

Scandinavian Stylistic Fronting: How Any Category Can Become an Expletive

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The two central theses are (a) the category moved by stylistic fronting (SF) functions as a pure expletive in its derived position, which is [Spec, IP]; (b) what is moved under SF is only the phonological feature matrix of a category. The theory accounts for most of the properties of SF: why it applies only when there is a subject gap; why it affects almost any category, head or phrase; the locality conditions; and the crosslinguistic variation. SF belongs to Narrow Syntax, not the phonological component. Although the features moved by SF are invisible at LF, the specifier position created by SF is visible and is used by other categories that are visible at LF but invisible at PF.

Keywords: Extended Projection Principle, expletive, feature movement, Icelandic, Scandinavian, *that*-trace

1 Introduction

Scandinavian stylistic fronting is an operation that moves a category, often but not always a single word, to what looks like the subject position in finite clauses where that position is empty, namely, in subject relatives, embedded subject questions, complement clauses with an extracted subject, and various impersonal constructions. Stylistic fronting was operative in Old Scandinavian, but among the modern Scandinavian languages it is found only in Icelandic and Faroese. (The examples are Icelandic, except as indicated otherwise.)

- (1) a. [Sá sem ___ er fyrstur að skora mark] fær sérstok verðlaun. (Jónsson 1991)
 he that is first to score goal gets special prize
 ‘The first one to score a goal will get a special prize.’
 b. [Sá sem *fyrstur* er ___ að skora mark] fær sérstok verðlaun.

(1a) contains a subject relative with a gap between the complementizer *sem* and the finite verb. In (1b) the predicative adjective *fyrstur* appears in that same space, by hypothesis moved there

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from the postverbal position. The movement is possible only if there is a subject gap. In (2) the overt subject *hann* ‘he’ blocks the movement.¹

- (2) a. . . . að hann var fyrstur að skora mark.
 that he was first to score goal
 ‘. . . that he was the first to score a goal.’
 b. * . . . að hann fyrstur var ___ að skora mark.

Movement of the adjective in (1b) is an instance of the operation called *stylistic fronting* or *stylistic inversion* in the literature. I will use the former term, abbreviated *SF*. (3) exemplifies SF in a complement clause with the subject extracted; (4) exemplifies it in an impersonal sentence, where it alternates with insertion of an expletive pronoun. (I will indicate the category fronted by SF with italics, and the launching site of the movement with an underlined space. I will gloss expletive pronouns with *EX*.)

- (3) a. Hver heldur þú að hafi stolið hjólinu? (Jónsson 1991)
 who think you that has stolen the-bike
 ‘Who do you think has stolen the bike?’
 b. Hver heldur þú að stolið hafi ___ hjólinu?
 (4) a. *Það* hefur verið tekin erfið ákvörðun.
 EX has been taken difficult decision
 ‘A difficult decision has been taken.’
 b. *Tekin* hefur verið ___ erfið ákvörðun.

I will argue that SF is movement of a category to “subject position,” that is, [Spec, IP]. In essence, the claim is that the element moved by SF functions as a pure expletive in its derived position. As shown in (4), it alternates with the special expletive *það* in some cases. The trigger of the movement is a version of the Extended Projection Principle (EPP). In its original formulation in Chomsky 1981 the EPP stipulates that every sentence should have the form [NP I VP]: every sentence must have a nominal subject in [Spec, IP], either a thematic subject or an expletive pronoun. Subsequent versions of the EPP have generally included a specification that the filler should be a nominal category. For example, in Chomsky 1995 the EPP is encoded as a feature [D] with the property of attracting a DP to [Spec, IP]. In the absence of a suitable DP, an expletive must be merged in order to check the D-feature of I.²

¹ A potential exception to this condition is found in Old Swedish, where the word order C-subject-Adv-V_{fin} can be found, but only when the subject is a pronoun. Platzack (1988) analyzes this as stylistic fronting of an adverb (which is commonplace in Modern Icelandic), the subject gap being created by cliticization of the subject pronoun to C. However, Falk (1993:188ff.) argues that the word order is the result not of stylistic fronting but of nonmovement of the finite V to I (otherwise obligatory in Old Swedish), which was possible only when the subject was a pronoun.

² See Svenonius, to appear, on the history of the EPP. In Chomsky 1998 the EPP, encoded as a feature, does not itself specify that the filler of [Spec, IP] should be nominal.

In the following I will argue that the nominal feature(s) associated with I should be held apart from the requirement that [Spec, IP] be overtly filled. In terms of feature theory, two features are involved: one, a feature attracting (features of) a nominal category to I, and the other, a feature that requires filling [Spec, IP]. In many cases, in many languages, the two features conspire to attract a nominal category to [Spec, IP]. But constructions such as (1)–(4) suggest that the two features can be checked by distinct means: in these constructions the need for a nominal feature in I or [Spec, IP] is satisfied by agreement (in a manner I will detail below), whereas the need for an overt category in [Spec, IP] is satisfied by SF, where virtually the only requirement on the moved category is that it should have a phonological matrix. The claim is that this movement actually moves just the phonological matrix of the category in question, placing it in [Spec, IP], leaving its semantic and formal features in situ. This is what is minimally required to satisfy the requirement that [Spec, IP] be filled, and therefore this is all that happens. The phonological form of the moved category functions as an expletive filler of [Spec, IP]. Alternatively, in some cases a special expletive can be merged in [Spec, IP].

The analysis whereby SF is movement of just a phonological form may seem to imply that SF takes place after Spell-Out, in the phonological component. I will show, however, that apart from affecting just the phonological form of categories, SF has the properties of a regular syntactic operation, being dependent on syntactic structure and formal features in a manner not expected from an operation in the phonological component. SF must therefore take place prior to Spell-Out. Furthermore, I will argue that the effects of SF are visible at LF, in that SF creates a specifier position in overt syntax that is used by covert categories: in subject relatives and embedded clauses with a *wh*-moved subject SF creates a specifier position that is needed for movement of a covert *wh*-operator, and in impersonal sentences SF creates a specifier position for a covert topic.

If this theory is on the right track, it entails that expletives are a much more varied group of grammatical elements than previously recognized. In fact, the claim is that virtually any syntactic category (head or phrase) can function as an expletive. More precisely, the phonological form of any category can be dissociated from its meaning, by movement, and be used as an expletive. I will show that this is not something that is found only in two varieties of Scandinavian, but is very likely a more general phenomenon. The theory also provides support for Attract as a movement trigger. There is no reason to think that the category moved under SF satisfies any needs of its own by the movement, so at least some movement must be triggered exclusively by the needs of the target. Furthermore, the theory presupposes that syntactic operations recognize the presence of a phonological matrix in a category. This is consistent with the traditional yet controversial view that lexical insertion takes place at the beginning of the syntactic derivation rather than at some later stage, as in Halle and Marantz 1993 and Jackendoff 1997:chap. 2. In other words, it is consistent with the view that syntactic categories enter syntactic derivations as words, that is, packets containing not just formal syntactic features but also phonological and (presumably) semantic features. Although the syntactic derivation cannot look into the phonological feature matrix, hence cannot operate on individual phonological features, it can operate on the phonological feature matrix as a unit.

2 The Properties of SF

In this section I describe properties that a good theory of SF should explain.

2.1 The Subject Gap Condition

The subject gap condition was exemplified above by the contrast between (1) and (2). Here are two more examples; (5) should be contrasted with (3b), and (6) should be contrasted with (4b).

- (5) a. Hverju heldur þú að hann hafi stolið?
 what think you that he has stolen
 ‘What do you think that he has stolen?’
 b. *Hverju heldur þú að hann *stolið* hafi ___?
- (6) a. Erfið ákvorðun hefur verið tekin.
 difficult decision has been taken
 ‘A difficult decision has been taken.’
 b. **Tekin* erfið ákvorðun hefur verið ____.
 c. **Tekin* hefur erfið ákvorðun verið ____.

In (5) the extracted *wh*-phrase is not the subject but an object, and SF is impossible. The main clause in (6) has an overt subject, which rules out SF of the participle. That (6b) is ill formed is not surprising, given the Germanic verb-second (V2) condition that rules out any main clause with more than one constituent preceding the finite verb; but note that (6c), where V2 is observed, is also ill formed.

2.2 SF Affects a Wide Range of Categories

We have already seen examples where a predicative adjective or a participle is fronted. (7)–(11) give examples showing SF of the negation, a sentence adverb, a locative verb particle, a PP, and a DP.³

- (7) a. Þetta er tilboð [sem er ekki hægt að hafna]. (Jónsson 1991)
 this is offer that is not possible to reject
 ‘This is an offer that cannot be rejected.’
 b. Þetta er tilboð [sem *ekki* er ___ hægt að hafna].
- (8) a. Hver sagðir þú [að hefði sennilega skrifað þessa bók]?
 who said you that has probably written this book
 ‘Who did you say has probably written this book?’
 b. Hver sagðir þú að *sennilega* hefði ___ skrifað þessa bók?

³ The negation and (other) sentence adverbs may precede the finite verb in relatives other than subject relatives, possibly because V-to-I movement is optional in relatives (and adverbial clauses); see Sigurðsson 1989:44. We can therefore not be certain that the negation in (7) has undergone SF. In embedded questions V-to-I movement is obligatory, though, so the position of the adverb in (8) must be due to SF.

- (9) a. Það hefur komið fram að það hefur verið fiskað í leyfisleysi á chflensku
EX has come forth that EX has been fished illegally in Chilean
fiskisvæði.
fishing-zone
'It has been revealed that illegal fishing has taken place in the Chilean fishing zone.'
b. Fram hefur komið að fiskað hefur verið í leyfisleysi á chflensku fiskisvæði.
- (10) a. Þeir sem hafa verið í Ósló segja að ...
those that have been in Oslo say that
b. Þeir sem í Ósló hafa verið — segja að ...
- (11) a. Þeir sem verða að taka þessa erfiðu ákvörðun (Sigurðsson 1997)
those that have to take this difficult decision
b. Þeir sem þessa erfiðu ákvörðun verða — að taka

SF of DPs is restricted in Icelandic (see Jónsson 1991), but apparently not excluded. Sigurðsson (1997) notes that it helps if the DP has abstract reference (see Holmberg, to appear). According to Falk (1993), SF of DPs can be found in Old Swedish; and according to Barnes (1987), it occurs in Faroese.⁴ That the fronting is SF in (10) and (11) is shown by the fact that it presupposes a subject gap. Compare for instance (12) and (13) with (10) and (11), respectively (see Holmberg, to appear).

- (12) a. *vinnan sem hann í Ósló hefur haft
the-job that he in Oslo has had
b. *vinnan sem í Ósló hann hefur haft
c. *vinnan sem í Ósló hefur hann haft
- (13) a. *þegar hann þessa erfiðu ákvörðun hafði tekið
when he this difficult decision had taken
b. *þegar þessa erfiðu ákvörðun hann hafði tekið
c. *þegar þessa erfiðu ákvörðun hafði hann tekið

⁴ The following is a Faroese example, from Barnes 1987:

- (i) Fá eru tey, sum bøkur hafa — keypt. (Faroese)
few are they that books have bought

The following is an Old Swedish example, from Falk 1993:181:

- (ii) de vj riddara som breffuit baro fram — (Old Swedish)
the six knights that the-letter brought forth
'the six knights who brought the letter'

According to Thorbjörg Hróarsdóttir (personal communication), the word-by-word translations of these sentences into Icelandic are not ungrammatical, but have an archaic ring.

2.3 SF Is Subject to an Accessibility Hierarchy

As first observed by Maling (1980), SF is subject to a hierarchy that she formulated as follows:

$$(14) \text{ negation} > \text{adjective} > \begin{cases} \text{verb} \\ \text{particle} \end{cases}$$

That is to say, if SF applies at all and the sentence contains a negation, then only the negation can undergo SF. Actually this generalization applies not just to the negation but to sentence adverbs in general (the Scandinavian negation is an adverb). If the sentence contains no adverb but does contain a (predicative) adjective, then the adjective undergoes SF. If the sentence contains neither an adverb nor an adjective, the (nonfinite) verb moves; but if the verb is construed with a particle, either the particle or the verb can move; see (17).

- (15) a. *sá sem skrifað hefur (*sennilega) þessa bók*
 he that written has probably this book
 b. *sá sem sennilega hefur skrifað þessa bók*
- (16) a. *Þeir toluðu um hvað hægt hefði (*ekki) verið að gera.* (Jónsson 1991)
 they talked about what possible had not been to do
 b. *Þeir toluðu um hvað ekki hefði verið hægt að gera.*
- (17) a. *kosningarnar sem farið hafa fram* (Jónsson 1991)
 the-elections that gone have forth
 ‘the elections that have taken place’
 b. *kosningarnar sem fram hafa farið*

2.4 No Focus or Foregrounding Effects

SF differs from topicalization, in that the latter in general is associated with some sort of foregrounding, often contrastive focusing, of the fronted constituent, and the former is not.⁵

- (18) *Þessa bók vil ég ekki lesa.*
 this book will I not read
 ‘This book I don’t want to read.’
- (19) *Í Ósló hef ég verið mörgum sinnum, en aldrei í Kaupmannahöfn.*
 in Oslo have I been many times but never in Copenhagen
 ‘I’ve been in Oslo many times, but never in Copenhagen.’
- (20) *Ekki kann ég að tala rússnesku.*
 not can I to speak Russian
 ‘I certainly can’t speak Russian.’

⁵ In Mainland Scandinavian a topicalized object can be just a ‘continuing topic,’ hence often a pronoun, with no contrast implied (see Vallduvit and Engdahl 1996). Icelandic seems to be more restrictive in this regard.

In all of these topicalization cases the fronting has a notable effect on the ‘pragmatic interpretation’ of the sentence, although in other cases the effect can be rather subtle. The previous examples with SF exhibit no such effect. In many cases the word order in a sentence with SF is in every respect as unmarked as the alternative order without SF. In some cases the only effect is that the sentence has a somewhat literary or formal flavor (see Holmberg, to appear).

2.5 No SF in Mainland Scandinavian

All older forms of Scandinavian had SF. The following is an example from 14th-century Swedish (Falk 1993:178):

- (21) en . . . som *likir* war enom hofman (Old Swedish)
 one that alike was a courtier
 ‘one that looked like a courtier’

However, among the modern Scandinavian languages, only Icelandic and Faroese have SF.

- (22) a. den som ar forst att gora mål (Swedish)
 he that is first to score goal
 ‘the first one to score a goal’
 b. *den som *först* ar att gora mål
- (23) a. Hvem tror du (at) har stjålet sykkelen?⁶ (Norwegian)
 who think you that has stolen the-bike
 ‘Who do you think has stolen the bike?’
 b. *Hvem tror du (at) *stjålet* har sykkelen?

The demise of SF in Swedish has been investigated by Platzack (1987) and especially Falk (1993). Their studies show that SF disappeared in the 16th and 17th centuries, along with subject-verb agreement and V-to-I movement (other than in connection with V2). Platzack and Falk both argue that these changes are interconnected. (See also Holmberg and Platzack 1995, Rohrbacher 1994.)

2.6 The Complementary Distribution of SF and the Expletive Pronoun það

In Icelandic and Faroese, clauses that lack a grammatical subject—either because it is extraposed or otherwise VP-internal, or not realized at all (as in impersonal passives)—are generally introduced either by the expletive *það* or by a category fronted by SF.

- (24) a. *Það* hefur komið fram að *það* hefur verið fiskað í leyfisleysi á chflensku
 EX has come forth that EX has been fished illegally in Chilean
 fiskisvæði.
 fishing-zone
 ‘It has appeared that illegal fishing has taken place in the Chilean fishing zone.’

⁶ *That*-trace is allowed in some varieties of Norwegian. No variety allows SF.

- b. *Fram* hefur komið að *fiskað* hefur verið . . .
 c. *Hefur komið fram að hefur verið *fiskað* . . .
- (25) a. Ef *það* er gengið eftir Laugaveginum . . .
 if EX is walked along the-Laugavegur
 ‘If one walks along Laugavegur . . .’
 b. Ef *gengið* er eftir Laugaveginum . . . (Rognvaldsson and Thráinsson 1990)
 c. *Ef er gengið eftir Laugaveginum . . .

In general, Icelandic allows finite-verb-initial main clauses in yes-no questions and in the construction called narrative inversion (see Sigurðsson 1990). Furthermore, impersonal declarative sentences can sometimes be verb-initial under conditions that are somewhat unclear.⁷ As (26a–b) show, the expletive and SF are in complementary distribution: a special case of the subject gap condition on SF.

- (26) a. **Fram* hefur *það* komið að . . .
 forth has EX come that
 b. **Það* hefur *fram* komið að . . .

As is well known, the expletive in Icelandic must be sentence-initial; it cannot follow a verb fronted to C, as for instance in questions (see Platzack 1987, 1992, Holmberg and Platzack 1995: chap. 4, Hornstein 1990, Jónsson 1996, Vikner 1995:57ff.). This condition is violated in (26a). The same holds true of the alternative with SF: the fronted category must be sentence-initial.

- (27) a. Hefur (**það*) komið fram að . . .?
 has (EX) come forth that
 b. *Hefur *fram* komið að . . .?
 has forth come that

Thus, arguably, it is not the presence of the expletive in (26b) that renders SF impossible. On the other hand, the fact that the expletive and SF behave alike with respect to V-movement strongly suggests that they compete for the same position, and more generally that they have the same function in the sentence.

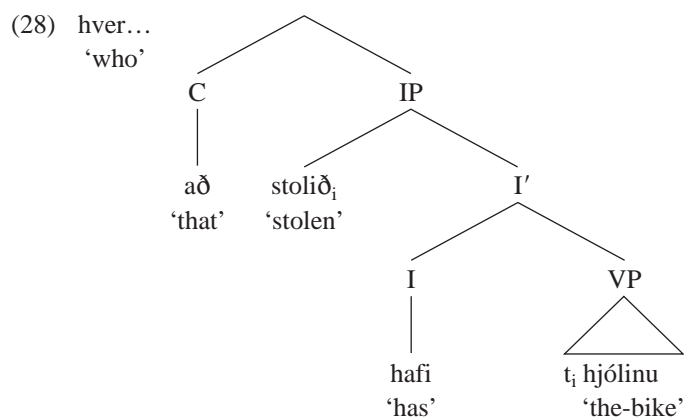
⁷ The following are two examples of V-initial declarative impersonals from Sigurðsson 1990:

- (i) Hofðu því komið margir gestir um nóttina.
 had thus come many guests in the-night
 ‘Thus many guests had arrived in the night.’
 (ii) Var oft komið seint heim.
 was often come late home
 ‘People/They/We often came home late.’

Note that in both (i) and (ii) an adverb intervenes between the finite verb and the VP. Anticipating the exposition of the theory of SF, this suggests that the initial verb is raised to C (contra Sigurðsson 1990), the adverb functioning as an expletive filler of [Spec, IP], in the manner of adverbs fronted by SF.

3 Theories of SF

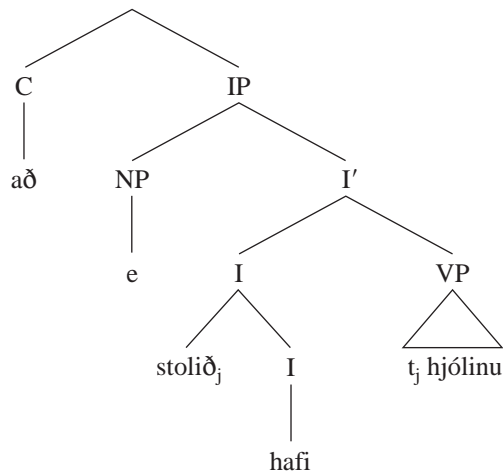
There are basically two theories of SF in the generative literature. According to one—call it *theory A* (represented by Maling 1980, Platzack 1987, and Rognvaldsson and Thráinsson 1990)—SF is movement to the specifier position that is usually occupied by the subject. According to the other—call it *theory B* (represented by Jónsson 1991, Holmberg and Platzack 1995, Poole 1996)—SF is adjunction of a category to I. Consider first theory A, schematically shown in (28).



This analysis is designed to explain the subject gap condition. If SF moves a category to [Spec, IP], there cannot be a subject in [Spec, IP]. The trigger for movement is, presumably, a condition that requires [Spec, IP] to be overtly filled—that is, some version of the EPP. A potential problem is that [Spec, IP] is standardly taken to host the trace of the subject in a case like (28), or in subject relatives. However, as discussed by Rognvaldsson and Thráinsson (1990), given the VP-internal subject hypothesis, one may assume that the *wh*-moved or relativized subject moves out of IP directly from [Spec, VP], without passing through [Spec, IP]. Instead, the most serious problem facing this theory is that it presupposes that heads (e.g., participles, adjectives, prepositions) can move to a specifier position. Head movement to specifier positions is ruled out in standard versions of Government-Binding Theory and the Minimalist Program, and for this reason most recent works have opted for some version of theory B, schematically shown in (29). This theory accounts for SF of heads in a way consistent with standard movement theory, but it obviously does not account for SF of phrases. As noted by Jónsson (1991), within theory B Maling's movement hierarchy can be explained, at least in part, by the Head Movement Constraint (HMC): head-to-head movement of, for instance, a participle across the sentence adverb or an adjective across the negation, as in (15) and (16), can be construed as a violation of the HMC, given that the adverb and the negation are sentential heads. Theory B is also suited to explain the absence of focus or foregrounding effects: SF is a form of cliticization, and clitics typically are not focused. And it accounts elegantly for the absence of SF in the modern Mainland Scandinavian languages. According to theory B, SF presupposes V-to-I movement, since SF needs a lexically realized category to cliticize to. But the Mainland Scandinavian languages do not have V-to-I

movement; and in particular, they do not have it in embedded clauses, where SF could apply.⁸ The Scandinavian languages that have V-to-I movement in the relevant constructions are Icelandic, Faroese, and all older varieties of Scandinavian—that is, just the languages that also have SF.⁹

(29) hver...



As I see it, the greatest drawback of theory B is that it cannot explain the subject gap condition, without the addition of more or less ad hoc auxiliary assumptions. The explanation offered in the references given is that the category adjoined to I blocks some necessary relation between I and [Spec, IP] (Case in Jónsson 1991 and Poole 1996, agreement in Holmberg and Platzack 1995), such that [Spec, IP] cannot contain an overt subject. But why would cliticization of (say) a verb or adjective to I have such an effect? In standard X-bar and movement theory a complex head consisting of a head H plus a clitic has all the properties of H except those that are satisfied/checked by the clitic itself. Quite clearly the SF-moved category does not check Case or agreement with I, so there is no reason why it should affect the Case or agreement relation between I and its specifier.

Another obvious problem is that theory B has no account of the SF-like movement of phrases, as in (10) and (11). Essentially, the theory must deny that this movement is SF, leaving it entirely unclear why this movement, too, requires a subject gap. Furthermore, the explanation of Maling's hierarchy in terms of the HMC fails in the case of (30).

(30) Þeir sem í Ósló hafa (*ekki) búið segja að . . .
 those that in Oslo have (not) lived say that
 'Those that have lived in Oslo say that . . .'

⁸ See Holmberg and Platzack 1995:3–4, 115ff. Assuming a “generalized CP theory” (see Vikner 1995, Vikner and Schwartz 1995), the finite verb is not in I in main clauses either, but in C, although possibly it passes through I on its way to C.

⁹ Faroese is divided into two dialects (not regionally defined), one of which has V-to-I movement and the other of which does not (see Jonas 1996). The prediction is that SF should be productive only in the former. In other words, SF should be “core grammar” in the V-to-I dialect and at best “peripheral” in the no-V-to-I dialect, a difference that presumably should be reflected in the use of the construction. I do not know whether the prediction is right.

This shows that the SF-like movement of the PP is blocked by the negation, just like SF of participles, adjectives, and other heads. This cannot be an effect of the HMC. See Holmberg, to appear, for additional evidence that fronting of PP in subject gap clauses is SF.

Furthermore, theory B has an obvious problem explaining why SF is triggered at all. Many cases of cliticization can be explained as being triggered by the inherently (prosodically or syntactically) defective character of the clitics (see Cardinaletti and Starke 1999), which forces them to attach to a host. But the categories that undergo SF are not defective in any way, as far as I can tell, and do not need to undergo cliticization in other contexts than those that induce SF. So the trigger must reside in the host—that is, I. But why should I want an adjunct, the only effect of which is that of disturbing the relation between I and its specifier?¹⁰

4 A New Theory of SF

The theory of SF to be articulated in this section is closer to theory A than to theory B in the sense that SF is claimed to be movement to [Spec, IP]. The movement is triggered by (a version of) the EPP, which entails that that condition can be satisfied by other categories than the subject; in fact, the satisfier need not even be a nominal category. This is based on the following theoretical premises.

I assume the finite sentence in Scandinavian has the standard structure [_{CP} C [_{IP} I VP]], skirting the issue of whether V, I, and C are each more correctly analyzed as several distinct heads. There is a connection among the notions of finiteness, subject-verb agreement, nominative Case, and subject movement, the precise formal character of which is a matter of much debate. The theory sketched here draws especially on the theories of Chomsky (1995), Alexiadou and Anagnostopoulou (1998), and Holmberg and Platzack (1995). One of its virtues is that it is well designed to account for variation among the Scandinavian languages.

Finite I is (universally) coupled with a nominal feature or set of features. In Chomsky 1995 this feature (set) is labeled [D]. Take [D] in I to be an uninterpretable feature. As such, it must be checked and (thereby) deleted in the course of the syntactic derivation. It therefore attracts a D-marked category to its checking domain—that is, either to I, by adjunction, or to [Spec, IP]. D-marked categories include DPs, including definite noun phrases, pronouns and pronominal clitics, and, in some languages, the verb agreement morpheme. The idea that verb agreement, as a parametric option, can be D-marked, like a pronoun or clitic, is elaborated by Alexiadou and Anagnostopoulou (1998) and, in a slightly different formal framework, Holmberg and Platzack (1995). Consider a language where this option is realized. Assume a lexicalist theory of inflection, where lexical heads are merged with syntactic structures in inflected form. In a language with D-marked agreement, [D] in I can be checked either by means of V-to-I movement or by means of subject movement to [Spec, IP]. As a matter of fact, in many languages the verb and the subject both move, in the unmarked case. I take this to mean that [D] in I attracts all available instantiations

¹⁰ As an additional argument against theory B, a referee points out that it is untypical of clitics to occur in sentence-initial position, the way the fronted category does in, for example, (4b). Clitics are typically found in some form of second position.

of D in its domain (its c-command domain), to I.¹¹ If there is no subject (as in impersonal passives) or if the subject is an indefinite noun phrase and hence lacks the D-feature (assuming, following Chomsky 1995, that indefinite arguments are NPs, not DPs), [D] in I will be checked by virtue of the D-marked verb only. In this case the subject, if there is one, may remain in situ in VP. In many languages such impersonal sentences surface as V-initial (see Alexiadou and Anagnostopoulou 1998, Holmberg and Nikanne, to appear). As shown in (24)–(25) and (31), impersonal sentences cannot be V-initial in, for example, Icelandic (with the exceptions noted in section 2.6) or English.

- (31) a. ef það getur enginn gert þetta (Rognvaldsson and Thráinsson 1990)
 if EX can no-one do this
 ‘if no one can do this’
 b. *ef getur enginn gert þetta
 c. An accident has happened.
 d. *Has happened an accident.

This is due to another feature, the ‘‘EPP-feature,’’ which requires [Spec, IP] to be lexically filled in all finite sentences. I therefore assume that finite I hosts a feature that I will label [*P*] (suggesting *phonological*), an uninterpretable feature checked by a phonologically visible category moved to or merged in [Spec, IP].¹² This would be the case in some languages, namely, those where sentences corresponding to (31a,c) cannot surface as V-initial. In (31a) [*P*] is checked by the expletive pronoun *það*. In (31c) it is checked by the indefinite subject moved to [Spec, IP]. Furthermore, [*P*] is the feature that triggers *overt* movement of a definite subject; I return shortly to the overt/covert distinction. In this view the Icelandic expletive *það* does nothing except satisfy the need for a phonologically visible category in [Spec, IP], formally in order to check and delete the uninterpretable feature [*P*].

Essentially following Holmberg and Platzack (1995), I assume that the Mainland Scandinavian languages differ from Icelandic, Old Scandinavian, and Faroese in not having a D-marked agreement morpheme. As discussed by Platzack (1987), Falk (1993), Holmberg (1994), Rohrbacher (1994), and Holmberg and Platzack (1995), this accounts for a wide range of differences between the two groups of languages. Morphologically it is reflected in the absence of any subject-

¹¹ Compare Miyagawa’s (1998) ‘‘feature uniformity.’’ Taken literally, this means that a D-marked object will be attracted as well, to [Spec, IP]. This is not an option that is realized in the languages under discussion here, except if the quirky subject phenomenon (see Sigurðsson 1989) is seen as an instance of D-attraction of nonsubjects to [Spec, IP]. There are languages, though, where regular object arguments move to [Spec, IP] (see Holmberg and Nikanne, to appear, Ndayiragije 1999). For the languages under discussion here, I assume that D-attraction can be restricted, in a principled way, to the nominative subject. In a partly different framework, Chomsky (1998) uses structural Case as a means to restrict the relation between I (T in Chomsky 1998) and an in-situ subject: T agrees (in the sense of Chomsky 1998) with a DP that has an unchecked Case, effectively the subject, given that the object’s Case is checked before T is merged. This idea could be employed in the present framework as well, with certain modifications.

¹² To what extent the EPP is applicable in nonfinite clauses is a controversial issue: see Bošković 1997, Martin 1997. Under the formalization proposed here, the EPP holds in finite clauses only. SF applies in finite clauses only. In the infinitival clause in (i), for example, SF would place the negation in preverbal position.

(i) Ég lofaði að (*ekki) lesa (ekki) bókina.
 I promised to (not) read (not) the-book
 ‘I promised not to read that book.’

verb agreement morphology in the Mainland Scandinavian languages. Syntactically it is reflected in the absence of (overt) V-to-I raising, in the behavior of the expletive pronoun, and in the absence of SF, among other properties. In the absence of D-marked agreement morphology on the verb, the only way that [D] of I can be checked is by Move or Merge of a D-marked subject to [Spec, IP]. V-movement will have no effect on [D], and in fact the Mainland Scandinavian languages do not even have V-to-I raising (except, arguably, as an intermediate step in V-to-C movement in main clauses).¹³ If the sentence has no thematic subject DP, a D-marked expletive must be merged. As argued by Christensen and Taraldsen (1989) and Holmberg (1994), the Mainland Scandinavian expletive *det* has a full set of ϕ -features and possibly also Case. I therefore assume that it is D-marked as well (although its D-feature, as well as its ϕ -features, are uninterpretable; see Chomsky 1998). The Icelandic expletive *það*, on the other hand, has a defective set of ϕ -features (see section 8) and clearly has no Case. One indication of this is that the Mainland Scandinavian expletive *det*, but not the Icelandic expletive *það*, may be the subject of a perception verb complement or exceptional-Case-marking clause, presumably a Case position.¹⁴

- (32) a. Jag såg *det* sitta en ekorre på taket. (Swedish)
 b. *Ég sá *það* sitja íkorn á takið. (Icelandic)
 I saw EX sit (a) squirrel on the-roof
 ‘I saw a squirrel sitting on the roof.’
 c. Jag anser *det* snoa for mycket i Tromso. (Swedish)
 d. *Ég tel *það* snjóa alltaf mikið í Tromso. (Icelandic)
 I consider EX snow too much in Tromso.
 ‘I think it snows too much in Tromso.’

Now consider a language that is like Modern Icelandic in every relevant respect, except that it does not have an expletive pronoun (as was the case, indeed, in Old Icelandic; see Rognvaldsson 1996). How is [P] checked in such a language in sentences where the subject is for some reason not available for movement to [Spec, IP]? The answer is simple: Move the closest available visible category to [Spec, IP]. This is SF. That is to say, the claim is that the fronted category in (1), (3), (4), and all the other cases of SF is moved to [Spec, IP] in order to check [P]. More specifically, the claim is that the *phonological matrix* of the categories in question is dissociated from the categories’ other features and moved to [Spec, IP]. This presupposes a theory of feature movement; the following conforms to Chomsky’s (1995) theory, with the addition of point 2:

1. Syntactic categories are composed of three kinds of features: formal (or syntactic) features, semantic features, and phonological features (abbreviated *p-features*).

¹³ See Falk 1993 for a detailed study of the connection between loss of generalized V-to-I movement and loss of other [D]-related properties in the history of Swedish.

¹⁴ Chomsky (1998) relinquishes the D-feature in T as a trigger of subject movement. Instead, the trigger of subject raising to [Spec, TP] is a generalized EPP-feature. This feature does not, in fact, specify any properties of the category raised to [Spec, TP] (although for other reasons the raised category is always the subject, in the cases Chomsky discusses). In this respect the feature is similar to the feature [P] proposed here. On the other hand, there is no obvious way to capture the correlation among rich agreement, V-to-I movement, properties of the expletive, and SF without the D-feature in I, or something corresponding to it.

2. Syntactic categories enter syntactic derivations in the form of words—that is, triples of formal, semantic, and phonological features. Syntactic operations deal primarily with formal features. They cannot look into the phonological or semantic feature matrices of words, but they do see the presence or absence of semantic features or p-features in a syntactic category, and they can even operate on the p-feature matrix of a word or phrase.
3. Movement affects features; it affects syntactic categories (heads or phrases) only derivatively—that is, when the moved feature(s) pied-pipe(s) a complete head or phrase, possibly including the p-features.
4. An important economy principle restricting movement is Last Resort, which in terms of feature movement can be expressed as “Move only enough features to ensure convergence.” One effect of this principle is that covert movement—that is, movement without p-features—will generally be preferred over the overt counterpart with p-features (explaining Chomsky’s (1993) principle Procrastinate).¹⁵

Thus, the overtness of a movement must always be explained. Why, for example, is the movement of a definite subject to [Spec, IP] overt in, say, English or Icelandic? Why does [D] not move alone, possibly accompanied by other formal features, as argued by Chomsky (1995), but without the p-features? The answer is the EPP—that is, in the present framework the feature [P], which requires a visible category in [Spec, IP]. In languages that do not have [P] (e.g., VSO languages), we may assume that [D] moves covertly. However, if the formal features can move on their own, without pied-piping the p-features or the semantic features, and do so, unless movement of the p-features is specially called for, then we expect the converse to hold as well: p-features can move without pied-piping the formal features or the semantic features, and do so, unless movement of the formal features is specially called for.

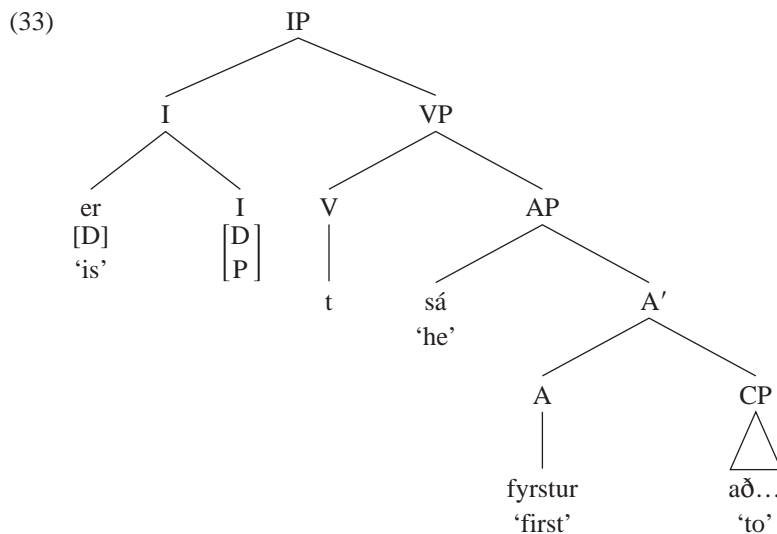
When confronted with these facts related to SF, an obvious question to ask is, What do the categories fronted by SF have in common that singles them out for the operation? The answer seems to be, Nothing, except that they are visible (they have p-features), and that they are c-commanded by, and close to, the targeted [Spec, IP]. According to the theory of the finiteness-agreement-subject connection sketched above, the element required to fill [Spec, IP] in Icelandic need not have any features other than p-features, since the finite verb is able to check the D-feature of I. If this postulated feature [P] can be checked and deleted by a p-feature matrix, and if the p-feature matrix can, in principle, be detached from the other features of a category in the syntax, then Last Resort dictates that only the p-feature matrix moves.

¹⁵ Chomsky (1998) rejects feature movement, mainly on the grounds that it complicates the definition of the notion “chain.” However, if movement is regarded not as copying-with-deletion, as in Chomsky 1993 and subsequent works, but as distribution of the features of a category over more than one syntactic position, then (as far as I can see) feature movement does not pose a problem for the definition of a chain. A chain is a set of features making up a complete category—for example, the complete set of features of a DP. Those features may, however, be distributed over several positions in a sentence, as an effect of feature movement. Typically, the θ -features are located at the foot of the chain, whereas the ϕ -features and the p-features are located at the head of the chain (in the case of an A-chain). Or, in the case of *wh*-movement, the ϕ -features are located at the foot of the \bar{A} -chain, whereas the *wh*-feature and the p-features are located at the head of the chain. See Holmberg 1997 for discussion.

If it is true that SF affects any visible category (some counterexamples will be discussed in section 6), it is virtually impossible that the movement satisfies any needs of the category moved. Minimalist Program work has wavered regarding the trigger of movement. Chomsky (1993) proposed that movement must satisfy the needs of the category moved: so-called Greed. Wilder and Čavar (1994) and Lasnik (1995) showed that there are cases where a movement appears to satisfy only the needs of the target (‘Altruism’ or ‘Enlightened Self-Interest’). In Chomsky 1995 movement is triggered by the needs of the target only (Attract). In Chomsky 1998 covert movement is redefined as Agree, an operation that erases matching uninterpretable features of two categories without movement, but satisfies the needs of both terms of the relation. In particular, Case and ϕ -features are checked (or assigned) through Agree without any need for movement. However, overt movement is triggered by an EPP-feature, a property of the target, and thus satisfies the needs of the target only. This is particularly well motivated in the case of SF.

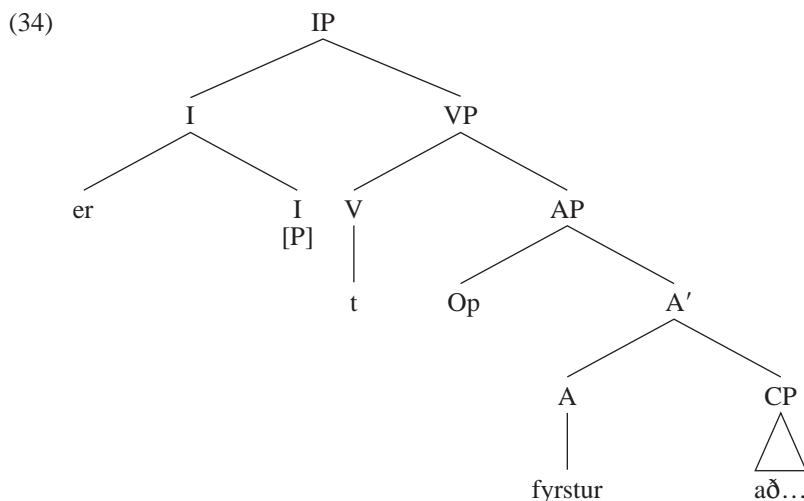
An alternative formal account is that the ‘p-features’ that partake in syntactic operations are not real p-feature matrices, but a special syntactic feature, call it [+sound]. This would be consistent with late lexical insertion, as in Halle and Marantz 1993 or Jackendoff 1997:chap. 2. According to this model, syntax does not operate on words, but on bundles of formal features. Only at a later stage in the syntactic derivation of a linguistic expression, possibly at the very end, are the bundles of formal features linked with phonological and semantic features. Assume that one of the formal features present in the syntax, subject to feature attraction and so on (the EPP), is [+sound]. The position of the feature [+sound] in the chain derived in the syntax then determines where the p-feature matrix is eventually inserted. Here I have opted for a more traditional model where the p-features enter into syntactic derivations together with the other features via the numeration and partake in syntactic derivations, albeit as an indivisible, atomic unit (see also discussion in Chomsky 1995:239ff.), with no need to postulate the feature [+sound].

Consider for example (33), an intermediate structure in the construction of the relative clause in (1a–b).



The finite verb, here the copula *er*, has moved and adjoined to I, where its D-feature checks the D-feature of I, resulting in deletion of both features (both being uninterpretable). To ensure that V-to-I movement is overt, we may assume that I has a feature [+affix], attracting the p-features along with the nominal features to I. The feature [P] cannot be checked by the finite verb adjoined to I, though; instead, it needs a category with p-features in [Spec, IP]. This remains a stipulation in the present theory.

As mentioned, SF is optional in subject relatives. I will assume, provisionally, that this is because there is a choice between Merge of an empty operator (an empty *wh*-phrase) and Merge of an overt subject DP (in the example at hand a demonstrative pronoun).¹⁶ If the category merged is overt, it will be attracted by [P] to [Spec, IP], checking [P], before moving out of the IP to form, eventually, the head of the relative. If the category merged as subject is an empty nominal operator Op, [P] will attract the adjective—or more precisely, the p-feature matrix of the adjective—to [Spec, IP], since in this case the adjective will be the category with p-features that is closest to [Spec, IP].¹⁷ (34) depicts the situation where the subject is Op, V-to-I movement has applied, deleting [D] in I, but movement of the adjective to [Spec, IP] to check and delete [P] has not yet applied. By hypothesis, what moves to [Spec, IP] in this case is the p-feature matrix of the adjective, since this is all that is needed to check [P]. All other features, including the categorial feature(s) of the adjective, remain in the position under AP. Op will eventually move to [Spec, CP]. A more detailed account of the interplay of Op-movement and SF will be given in section 7.



¹⁶ See Rizzi 1990 on the empty operator hypothesis of relative clauses. For a more recent defense of this hypothesis, see Platzack, to appear. The classical arguments for raising of the relative head are based on anaphora, calling for reconstruction of the relative head, as in (i).

(i) the pictures of himself that John likes

Note that this shows only that raising is possible, not that it is the only possible relativization strategy. Besides, the arguments all apply only to object relatives.

¹⁷ More precisely, if the adjective and the complement CP are sisters at the point where SF applies, the adjective and the CP will be equally close. Moving the CP is not an option, however. See section 6.2.

Nothing said so far excludes the possibility that the expletive *það* is merged in [Spec, IP] in (33), checking [P], making SF unnecessary. In fact, this is not an option in Icelandic, but it is an option in certain other languages. I will return to this in section 7, where I will refine the analysis of (34), and section 8, where I will discuss other languages.

The hypothesis that SF is movement of just a p-feature matrix also accounts for how SF can move something that looks like a head to a specifier position. What moves under SF is not a verb or adjective or PP or DP: it is a p-feature matrix with more or less complex internal structure. Chomsky (1995:270) argues that notions such as “head” and “maximal” cannot be defined for features, and he concludes that in the case of feature movement the target always projects. This is clearly true of p-features.¹⁸ On the other hand, can we exclude the possibility that the p-feature matrix undergoing SF is adjoined to I (as under theory A discussed in section 3)? Yes, if the p-feature matrix of a PP or DP has phrasal structure, even though it has no categorial specifications. There is a widely recognized general ban against incorporating phrases into heads, which is presumably motivated primarily by morphology: a word cannot contain a phrase, regardless of categorial features. If so, the p-features of a PP or DP cannot adjoin to I, but must move to [Spec, IP] (or adjoin to IP). Since SF of heads has the same properties as SF of phrases (e.g., with regard to locality, discussed in connection with example (30), and in more detail in section 5.3), we are led to the conclusion that SF of heads, too, is movement to [Spec, IP] (or adjunction to IP). Note that, although standardly heads are banned from specifier positions, there is no morphological motivation for such a constraint. In fact, as long as the “head” does not project, but permits the target to project, phrase structure theory does not prevent substitution of the “head” into a specifier position; see Toyoshima, to appear, for discussion.

Another possibility merits serious consideration: that the “heads” moved by SF are in reality phrases that have been emptied of all material except the head. For instance, in (1b) the fronted adjective would head a remnant AP out of which the complement clause has been moved, in (3b) the fronted participle would head a remnant VP out of which the DP has been moved, and in (9b) the fronted particle would head a remnant particle phrase out of which the complement clause has been moved. Adverbs, in Scandinavian including the negation, are quite possibly correctly analyzed as specifiers (following Cinque 1998). If so, SF would invariably be XP-movement, and theory B would not even be an option. See Hróarsdóttir 1999 and Taraldsen, to appear b, for theories where certain movements, traditionally taken to be head movement, are reanalyzed as remnant XP-movement. I will, however, continue to assume that the feature [P] does not see the distinction between heads and phrases and that therefore heads as well as phrases can be moved by SF to [Spec, IP]. See Holmberg, to appear, for discussion.

5 Explaining the Properties of SF

How does this theory account for the properties of SF listed in section 2? I will discuss them one by one.

¹⁸ Granted, there is a sense in which p-features project, but although projection of syntactic features is asymmetric, the features of the head projecting whereas the features of the specifier or complement do not project, projection of p-features is symmetric: the p-features of the node dominating α and β are simply the union of the p-features of α and β . Even so, this poses a problem for the definition of locality in relation to SF. I will discuss this later.

5.1 *The Subject Gap Condition*

The subject gap condition rules out for instance (35).

- (35) *Hvaða hjóli heldur þú að Pétur stolið hafi/að stolið Pétur hafi?
 which bike think you that Peter stolen has/that stolen Peter has

The explanation is straightforward. If the subject argument moves to [Spec, IP], it will check [P], and there will therefore be no trigger for SF. The subject moves overtly in this case because of the combined effect of [D] and [P]: since the subject is definite, it has the feature [D], attracted by I. In principle the D-feature of the definite subject could move covertly, without pied-piping the p-feature matrix, in which case [P] could still be checked by SF (provided that there is a visible category closer to I than the subject). However, on the natural assumption that one movement is preferable to two movements, the preferred option when the subject is definite is moving the p-features of the subject along with the D-feature, checking [D] and [P] in one fell swoop.

5.2 *SF Affects a Wide Range of Categories*

We have seen that SF affects a wide range of categories. This is where the hypothesis that SF affects only p-features is crucial. The claim is that SF applies in order to check the postulated feature [P], checked by a p-feature matrix. This entails that SF sees no features other than the p-features of syntactic categories. More precisely, it sees only the presence or absence of p-features (we know that SF does not see any individual p-features since it is entirely insensitive to the values of the features, whether they are vowels or consonants, high or low, and so on). Now if SF does not even see categorial features, it follows that it will make no distinction among verbs, adjectives, adverbs, PPs, and so on.

5.3 *The Accessibility Hierarchy*

As mentioned in section 3, Jónsson (1991) proposes to derive Maling's (1980) accessibility hierarchy from the HMC. For instance, in (36) (= (16a)), SF of the participle across the sentence adverb would violate the HMC.

- (36) Þeir toluðu um hvað hægt hefði (*ekki) verið að gera. (Jónsson 1991)
 they talked about what possible had not been to do
 'They talked about what had (not) been possible to do.'

It was also mentioned that this theory cannot account for a case like (37) (= (30)).

- (37) Þeir sem í Ósló hafa (*ekki) búið segja að . . .
 those that in Oslo have not lived say that

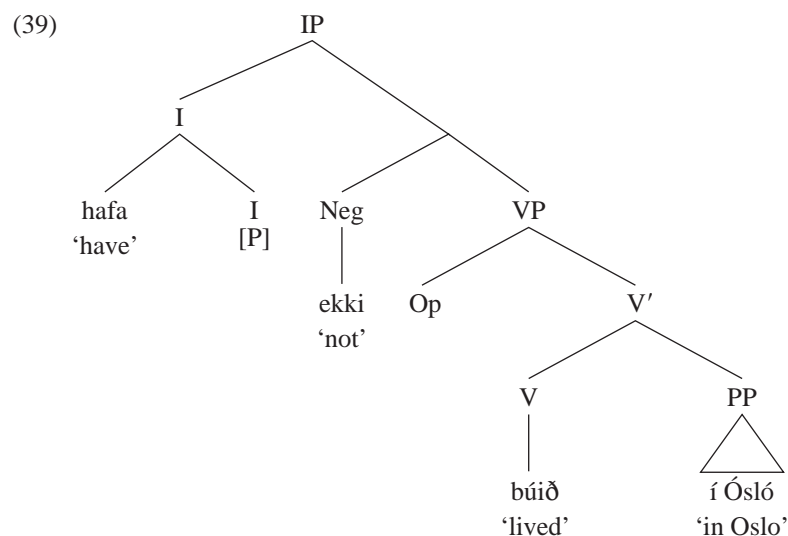
In (36) movement of a head is blocked by the negation, a putative sentential head: on the face of it, plausibly a violation of the HMC. But in (37) movement of a phrase is blocked by that putative head. Conversely, if the negation is not a sentential head (see Holmberg and Platzack 1995:16–17), how can it block movement of a head as in (36)?

Consider these facts in light of feature movement theory. In this theory the HMC falls under the Minimal Link Condition (MLC), as follows (see Chomsky 1995:355–356):

(38) *Minimal Link Condition*

A feature F attracts the closest feature that can check F.

Closeness is defined in terms of c-command: in a configuration $[\alpha \dots \beta \dots \gamma]$ where α c-commands β and γ , β is closer than γ to α , if β asymmetrically c-commands γ . In the case of SF, the attracting feature is [P] in I, attracting a p-feature matrix to [Spec, IP]. In accordance with the MLC it will attract the closest phonological matrix in its domain (i.e., its c-command domain down to and including V). Consider (39), the structure underlying (38) after V-to-I movement but prior to SF.



As discussed, the finite verb checks [D] but cannot check [P]. The p-feature matrix closest to [P] is that of the negation.¹⁹ If there is no negation or (other) adverb in the tree, and if the subject is an empty nominal operator (as is, by assumption, optionally the case in subject relatives), the closest p-feature matrix will be that of the verb or the PP: since they are sisters, they are equally

¹⁹ Jónsson (1991) notes that a parenthetical cannot be inserted between a category fronted by SF and the finite verb.

(i) Ég hélt að byrjað (*eins og María hafði sagt) yrði að opna pakkana strax eftir kvöldmatinn.
I thought that started (like María had said) would-be to open the-presents right after supper
'I thought that we would start opening the presents right after supper (like María had said).'

(ii) Ég hélt að Jón (eins og sannur skáti) myndi hjálpa gomlu konunni að komast yfir götuna.
I thought that Jon (like a true Boy Scout) would help old the-lady to get across the-street

(i) contrasts with (ii), where a parenthetical can be inserted between the subject and the finite verb. Jónsson regards this contrast as support for the analysis that views SF as adjunction to I, and against the analysis that views SF as movement to [Spec, IP]. In the present theory (i) is predicted even though I assume that SF is movement to [Spec, IP]: being closer to I, the p-features of the parenthetical block movement of the participle.

close to [P], so either of them may move. That either the verb or its complement PP may undergo SF is shown by (40).

- (40) a. þeir sem *búið* hafa í Ósló
 those that lived have in Oslo
 ‘those that have lived in Oslo’
 b. þeir sem í Ósló hafa *búið*

Compare (40a–b) with (41a–b). (41b) is correctly predicted to be ill formed, since the PP in this case is not a sister of the verb in underlying form.

- (41) a. þeir sem *hitt* hafa konuna sína í Ósló
 those that found have wife their in Oslo
 ‘those that have found their wife in Oslo’
 b. *þeir sem í Ósló hafa *hitt* konuna sína

If transitive VP has the frequently assumed, more complex structure [_{VP} *v* [_{VP} V XP]] (see Speas 1990, Holmberg and Platzack 1995:22ff., Chomsky 1995), where the verb normally moves to the higher head *v*, then the verb and its underlying complement XP will not be sisters at the point where SF applies. To capture the distinction between cases like (40) and (41), we need to modify the definition of closeness so that *v* and a complement XP, as in (40), are equidistant from I, whereas *v* and an adverbial, as in (41), are not equidistant from I. This is a technical issue that I will ignore here.

Given that the verb and the verb particle in the verb-particle construction are sisters (a not uncontroversial assumption; see Den Dikken 1995), the theory, including the MLC, also predicts (42): either the verb or the particle may undergo SF.

- (42) a. kosningarnar sem *farið* hafa fram
 the-elections that gone has forth
 ‘the election that has taken place’
 b. kosningarnar sem *fram* hafa *farið*

There are some exceptions to this pattern, and some qualifications that need to be made. I will return to these, but first I will discuss a prediction this theory makes, which turns out to be correct. Imagine a finite sentence with an indefinite, non-D-marked subject. The theory predicts that the presence of such a subject argument will block SF so long as it is visible and closer to [P] than any other visible category. But if the subject is not closest to [P], it will not block SF of (the p-features of) a closer category. Icelandic and Faroese both have a construction where the subject is VP-external but does not occupy the highest potential position, which instead is filled by the expletive *það*: the so-called *transitive expletive construction* (TEC), illustrated in (43). Bobaljik and Jonas (1996) and Jonas (1996) argue that the subject in the TEC is in [Spec, TP], whereas the expletive is in [Spec, Agr_S], in the framework of a theory where I is split into two distinct heads, Agr_S and T, following Pollock (1989) and Chomsky (1991), among others.²⁰

²⁰ On Faroese see especially Jonas 1996. Not all Faroese speakers accept the TEC. The ones who do are the ones who also accept V-to-I movement.

- (43) *Það hafa margir stúdentar (þegar) lesið þessa bók.*
 there have many students (already) read this book
 ‘Many students have already read this book.’

That the lexical subject is VP-external is shown by the fact that it precedes the sentence adverb. Let us, for the sake of argument, revise the theory assumed so far to accommodate two sentential heads, Agr_S and T, in place of I. The analysis of (43) will then be (44), following Bobaljik and Jonas (1996).

- (44) [_{Agr_SP} það [_{Agr_S} hafa + Agr_S [_{TP}[margir stúdentar]_i . . . [_{VP} t_i [_{V'} lesið þessa bók]]]]]

The features [D] and [P] would both be hosted by Agr_S (see Alexiadou and Anagnostopoulou 1998). In terms of the present theory, [D] is checked in (44) by the finite verb, and [P] by the expletive. As we have seen, Merge of the expletive alternates with SF in Icelandic. The theory predicts that SF should not be possible in the TEC, though: since the subject is the visible category that is closest to Agr_S, the p-features of the subject are the only ones that can move to check [P]. The prediction is correct: (45a) shows that the subject can move to [Spec, Agr_SP], and (45b) shows that the participle, the next visible category down the tree, cannot move across the subject.

- (45) a. Margir stúdentar hafa lesið þessa bók.
 many students have read this book
 b. *Lesið hafa margir stúdentar þessa bók.

There is another transitive, active construction in Icelandic where [Spec, IP] (or [Spec, Agr_SP]) is occupied by an expletive, but in this construction the subject is sentence-final.

- (46) *Það hafa lesið þessa bók margir stúdentar.*
 there have read this book many students

The analysis of the construction is controversial. Assuming that, at the point where SF applies, the subject is lower than the participle, the prediction is that SF of the participle should be possible, as an alternative to Merge of the expletive. The prediction is correct in that (47), although marginal, is better than (45b).²¹

²¹ If the postposed subject is right-adjoined to VP or some projection higher than VP but lower than Agr_SP, it will technically be closer to Agr than the participle is, and it is thus predicted to block SF of the participle. The present theory thus can be seen as providing an argument against such an analysis. The theory can accommodate an analysis along lines suggested by Kayne (1998), where the sentence-final subject has moved to a Focus position immediately to the left of VP, followed by movement of the VP containing the verb and the object around the subject. Within Kayne's theory, it must be assumed that movement (of the finite verb, for instance) is possible out of the shifted VP, so why shouldn't SF be possible as well?

Incidentally, Poole 1996 contains some potential counterexamples to the claim that SF is subject to the MLC, as expounded here. The most serious one is (i) (from Poole 1996:fn. 17).

- (i) *Þetta er fugl sem seð hafa kannski oft margir Íslendingar.*
 this is bird that seen have maybe often many Icelanders
 ‘This is a bird that many Icelanders may often have seen.’

This is an impersonal, ‘sentence-final subject’ construction embedded in an object relative. It seems that the participle must have moved across the two adverbs here, violating the MLC.

- (47) ?*Lesið* hafa þessa bók margir stúdentar.
 read have this book many students

5.4 *No Focus or Foregrounding Effects*

The word or phrase fronted by SF is effectively an expletive, in some cases actually alternating with an expletive pronoun. The absence of focus or foregrounding effects is therefore predicted.

As pointed out by Sigurðsson (1997), the word or phrase moved by SF can in fact be contrastively focused.

- (48) a. . . . sem hafa GERT eitthvað, en ekki bara talað. (Sigurðsson 1997)
 that have DONE something and not only talked
 b. . . . sem GERT hafa eitthvað, en ekki bara talað.

In (48) the contrastively focused participle has been fronted by SF. At first blush this may seem to contradict the claim that the fronted word or phrase functions as an expletive. However, this possibility is predicted by the present theory: SF attracts the closest p-feature matrix to [Spec, IP], blindly, paying no attention to the composition of the p-feature matrix. In the case of (48), let us say the feature [stress] is part of the p-feature composition of the main verb. As predicted, this has no effect on SF. The reason that the fronted main verb can bear contrastive stress, unlike an expletive pronoun, is that it is part of a chain with formal and semantic features, which can be focused. That is to say, the head of the chain (*gert*, *t*) in (48b) is not focused; the chain as a whole is. Since the head is where the p-features are realized, that is where the phonological reflex of the focus is (primarily) realized.

5.5 *The Mainland Scandinavian Languages Do Not Have SF*

As proposed in section 4, the crucial difference between Icelandic, Faroese, and Old Scandinavian, on the one hand, and the modern Mainland Scandinavian languages, on the other hand, is that the languages in the former group have a D-marked finite verb, the D-feature carried by the agreement affix, which checks [D] in I. In constructions where an expletive is needed to check [P] (because the subject argument, for some reason, is not attracted to [Spec, IP]), these languages can therefore resort to SF. Alternatively, a special expletive is merged, which need have no other features than a phonological matrix. In the Mainland Scandinavian languages [D] in I can be checked only by movement of a DP to [Spec, IP] or by Merge of a nominal expletive.

In fact, I will argue in section 8 that the Mainland Scandinavian languages have a restricted form of SF in certain embedded clauses. Since I will also claim that these clauses have a covert subject checking [D], this is consistent with the theory expounded here.

5.6 *The Complementary Distribution of SF and the Expletive Pronoun það*

Since the word or phrase fronted by SF performs the same task the expletive pronoun does—checking [P]—SF and the expletive pronoun are predicted to be in complementary distribution. The

fact that SF and the special expletive *það* are in complementary distribution only in impersonal clauses is not predicted by anything said so far. I will return to this in section 7.

Why is Merge of the expletive or SF possible only in sentence-initial position?

- (49) a. Hvenær hefur (**það*) komið fram að . . . ?
 when has EX come forth that
 ‘When has it appeared that . . . ?’
 b. *Hvenær hefur fram komið að . . . ?
 c. Hefur (**það*) komið fram að . . . ?
 has EX come forth that
 ‘Has it become clear that . . . ?’
 d. *Hefur fram komið að . . . ?

There is no obvious answer to this question in the present framework, and I will therefore put it aside (but see section 7 on SF in direct subject questions).²²

The ill-formedness of (49b) would seem to follow elegantly under the analysis where the category moved under SF is left-adjoined to I containing the finite verb (theory B in section 3): presumably, the finite verb cannot then be excorporated without pied-piping the SF adjunct, so the order in (49b) cannot be derived. Assuming with Hornstein (1990) that the expletive is also an adjunct to I, (49a) follows as well. But as we have seen, phrases may be moved by SF, and they, too, do not cooccur with V-to-C movement.

- (50) *Hafa í Ósló búið margir listamenn?
 have in Oslo lived many artists

In this case we cannot very well appeal to head adjunction as an explanation. Besides, without auxiliary assumptions, theory B does not rule out the possibility that I containing the fronted, cliticized category moves to C in questions or V2 declaratives. That is to say, it predicts that, for example, (51a) should be a well-formed *wh*-question and that (51b) should be a well-formed yes-no question with the analysis (51c). Both predictions are entirely false.

- (51) a. *Hvenær fram hefur komið að . . . ?
 when forth has come that
 b. Fram hefur komið að fiskað hefur verið í leyfisleysi á chflensku fiskisvæði?
 forth has come that fished has been illegally in Chilean fishing-zone
 c. [_{CP} Q [_C[fram + hefur]_i] [_{IP} t_i komið að . . .]

²² Platzack (1987) takes facts such as (49a,c) as evidence that the expletive *það* is inserted in [Spec, CP], not [Spec, IP]. This would seem to be falsified by the ability of *það* to head certain types of embedded clauses, for instance, (25a); see Rognvaldsson and Thráinsson 1990. On the other hand, Platzack’s hypothesis could be reconsidered in light of recent theories of the fine structure of the C domain, such as those of Branigan (1996) and Rizzi (1997). It may turn out that the Merge site of *það* and the landing site of SF is a position lower than (certain) complementizers but higher than the landing site of the finite verb in questions. Partly for simplicity of presentation I have chosen to ignore this possibility here.

6 Two Exceptions to the MLC in Connection with SF

6.1 SF of Auxiliaries

There are some categories that are invisible to SF although they have p-features. The clearest cases are the auxiliaries *vera* ‘be’ and *hafa* ‘have’. Consider for instance (4b), repeated here.

- (52) Tekin_i hefur verið t_i erfið ákvorðun.
 taken has been difficult decision
 ‘A difficult decision has been taken.’

Here the auxiliary *verið* ‘been’ is closer than the participle to I, yet it does not block SF of the participle. In (53) the auxiliary *hafa* ‘have’ is closer than the participle to I, yet it also does not block SF of the participle.

- (53) Þeir sem skrifað_i munu hafa t_i verkefnið á morgun
 those that written will have the-assignment tomorrow
 ‘those who will have written the assignment by tomorrow’

In a sense these are not exceptions to the MLC as formulated in (38), since *vera* and *hafa* cannot themselves undergo SF.

- (54) a. *Verið hefur tekin erfið ákvorðun.
 been has taken difficult decision
 b. *Þeir sem hafa munu skrifað verkefnið á morgun
 those that have will written the-assignment tomorrow

The p-feature matrix that is fronted in (52) and (53) is thus the closest one that can undergo SF; in that sense they conform to the MLC.²³ The question is, Why can the auxiliaries not undergo SF?

What distinguishes auxiliary verbs from lexical verbs is primarily their lack of semantic/thematic features. This in itself does not prevent auxiliaries from moving, though, as they do undergo movement to I and C when they are finite. In fact, in some languages auxiliaries undergo more movement than lexical verbs. Consider *have/be* raising in English (see Pollock 1989).

- (55) a. She *is* not ___ my sister.
 b. She *has* not ___ been seen lately.

It is generally agreed that *is* and *has* have raised from the positions marked by the gap in these constructions.

I propose that the reason why SF does not touch the auxiliaries is that the auxiliaries lack semantic features, in conjunction with the fact that SF is an “ \bar{A} -type of movement.” In traditional

²³ Jónsson (1991) observed that auxiliaries that cannot themselves undergo SF do not block SF of a lower category. He therefore proposed a modified version of Relativized Minimality prefiguring the attraction-based MLC of Chomsky (1995). This also served to block SF over the negation without blocking V-to-I movement over the negation, in his theory.

terms, the moved item is subject to reconstruction in LF (say, in order to play its proper role in the temporal interpretation of the sentence). In present terms the movement leaves behind the formal and semantic features. Conceivably this is not possible unless the category undergoing p-feature-movement/reconstruction has sufficiently salient formal and/or semantic features.²⁴ Another fact that may play a role is that the movement of the auxiliary in (54a–b) crosses another category of the same formal type, namely, the auxiliary in I; this is not the case in (55).

As shown by Jónsson (1991), in some cases the auxiliary *vera* ‘be’ may undergo SF. He mentions the progressive *vera* in the following construction:²⁵

- (56) Jón var í burtu meðan verið var að mála. (Jónsson 1991)
 Jon was away while been was to paint
 ‘Jon was away while the painting was done.’

The reason is, I suggest, that the fronted auxiliary in (56) has “more content,” by virtue of the aspect feature, than the fronted auxiliaries in (54a–b).

In the present context the prohibition against moving auxiliaries is especially important for the following reason: *it shows that SF is not a phonological operation*. The function of SF, I have argued, is to provide [Spec, IP] with a phonologically visible filler. I have even claimed that no other features are attracted by SF than the p-feature matrix of a given category. This suggests that SF takes place after Spell-Out, in the phonological component. Yet, as shown above, the chain whose head is the p-feature matrix in [Spec, IP] must have a certain number of formal or semantic features—features that are presumably not visible in the phonological component. In other words, it is hard to see how (54a–b) can be ruled out if SF applies after Spell-Out.

6.2 VP Projections Do Not Undergo SF

Consider again the tree in (39). I have argued that the MLC forces [P] to attract the closest p-feature matrix (with the exception discussed in the previous section). Now the first node down the tree from I is, in fact, VP. So why does [P] not attract the complete p-feature matrix of the VP? To take a specific example, why is (57a) not well formed, instead of (57b–c)?²⁶

²⁴ Chomsky (1993) suggests that *have* and *be* move overtly in English because, having no semantic features, they are invisible in covert syntax; so insofar as they must move, they must do so in overt syntax. In those terms the present suggestion is that Icelandic *hafa* and *vera* are not moved by SF because in the absence of semantic features they cannot be reconstructed (i.e., “moved back” in covert syntax). This presupposes that *have/be* raising is not subject to reconstruction whereas SF is.

²⁵ According to Jónsson (1991), a copula in construction with a simple predicative adjective can also be fronted, as in (i), which he contrasts with (ii).

- (i) þeir sem verið hafa veikir
 those that been have sick
 (ii) ??þeir sem veikir hafa verið
 those that sick have been

On the other hand, Thorbjörg Hróarsdóttir’s (personal communication) intuitions regarding this pair are the converse of Jónsson’s. Note also that (iii) is ill formed even for Jónsson (his (12b)).

- (iii) *hvað sem verið hefur hægt að gera
 what that been has possible to do

²⁶ Thanks to Sten Vikner for pointing out this problem.

- (57) a. **Þeir sem búið í þessari borg hafa —, segja að . . .*
 those that lived in this town have say that
 ‘Those that have lived in this town say that . . .’
 b. *Þeir sem búið hafa — í þessari borg, segja að . . .*
 c. *Þeir sem í þessari borg hafa búið —, segja að . . .*

Maintaining the Attract theory of movement, including the MLC, we must say that the p-features of the verb and the PP are not represented at the VP node. Therefore, the verb and the PP continue to be the closest categories with p-features. Why does VP not have p-features? It is clearly not a matter of phrase versus head: since the entire PP is moved by SF in (57c), we must say that the p-features of the component parts of the PP, the preposition and its complement DP, are represented at the PP node.²⁷

So some phrases have p-features and are thereby visible to operations that depend on the presence of p-features, including SF; other phrases do not. I have no deeper insights to offer in this matter. However, it may be significant that Icelandic, unlike the Mainland Scandinavian languages, does not allow regular VP-fronting to [Spec, CP] either (see Holmberg and Platzack 1995:223).

Like prepositions, complementizers and the infinitival marker *að* (homophonous with the finite complementizer *að*) do not undergo SF. Unlike what we find with prepositions, the projection of the complementizer/infinitival marker cannot undergo SF, either.

- (58) a. *sá sem reyndi [að lyfta steininum]*
 he that tried to lift the-stone
 b. **sá sem að lyfta steininum reyndi*

²⁷ It is predicted that a preposition cannot move on its own, being more distant from I than the PP dominating it: the p-feature matrix of the PP blocks SF of the preposition.

- (i) **Þeir sem í hafa búið — þessari borg, segja að . . .*
 those that in have lived this town say that

There are cases where a preposition does undergo SF on its own. However, in these cases the preposition is the only visible constituent of the PP; that is to say, the preposition is stranded.

- (ii) *Þetta eru tillogurnar sem um var rætt —.* (Jónsson 1991)
 these are the-proposals that about was talked
 ‘These are the proposals that were discussed.’

This is predicted. What is moved in (ii) is the p-feature matrix of the PP—technically, the p-feature matrix that is closest to I (as close as that of the verb). Since the complement of the preposition is relativized, the p-features of the PP consist of the features of the preposition only. The structure is (iii) prior to SF, and (iv) following SF.

- (iii) [_{IP} var + I [_{VP} rætt [_{PP} um Op]]]
 (iv) [_{IP}[_{PP} um Op] [_I var + I [_{VP} rætt t]]]

The empty operator Op eventually ends up in [Spec, CP].

The theory also predicts that (v), exhibiting preposition stranding by SF, should be ill formed, violating the MLC. Surprisingly, this turns out to be a false prediction.

- (v) *Þeir sem þessari borg hafa búið í —, segja að . . .*
 those that this town have lived in say that

This is a straightforward counterexample for which I have no explanation at present.

This may be due to the same constraint that rules out SF of VP and IP. It is also not possible to extract a part of the infinitival IP by SF, across the infinitival marker.

- (59) **sá sem lyfta* reyndi [að — steininum] (Jónsson 1991)
 he that lift tried to the-stone

In present terms, although the infinitival marker is itself incapable of moving under SF, it still blocks movement of any lower visible category.

7 On Relatives and Embedded Questions

A crucial assumption in the present theory is that relativization involves an empty operator. More precisely, the claim is that there is a choice (in the languages that have SF in relatives) between two strategies: either movement of an empty operator, or movement of an overt category. The optionality of SF in subject relatives is thus accounted for. When the overt strategy is chosen, an overt DP subject (or overt *wh*-pronoun) is merged in VP and is attracted to [Spec, IP] to check [P] and [D] (the latter redundantly, if the finite verb also checks [D] in I), as described in section 4, before moving on to [Spec, CP]. When the empty operator strategy is selected, SF is triggered to check [P].

Let us consider the Op strategy in more detail. To begin with, it must be generalized to *wh*-questions.

- (60) a. Hver heldur þú að hafi stolið hjólinu? (Jónsson 1991)
 who think you that has stolen the-bike
 ‘Who do you think has stolen the bike?’
 b. Hver heldur þú að *stolið* hafi — hjólinu?
 (61) a. Hann spurði hver hefði sagt fra þessu.
 he asked who had said from this
 ‘He asked who had said this.’
 b. Hann spurði hver *sagt* hefði fra þessu.

As shown, SF is optional when an embedded subject is *wh*-moved, long-distance as in (60b) or short-distance as in (61b). As in the case of relatives, I assume that the *wh*-phrase can be merged in its overt form, in which case it is attracted to [Spec, IP] by [D] and [P] jointly, and subsequently from [Spec, IP] to [Spec, CP] by a *wh*-feature in C. The result is (60a) or (61a), depending on whether the attracting *wh*-feature is in the matrix or the embedded C. Alternatively, the *wh*-phrase is merged in a covert form, as Op. In that case it will also be attracted by [D] in I, but since Op is unable to check [P], SF must apply. Subsequently, Op moves on to a higher [Spec, CP], attracted by a *wh*-feature (or an EPP-feature in C, as in Chomsky 1998).²⁸

²⁸ Two remarks are in order here. First, I leave open the formal implementation of the Op hypothesis in *wh*-questions. There are at least two hypotheses to consider: (a) Op is a full *wh*-phrase lacking only p-features, associated with a phonological form only after reaching its final [Spec, CP]; (b) Op is something like a pure *wh*-operator, which ends up in a *wh*-marked C with a *wh*-phrase merged in its specifier position. The former hypothesis requires a modification of

The following is a proposal to tie Op-movement and SF closer together. The general idea is that SF creates a specifier position that Op can use as an escape hatch, and without which the Op strategy for subject extraction cannot work.

Chomsky (1995) proposes that covert movement (movement without p-features) is adjunction to the head containing the attracting feature. A set of formal features without accompanying p-features is not a phrase; it therefore need not, and cannot, create a specifier position for itself. In the case at hand, [D] in I attracts the D-feature of Op merged in [Spec, VP]. The D-feature pied-pipes the other formal features, including the *wh*-feature. Since no p-features are involved, Op adjoins to I, as shown in (62).

(62) [_{IP} Op + I [_{VP} t_{Op} [_{V'} V . . .]]]

After checking [D] in I, Op should move on at some point, to check a *wh*-feature in C. Excorporation is not allowed, however (see Julien 2000),²⁹ so Op can move to C only if I containing Op moves to C. In embedded clauses I does not move to C, so the derivation of embedded clauses with Op crashes, the *wh*-feature of Op being unable to check (or be checked by) a *wh*-feature in C.

Now consider SF. By hypothesis, SF is triggered by the feature [P] in I. It moves a p-feature matrix to [Spec, IP]; that is, SF creates a specifier position but fills it with nothing but a p-feature matrix. Assume that this makes it possible for Op to move into that specifier position, instead of adjoining to I. The claim is that the p-feature matrix of, say, a participle or an adverb may cooccur with the formal feature matrix of a *wh*-phrase—that is, Op—in the same specifier position. When the time comes for Op to move on, it can do so without excorporation. Cooccurrence of two feature matrices heading distinct chains in the same specifier position is presumably possible only so long as they are strictly complementary: one just formal features, the other just p-features. In this way SF makes possible successive-cyclic covert movement, which is otherwise impossible, because of the combined effect of the inability of covert Move to create a specifier position and the prohibition against excorporation.

Without SF, Op can move to C only if it is part of I—that is, if C has a feature attracting

the theory of lexical insertion: although categories are in general merged as words, complete with p-features, some categories, specifically *wh*-phrases, can be merged as syntactic feature complexes, to be provided with p-features at a later stage.

Second, there is a distinction between what may be characterized as D-marked and non-D-marked *wh*-phrases, which I ignore here. In (i) *who* would be D-marked and *what* non-D-marked. In (ii) *hver* would be D-marked and *hvað* non-D-marked.

- (i) What/??Who is there in Boston?
 (ii) ?Hvað/*Hver sagðir þú að það lægi í bátnum?
 what/who said you that EX lay in the-boat

See Heim 1987 for discussion. The discussion in the text concerns D-marked *wh* and Op. See the text below for a note concerning extraction of D-marked Op across an expletive pronoun in Icelandic.

²⁹ Julien first specifies which word orders/structures we would expect to find if excorporation were possible. She then shows that these word orders/structures are basically not found, in a sample of over 500 languages that she is investigating.

I as well as a *wh*-feature attracting Op. Direct questions are a case in point. In direct nonsubject questions I always moves to C, in Scandinavian. Not implausibly, I moves to C in direct subject questions as well, although the movement is string-vacuous. The prediction is that we should not find SF in direct questions, which is correct: although locality conditions and (by assumption) the subject gap condition are all met in (63), the participle cannot undergo SF.

- (63) *Hver mun *lokið* hafa __ verkefningu á morgun?
 who will finished have the-assignment tomorrow
 Intended reading: ‘Who will have finished the assignment by tomorrow?’

One of the cornerstones of the Minimalist Program is the idea that syntactic categories and operations are all motivated by legibility conditions at the interfaces LF and PF (see Chomsky 1993, 1998). In the case of SF this is achieved by stipulation: a feature [P] is postulated (cf. the EPP-feature of Chomsky 1998), which, being uninterpretable, must be checked and deleted before LF, in order not to violate legibility at that level. This ‘‘explains’’ why SF must apply. But in a sense we now have an explanation of SF (in subject extraction contexts) that goes beyond the EPP stipulation: SF is needed to create a specifier position without which Op cannot be extracted. In this sense SF has a function in the grammar. We still need to postulate the feature [P], though, in order to have a formal trigger for SF; as discussed in Chomsky 1998, even though we can talk about the function of an operation, the grammar still needs formal mechanisms to implement the operation. Note also that SF takes place in certain structures where there is no Op-extraction, for instance, in (4) and (9). Besides, the feature [P] is the feature that triggers overt movement of the subject to [Spec, IP], in the present theory. Thus, it appears that the feature [P] is prior to its function in connection with Op-movement.

Jónsson (1991) notes the contrast between (64a) and (64b) (which he takes to support theory B over theory A; see section 3).

- (64) a. *Hver heldur þú að *það* hafi stolið hjólinu?
 who think you that EX has stolen the-bike
 b. Hver heldur þú að *stolið* hafi hjólinu?
 who think you that stolen has the-bike

Why can Merge of *það* not be used as a device to create a specifier position for Op when SF can be? This follows if *það* has some formal feature(s), in addition to its p-feature matrix, that cannot cooccur with Op in the same specifier position. Assume that it has some nominal feature, perhaps [person], as suggested in Chomsky 1998 (the expletive is after all historically related to the 3rd person singular neuter pronoun *það*). Given that two feature matrices can cooccur only if they are strictly complementary, it follows that *það* excludes Op.³⁰

³⁰ This may also help to explain why SF of NPs and DPs is so restricted: they are not ‘‘distinct enough’’ from Op. On the other hand, if what is moved by SF is only the p-feature matrix of a category, whether the p-feature matrix is detached from a DP or, say, an adverb or a PP should not make a difference.

Note also that the prohibition against extracting *wh*/Op across the expletive pronoun applies only to D-marked *wh*/Op. See footnote 28.

8 SF-Like Phenomena in Other Languages

The function of SF is to fill [Spec, IP] with p-features in constructions where no visible argument is moved to that position. In some constructions, though not all, Merge of an expletive pronoun is an alternative to SF. As discussed above, in Icelandic Merge of the special expletive *það* is not an alternative to SF in subject extraction contexts (except in the cases mentioned in footnote 30). However, there are languages that regularly insert an expletive in connection with subject extraction. Consider the following data from the Romansh dialect Vallader (from Taraldsen, to appear a):

- (65) a. I turnaran quels temps docts. (Vallader)
 EX will-return-PL those times learned
 ‘Those erudite times will return.’
 b. . . . la spranza *chi/*cha* turnaran quels temps docts
 the hope that + EX will-return-PL those times learned
 c. El disch *chid/*cha(d)* es turnà Peider.
 he says that + EX is returned Peter
 ‘He says that Peter has returned.’

Vallader has an expletive pronoun *i* or *id*, the latter form chosen when a vowel follows. When immediately following the complementizer normally spelled out as *cha*, the expletive is morphologically merged with the complementizer, which is then spelled out as *chi* or *chid*. The complementizer form *chi/chid* is also found in subject relatives and complement clauses with an extracted subject.

- (66) a. Qualas mattas crajast *chi/*cha* cumpraran quel crudesch? (Vallader)
 which girls think-you that will-buy-PL that book
 ‘Which girls do you think will buy that book?’
 b. Qual giat crajast *chid/*cha(d)* es gnü per prüm?
 which cat think-you that is arrived first
 ‘Which cat do you think arrived first?’

Taraldsen argues that the form *chi/chid* in these constructions, just as in (65), is the spelling out of *cha* plus the expletive *i/id*. The analysis of, for instance, (66a) would be (67).

- (67) qualas mattas_i. . . ch(a) [_{IP} *i* [_{VP} cumpraran quel crudesch *t_i*]]
 which girls that EX will-buy that book

An obvious piece of evidence that *chi/chid* has the same analysis in (65) and (66) is the shared morphophonemic idiosyncrasy of adding a *-d* in front of a vowel (reflecting the historical source of the expletive, namely, Latin *id*).

Taraldsen proposes that the French *que/qui* alternation has a similar explanation. The form *qui* would be the Spell-Out of *que* plus an expletive *i*, inserted obligatorily in subject relatives and clauses with an extracted subject. The analysis of the embedded clauses in (68a–b) would be schematically as shown in (68c).

- (68) a. *Quelles filles crois-tu qui/*que vont acheter ce livre-là?* (French)
 which girls think-you that are-going to-buy that book-there
 ‘Which girls do you think will buy that book?’
 b. *les filles qui/*que ont acheté ce livre-là*
 c. *qu(e) [IP i [I VP]]*

Another language exhibiting what looks like an expletive pronoun in subject relatives and embedded subject questions is Danish. The form of the Danish expletive pronoun is *der*, as in (69a). As shown in (69b–c), the same form turns up in what looks like the subject position in subject relatives and in embedded subject questions.

- (69) a. *Der ligger en død kat i kælderen.* (Danish)
 DER lies a dead cat in the-cellar
 ‘There is a dead cat in the cellar.’
 b. *[Den kat der ligger i kælderen] er død.*
 the cat DER lies in the-cellar is dead
 ‘The cat that is in the cellar is dead.’
 c. *Ved du [hvem der har stjålet min bog]?*
 know you who DER has stolen my book
 ‘Do you know who has stolen my book?’

The alternative analysis is that the form *der* in (69b–c) is a complementizer: the Danish counterpart to the complementizer *sem/som* found in the other Scandinavian languages, and also found in Danish, except in the context of a subject gap (see Vikner 1991). The homophony with the expletive is accidental, in this view, at least in synchronic grammar. See Taraldsen 1991 for arguments that *der* in (69) is an expletive subject.

The existence of languages with expletive insertion in [Spec, IP] in subject relatives and embedded subject questions obviously supports the contention that the category fronted by SF in Icelandic and its cognate languages functions as an expletive, much as it does in the impersonal constructions where SF alternates with Merge of *það*. On the other hand, we need to formulate a parameter that will allow Merge of an expletive pronoun in Vallader, French, and Danish, but not in the corresponding constructions in Icelandic. Possibly it has to do with the formal feature composition of the expletive. Freeze (1992) has shown that there are two kinds of expletive pronouns: nominal expletives and locative expletives. French has both kinds, *il* and *y*, which in fact can cooccur in the expression *il y a* ‘there is’. If the expletive *-i* postulated by Taraldsen (to appear a) in (68) is an instance of the locative expletive, it is thus not surprising that it can cooccur with Op. In fact, since *y* evidently can cooccur with an adjacent pronoun, *-i* might be able to cooccur even with overt *wh* (although *il y a* may, indeed, be an isolated case). Plausibly, the Vallader expletive *chi(d)* is a locative clitic as well. The idea is that a locative clitic, unlike a nominal clitic, is sufficiently distinct from Op for the two to be able to cooccur in [Spec, IP]. Possibly true locative clitics are indeed the purest expletives in the sense of consisting only of a p-feature matrix, in which case we can maintain that two feature matrices heading distinct chains

can cooccur in [Spec, IP] if and only if they are complementary in the sense that one is a pure formal feature matrix and the other a pure p-feature matrix.³¹

The case of Danish is harder. The expletive *der* is historically related to the locative pro-form *der* ‘there’, yet *der* in (69a) must be nominal and D-marked. There is no reason to believe that the Danish finite verb is capable of checking [D] in I; just as in Swedish and Norwegian the finite verb in Danish has no agreement morphology, and in general Danish patterns with Swedish and Norwegian against Icelandic in nearly every respect with regard to properties related to D-marking (see Holmberg and Platzack 1995). Consequently, in (69a) only *der* can check [D] in I. Thus, if *der* in (69b–c) is an expletive subject (not a complementizer), then we have to acknowledge the existence of two expletives *der* in Danish: one *der*, exemplified in (69a), is D-marked; the other, exemplified in (69b–c), is a pure locative expletive.

There are also languages where the checking of [P] in certain subject gap constructions is achieved by a mechanism that looks very much like SF. Consider *that*-trace constructions in Dutch, a language known to allow *that*-trace even though it is not a null-subject language. It has been observed (see Koopman 1984:203, Reuland 1985) that Dutch does not allow *that*-trace in intransitive embedded clauses. Compare (70a–b) (from Reuland 1985).

- (70) a. Wie denk je [dat het vlees snijdt]? (Dutch)
 who think you that the meat cuts
 ‘Who do you think cuts the meat?’
 b. *Wie denk je [dat komt]?
 who think you that comes

Koopman (1984) discusses the fact that (70b) can be saved by insertion of the locative expletive *er* between C and the verb. Reuland (1985) observes that at least for some speakers any phonologically visible material—for instance, an adverbial—inserted in that space will save the construction.

- (71) a. Wie denk je dat *er* komt? (Dutch)
 who think you that EX comes
 ‘Who do you think is coming?’
 b. Wie denk je dat *morgen* komt?
 who think you that tomorrow comes
 ‘Who do you think is coming tomorrow?’

This is, of course, strongly reminiscent of SF. The following data strengthen the analogy with SF:

- (72) a. Wie denk je dat aan het eten gedacht had? (Dutch)
 who think you that on the food thought had
 ‘Who do you think had thought about the food?’

³¹ Freeze (1992) claims that locative expletives are clitics on I. This analysis cannot be adopted here. In fact, some of the objections raised against theory B of SF in section 3 probably carry over to Freeze’s hypothesis that locative expletives are clitics on I.

- b. ?Wie denk je dat gedacht had aan het eten?
 c. *Wie denk je dat had gedacht aan het eten?

(These data come from personal communication between David Pesetsky and Marcel den Dikken. The judgments are Den Dikken's.) (72) contains an adverbial that may be post- or preverbal. When this adverbial is embedded in a *that*-trace context, the preverbal variant is clearly preferred. Interestingly, Den Dikken finds a contrast between (72b) and (72c). The same contrast is found in (73) (from the same source).

- (73) a. Wie denk je dat komen zal? (Dutch)
 who think you that come shall
 'Who do you think will come?'
 b. ?Wie denk je dat zal komen?

This is strikingly similar to SF in Icelandic, except that the contrasts are perhaps less marked and subject to more dialectal variation: extraction of a *wh*-phrase from an embedded finite clause (across a complementizer) requires Merge of the expletive *er*, fronting of an adverbial (in (71b), (72a)), or fronting of the nonfinite verb (in (72b), (73a)). The analysis, I propose, is essentially the same: the preferred strategy for *wh*-extraction over a complementizer is Op-movement. This requires Merge or Move of an overt expletive element to [Spec, IP], to check [P] and (thereby) create a specifier position serving as an escape hatch for Op. This is accomplished by Merge of *er* or SF of an adverbial or a nonfinite verb. But Dutch has one more option, exemplified by (70a), predicted by the theory I am proposing: (70a) exemplifies SF of the object, attracted to [Spec, IP] because [P] attracts the closest p-feature matrix regardless of what its associated syntactic or semantic features are.³²

An effect similar to (71b) and (72a) can be observed in English as well. Speakers who generally disallow *that*-trace find it more or less acceptable if an adverbial intervenes between C and the finite verb.

- (74) This is the tree that I said that *(just yesterday) had resisted my shovel. (Browning 1996)

The same holds true of Norwegian (see Taraldsen 1980) and Swedish. At least for many speakers, *that*-trace is disallowed or dispreferred unless an adverb (e.g., the negation adverb) intervenes between C and the finite verb.

- (75) Hvem sa du at *(ikke) hadde kommet? (Norwegian)
 who said you that not had come

³² I noted earlier that SF of DPs is rather restricted in Icelandic. For example, the word-for-word translation of (69a) into Icelandic is plainly unacceptable. The reason why Dutch differs from Icelandic in this respect presumably has to do with the fact that OV is the unmarked order in Dutch, whereas in the Scandinavian languages it is VO. I leave this as a topic for future research, though. A referee objects that the hypothesis that the object in (69a) is in [Spec, IP] 'is not supported by any current analysis of Dutch.' But the hypothesis is that (the p-feature matrix) of the object is in [Spec, IP] only when it is not preceded by other phonologically realized material, such as an expletive pronoun, an adverb, or an indirect object, so it may in fact be impossible to falsify, at least by the kind of word order facts that are standardly used to determine the position of a category.

This is known as the *adverb effect* (see Culicover 1992, Browning 1996). I suggest that this phenomenon is closely related to SF: an adverb is used as an expletive filler of [Spec, IP], the movement being triggered by the feature [P], thus making possible extraction of a *wh*-phrase (by the Op strategy, given the theory outlined in section 7) from the embedded finite clause.³³ Other languages resort to Merge of a (locative) expletive in comparable situations (Vallader, French, Dutch, perhaps Danish). The resumptive pronoun strategy used in the Norwegian dialect discussed by Fiva (1991) may be yet another strategy for extracting a subject *wh*-phrase from a finite clause. Furthermore, it is possible that the notorious Swedish and Norwegian element *som*, obligatorily present in subject relatives and embedded subject questions, is not a complementizer, as argued by Taraldsen (1986), but a nonnominal expletive merged in [Spec, IP], where it checks [P].

(76) Jag undrar vem *(som) har varit här. (Swedish)
I wonder who SOM has been here

If the adverb effect is a form of SF, then Mainland Scandinavian and even English have SF, but restricted to adverbials. Then the difference between Icelandic, Faroese, and Old Scandinavian, on the one hand, and the Mainland Scandinavian languages and English, on the other hand, is that (a) only the former have SF in impersonal constructions and (b) only the former allow SF of VP-internal categories, including nonfinite verbs, predicative adjectives, and verb particles. The difference with regard to (a) follows from the theory expounded in section 5: SF in impersonal constructions requires a D-marked finite verb. The difference with regard to (b) does not follow. This is a topic I leave for future research.

See Holmberg, to appear, on the relation between SF and so-called long head movement. In particular, long head movement in Breton (see Borsley, Rivero, and Stephens 1996, Schafer 1995) is strikingly similar to SF as found in impersonal clauses in Icelandic.

9 Conclusions and a Note on SF in Impersonal Constructions

The two main hypotheses advanced here are that (a) the category fronted under SF in Icelandic and its cognate languages functions as an expletive in its derived position, satisfying the ‘‘phonological half’’ of the EPP, formally an uninterpretable feature [P] in I, and (b) SF moves just the p-feature matrix of the category in question. The second hypothesis depends on the first, but not vice versa. Given slightly different theoretical premises, the category moved under SF could be a full category, the movement triggered by an uninterpretable feature [P], essentially as in the theory outlined here. In covert syntax (assuming a theory where overt and covert syntax are distinct, sequentially ordered components in the derivation of LF) the category would then be reconstructed, evacuating [Spec, IP] in LF, but (perhaps) leaving the position visible. The motivation for hypothesis (b) is, primarily, that it is the null hypothesis in the framework of feature

³³ Apparently the presence of a complementizer (almost) completely blocks overt subject movement out of a finite clause in these languages. Op-movement is still possible, but this requires a specifier position created by SF or Merge of an expletive. Deletion or omission of the complementizer is an option in some languages, notably English and Mainland Scandinavian.

movement theory: if all that the EPP calls for is a p-feature matrix in [Spec, IP] (in languages where the feature [D] of I can be checked by the finite verb), then this is all that is moved. Hypothesis (b) is also consistent with the observation that in most cases categorial properties—even whether the moved entity is a head or a phrase—do not matter for SF. On the other hand, there are some cases where categorial properties do seem to matter; every such case is obviously a challenge for hypothesis (b). Furthermore, hypothesis (b) makes possible the analysis whereby the category moved by SF shares a specifier position—namely, [Spec, IP]—with a covert *wh*-phrase (Op), as a step in the derivation of subject relatives, embedded subject questions, and complement clauses with an extracted subject. I have claimed that SF is necessary for the Op strategy to work, since without either SF or Merge of an expletive (which must be a locative expletive), there will be no specifier position for Op to move into, as an intermediate step before its final move to [Spec, CP]. Hypothesis (b) also permits a fairly natural parameterization of the possibility of Merge of an expletive in [Spec, IP] in subject relatives and embedded subject questions, as an alternative to SF.

In some sense SF—and more generally the EPP as construed here—is a ‘‘phonological phenomenon’’: there is a feature [P] in I that requires Move or Merge of a phonological feature matrix to [Spec, IP], either SF or Merge of a pure expletive. However, I have endeavored to show that SF and generally the (present version of the) EPP belong to Narrow Syntax in the sense of Chomsky 1998 and related work. In particular, the interplay of SF with auxiliaries shows that, although SF by hypothesis moves only p-features, it is sensitive to the distinction between purely formal auxiliary verbs and other verbs, a distinction that is presumably not visible in the phonological component. Furthermore, I have claimed that, although the p-feature matrix moved by SF is not itself visible at LF, the specifier position created by SF is visible to covert operations (namely, Op-movement) and is necessary to ensure legibility at LF in connection with subject extraction.³⁴

The explanation of SF in terms of its function in connection with subject extraction does not extend to SF in impersonal constructions, though. This form of SF is still technically motivated by legibility conditions, but only by stipulation: the uninterpretable feature [P] must be eliminated by Merge or Move of a visible category. We would obviously like to have a deeper explanation, preferably related to the one offered in the case of SF in subject extraction contexts: SF or Merge of an expletive is required in the syntax to create a specifier position that is covertly filled. The following is a suggestion, based on ideas articulated in É. Kiss 1997, to appear.

Assume that every finite sentence must consist of a notional subject (or topic, or theme) and a predicate (or comment, or rheme). It must be about some entity, and it must say something about this entity. One common type of sentence has an overt notional subject, which is usually the thematic subject (the thematically highest argument). Another, also common, type of sentence does not have an overt notional subject, namely, impersonal sentences such as *There has occurred*

³⁴ I have remained neutral here between a ‘‘traditional’’ branching model of grammar where the derivation of LF is divided into an overt and a covert component, sequentially ordered and separated by Spell-Out, and the single output model, where overt and covert operations are mixed, applying in a single cycle, terminating in a representation that is the interface to both semantics and the phonological component (see Bobaljik 1995, Groat and O’Neil 1996). Single output syntax is a natural and attractive option in the framework of feature movement theory, though.

an accident and *It's raining*. Assume, as suggested by É. Kiss (to appear), that the latter type of sentence *has* a notional subject, namely, a covert locative-temporal argument *here-and-now* or *there-and-then*, possibly to be identified as the “event argument,” as É. Kiss (to appear) does, following Kratzer (1995). This covert event argument is placed in [Spec, IP], the position of the notional subject, in covert syntax (ignoring here where it comes from: either directly from the lexicon or from some position within VP). Now assume, as before, that neither covert Move nor covert Merge can build syntactic structure: covert operations are restricted to adjunction to a head. A way to create such a specifier position for the event argument is to either move or merge a category that is invisible in covert syntax (in terms of feature movement theory, a pure p-feature matrix), targeting IP, thus creating a [Spec, IP] that can then be covertly filled by the event argument. SF or Merge of a pure expletive provide two ways to do this. Of course, it remains to be shown how this is achieved in all the languages that appear not to have SF or Merge of an expletive in impersonal constructions.

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