.

Thanks to Halldór Á. Sigurðsson (p.c.). Sigurðsson claims not have the verum focus alternative at all, with either (51b or c). thráinsson (2007) makes the same point: “While I agree that the participle can be stressed and get a contrastive focus reading, it is just the same reading that the participle can also get in situ with contrastive stress, and I do not get the other focus reading he discusses (his verum focus),” (p. 389).

Sigurðsson (p.c.) makes an interesting observation, though: verum focus produced the usual way by contrastively stressing the finite verb, cannot be combined with SF. Compare (i) and (ii), where (ii) has verum focus and SF of the participle..

(i) Bara stúdentarnir sem HÖFÐU komið fengu peningana til baka.

‘Only the students that HAD come got their money back.’

(ii) ??Bara stúdentarnir sem komið HÖFÐU fengu peningana til baka

This suggests that there is some interplay between focus and SF after all.

There are theory-internal reasons as well to question the syntactic analysis in Hrafnbjargarson (2003,2004). He assumes that the Focus projection is always generated, and that it may host a weak pronominal subject or the expletive pronoun, when it does not host a constituent that is actually focused. This is effectively denying that it is a a designated Focus projection. If anything, it would seem to be a semantically-pragmatically neutral position which can host variously valued constituents.

As observed by Halldór Á. Sigurðsson (p.c.) there are various complications regarding SF of DPs (perhaps not surprising, given that they are marginal to begin with). For instance, there is a contrast between (i) and (ii), which has to do with abstract vs. concrete reference. On the other hand, as shown by (iii), in this case there is no clear specificity effect.
17 Not rough stripes seem to exhibit the same structure:

(i) þeir sem þessa erfðu ákvörðun verða að taka
    those that this difficult decision have to take

(ii) þeir sem þessa leiðinlegu bók verða að lesa
    those that this boring book have to read

(iii) þeir sem erfðar ákvæðanir verða að taka
    those that difficult decisions have to take

Note, however, that Delsing (2001) has found some examples in Old Swedish of SF of a preposition whose complement is stranded, as in (i):

(i) huiuitna þaz som vnder ær himblenom
    everything that under is heaven
    ‘everything that is under heaven’

Furthermore, Wood (2011) gives an attested example (his example (15)) from Modern Icelandic which seems to exhibit the same structure:

(ii) þar sem um er að ráða einkahlutafélag
    there which about is to talk private.limited.company
    ‘where we are talking about a private limited company’

18 Ott mentions the anti-locality condition on movement argued for by Abels (2003). This condition rules out movement of the complement of a head to the specifier position of that head, the rationale being that if movement of a category α is triggered by a feature F of a head β needing to be checked in a local relation with α, there is no reason to move α if it is the complement of β, as the relation between α and β is then already as local as it can be. Anti-locality will therefore rule out movement of a verb phrase which is the complement of I to spec,IP. It is not the case that anti-locality will straightforwardly rule out (64c), though: The underlying syntactic structure of the sentence is roughly (i), where the transitive verb phrase is taken to consist of two layers, a VP consisting of the verb and its object and a vP consisting of the subject, an abstract light verb v and the VP (Hale and Keyser 1993, Chomsky 1995: ch. 4), and where < þeir> marks the underlying position of the relativised subject (without taking a stand on the precise analysis of relative clauses).

(i) sem [v hafaþI [auxP <hafa> [vP < þeir > búið í Ósló]]]
In this structure the auxiliary verb projects its own phrase, whence it undergoes head-movement to I (Holmberg and Platzack 2005). Anti-locality now rules out SF of the remnant AuxP to spec.IP, but SF of vP would not violate anti-locality.
19 If some version of Chomsky’s (2013) labeling algorithm is assumed, this might also explain
extraposition of the subject: It would be required in order to derive the asymmetry required for
labeling of the predicate.

20 In some of the LHM-languages the negation appears to move along with the verb, though.

21 Faroese has an interesting instantiation of this, noted by Barnes (1987), discussed also by Vikner
(1995: 118) and Thráinsson et al. (2004): in subject relatives the ‘relative complementizer’ sum (the
proper analysis of this category is controversial; see Holmberg 2000 for some discussion) can be
omitted but only if SF applies:

(i) Tær konurnar, sum skulu vera heima, eru burturstaddar.
   those women that should be home are away

(ii) *Tær konurnar, skulu vera heima, eru burturstaddar.

(iii) Tær konurnar, heima skulu vera, eru burturstaddar.

22 See Wood (2011) for examples of SF in conversations of varying formality in Icelandic. The word order in
(75) (predicative adjective-BE-extraposed clause) is possible even in modern Swedish (in a somewhat
formal style), as an alternative to using an expletive pronoun:

(i) Tydligt är att vi behöver mer pengar.
   obvious is that we need more money

(ii) Det är tydligt att vi behöver mer pengar.
   it is obvious that we need more money

See also

Moro, Andrea. Existential sentences and expletive there

Pesetsky, David. Complementizer-trace effects

Rizzi, Luigi. Left periphery of the clause

Thiersch, Craig. Remnant movement
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