

Subject Positions and the Roles of TP

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We propose that the specifier of a VP-external functional projection—Tense Phrase—may host subject NPs under certain conditions. We present empirical evidence that nonspecific subject NPs that have elsewhere been analyzed as remaining VP-internal occupy this position. We also offer theoretical arguments that transitive subjects may never remain internal to the VP at S-Structure in languages for which the Extended Projection Principle holds. Extending work by Bures (1992, 1993), we argue further that [Spec, TP] is implicated as a subject position in NP object shift constructions. Parametric availability of this one position accounts for a cluster of properties within the Germanic languages.

Keywords: expletives, subject positions, object shift, checking theory, [Spec, TP] parameter

In this article we claim that certain well-known aspects of the word order phenomena of selected Germanic languages are attributable to a single parameter: the overt licensing of [Spec, TP] as an A-position intermediate in an articulated IP structure. We claim that this position is necessary for an analysis of full NP object shift and transitive expletive constructions (TECs) within the framework outlined in Chomsky 1993. These two phenomena are illustrated in the following examples from Icelandic:¹

- (1) *NP object shift (NP OS)*
Jólasveinarnir borðuðu búaðinginn_i [_{VP} ekki *t_i]. [Ice]
the.Christmas.trolls ate the.pudding not
'The Christmas trolls did not eat the pudding.'*

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¹ Unless otherwise noted, Icelandic examples are from Höskuldur Thránsson, Eiríkur Rögnvaldsson, Jóhannes Gísl Jónsson, and Halldór Ármann Sigurðsson also also shared their native speaker intuitions for Icelandic. Hubert Truckenbrodt, Uli Sauerland, Susi Wurmbrand, and Irene Heim all shared their intuitions for German. C. Jan-Wouter Zwart

(2) *Transitive expletive construction (TEC)*

Það borðuðu sennilega margir jólasveinar bjúgun.
 there ate probably many Christmas.trolls.the.sausages
 'Many Christmas trolls probably ate the sausages.'

We show further that [Spec, TP] is the lowest position that the subjects of transitive verbs may occupy in the overt syntax, and thus that such subjects cannot surface VP-internally. We discuss this conclusion with respect to the two subject positions delineated by the position of sentential adverbs such as *sennilega* 'probably' in Icelandic or the particle(s) *ja doch* in German, as demonstrated in (3).

- (3) a. *Í gær kláruðu (þessar mýs) sennilega (*þessar mýs) ostinn.* [Ice]
 yesterday finished (these mice) probably (these mice) the.cheese
 DEF DEF
 'These mice probably finished the cheese yesterday.'
- b. *Í gær kláruðu (?margar mýs) sennilega (margar mýs) ostinn.*
 yesterday finished (many mice) probably (many mice) the.cheese
 INDEF INDEF
 'Many mice probably finished the cheese yesterday.'
- c. ... weil (*Linguisten*) ja doch (*Linguisten*) Kammermusik spielen. [Ge]
 since (linguists) PRT PRT (linguists) chamber music play
 GENERIC EXISTENTIAL
 Generic reading: '... since linguists play chamber music.'
 Existential reading: '... since linguists are playing chamber music.'
 (Diesing 1992:270)

In this article we will thus depart significantly from earlier work in proposing that the subjects in (2) and the lower position in (3a–c), generally assumed to be in some VP-internal position, are in fact external to the VP at S-Structure. As we will show, this result is predicted by a certain reinterpretation of the Extended Projection Principle in a checking theory without government.

The article is organized as follows. In section 1 we outline the framework and theoretical assumptions that we adopt here, as given in Chomsky 1993, and we illustrate the most important points with derivations involving overt and covert OS. In section 2 we discuss in more detail relevant aspects of OS and of the A versus \bar{A} distinction within Chomsky's framework. In section 3 we discuss the distribution of TECs within the Germanic languages and the correlation noted by Bures (1993) that only those Germanic languages that exhibit full NP OS allow TECs. Previous

provided the Dutch data, and Molly Diesing the examples from Yiddish. Thanks to our colleagues at F roya Fróðskaparsetur for the Faroese data, and to Andries J. du Plessis for the Afrikaans judgments.

Abbreviations used throughout in the glosses are as follows:

Languages
 Ice = Icelandic, Ge = German, Du = Dutch, Fa = Faroese, Sw = Swedish, No = Norwegian, Yi = Yiddish,
 Da = Danish, Afr = Afrikaans, Fr = Frisian.

Glosses

(n)DEF = (in)definite NP, PRT = particle, 1,2,3 = first, second, third (person), so = singular, PL = plural

accounts of TECs argue that the indefinite subject in such constructions remains in [Spec, VP] at the surface. We show that consideration of a broader range of data entails that the subject is external to the VP at S-Structure. In section 4 we discuss the two structural subject positions illustrated in (3). By applying arguments outlined in section 2, we show that both positions must be external to the VP; we also show that the lower position is [Spec, TP]. In section 5 we present our conclusions and suggest avenues for future research.

1 Basic Theoretical Assumptions

In this section we outline the relevant parts of the framework we adopt here, essentially that proposed in Chomsky 1993. Various nontrivial technical details are glossed over where they are not directly relevant. It is important to note at the outset that we follow Chomsky 1993 in using the term *S-Structure* as shorthand to refer to the point in the derivation that feeds the phonological interface, the "overt" or "visible" syntax. In this model, there is no meaningful level of representation, with properties and conditions of its own, that can be called *S-Structure*, as in the model presented in, say, Chomsky 1981 and related work. Another point of some abstraction is the characterization of movement operations.²

Expanding upon a proposal of Pollock (1989), we assume the basic clause structure to be that illustrated in (4) on page 198. (Arrows indicate movement for Case checking.)

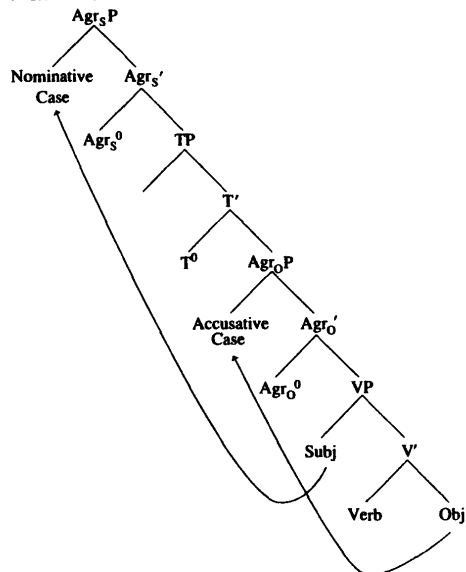
As shown in the tree, both subjects and objects are assumed to be base-generated internal to the VP, the object as complement of V⁰ and the subject as the specifier of VP (see, e.g., Kitagawa 1986, Koopman and Sportiche 1991, Harley 1995). Refining ideas of earlier work, we assume that structural Case (i.e., abstract Case and agreement) is taken to be solely the reflection of a particular relationship, that of a head to its specifier.³ (Head) government plays no role in this framework. In Chomsky 1993, Case theory is a theory of feature *checking*, the innovative notion being that across languages, both subjects and objects must raise and check Case features in the specifier-head relationship with an appropriate functional head, where the appropriate functional heads include the heads of the Agr(ement) Phrases. On this view, the Case Filter (the requirement that every argument be assigned abstract Case) holds universally at LF. Nominative Case, being a function of finiteness, is checked via the AgrP immediately dominating Tense (T); the subject must raise at some point in the derivation to [Spec, Agr_TP]. Accusative Case is checked via the AgrP immediately dominating the verb: the object must raise at some point in the derivation to [Spec, Agr_oP]. For the purposes of feature checking, movement may be either overt ("S-Structure") or covert ("LF"). The result, then, is "crossing" paths, as indicated by the arrows in (4), instead of the more familiar "nested" paths.

A problem left unresolved in the model presented in Chomsky 1991 is what prevents arguments from raising to the specifier positions of inappropriate Agr projections. In this model, there

² For discussions of aspects of the theory not treated here, and of the motivation for some of the assumptions adopted, see, among other works, Branigan 1992, Bobaljik 1992, Bures 1992, Chomsky 1991, 1993, Chomsky and Lasnik 1993, Watanahe 1993, Zwart 1993a. Some interesting though not altogether unrelated alternatives are proposed by, among others, Pesetsky (1995) and Murasugi (1992).

³ This simplifies things, albeit only slightly. Certain adjoined (broadly, L-related) positions may also instantiate the configuration relevant for Case. We return to this presently.

(4) Basic clause structure



is no principled reason why the object cannot raise to [Spec, Agr_SP], checking nominative features, and the subject to [Spec, Agr_OP], checking accusative features, clearly not the attested situation. Chomsky (1993) suggests a solution, which we sketch briefly here. By hypothesis, movement, whether overt or covert, is always constrained by economy principles, including *Shortest Movement* (see Chomsky 1993:15; cf. Rizzi's (1990) Relativized Minimality). This principle can be spelled out as follows:

(5) *Shortest Movement (Economy)*⁴

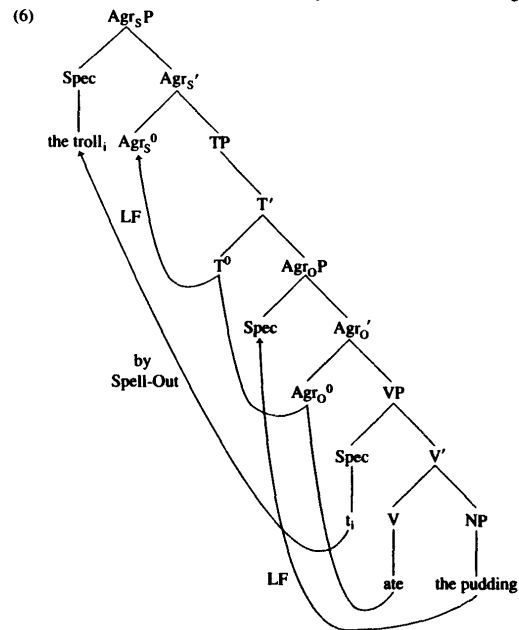
The target of movement must be no farther than the first appropriate landing site, where *appropriate* includes the following:

- a. a head position for head movement (cf. the Head Movement Constraint (HMC); Travis 1984)

⁴ As Chomsky (1993:46 n. 19) notes, with few assumptions, Shortest Movement subsumes the Empty Category Principle (ECP) and in particular, the Head Movement Constraint (HMC; Travis 1984). Note that this formulation is compatible with Epstein's (1993:sec. 8) analysis of LF verb raising in English: although LF raising of V⁰ over a deleted

- b. an A-position for A-movement
- c. an \bar{A} -position for \bar{A} -movement

In section 2.1 we will clarify the definitions of *A-* and \bar{A} -*position* we assume. First, to make the discussion concrete, consider English, where the subject raises overtly and the object remains in situ in the VP until LF.⁵ The situation for a simple transitive declarative is given in (6).



trace of T⁰ apparently violates the HMC, it does not violate Shortest Movement on the assumption that a deleted head does not enter into the computation, exactly as a potential, but not filled, specifier position does not count for NP-movement (see the discussion following (4)).

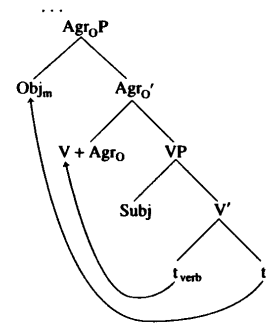
⁵ For an alternative view, namely, that there is overt object raising in English, see, among others, Johnson 1991, Koizumi 1993, and Lasnik 1995. The movement discussed above as "object shift" in all the Germanic languages is sensitive to reasonably clear semantic factors, such as "specificity." To the extent that the processes investigated by these authors in English are movement processes, there are no discernible effects of specificity. We will continue to

In the overt syntax, the subject raises directly from [Spec, VP] to [Spec, Agr_SP]. This is not a violation of Shortest Movement. By hypothesis, specifier positions are freely generated; that is, a potential specifier position is present in the derivation only by virtue of its being filled or targeted for movement (a consequence of the operation Generalized Transformation). Whichever specifier position the subject moves to, the movement will not violate Shortest Movement if the specifier positions of the intervening phrases are not present at that stage of the derivation. In the present instance, if [Spec, Agr_OP] and [Spec, TP] are not filled at the point in the derivation at which the subject raises, then they are not present, and the target [Spec, Agr_SP] is the first appropriate landing site.⁶

Under the assumption that all instances of Case must be checked in the appropriate specifier-head relationship at LF, the object will have to raise in English at that level to [Spec, Agr_OP]. This would appear to constitute an immediate problem, though, since the object must cross the (trace of the) subject in [Spec, VP], an apparent violation of Shortest Movement.⁷

Chomsky (1993:17) proposes that for the purposes of Shortest Movement, distance should be defined over chains. In the case at hand, LF raising and adjunction of the verb to Agr_O forms a chain CH = (V, t_{verb}) whose head is in Agr_O and whose foot is the trace heading the VP projection. The specifiers of Agr_O and of VP exclusively stand in the same minimal relationship (i.e., specifier-head) to this chain.⁸ The two positions may thus be said to be *equidistant* from (e.g.) the complement of V. Raising of the object to [Spec, Agr_OP] can in effect "skip" [Spec, VP]: although [Spec, VP] is the "first appropriate landing site," head movement renders [Spec, Agr_OP] equidistant from, and thus by definition no farther than, [Spec, VP] for the object. This skipping of exactly one specifier position therefore does not violate Shortest Movement. Crucially for the present analysis, as for Chomsky's, Shortest Movement is evaluated derivationally; it is not a well-formedness condition on chains at the output. Thus, verb raising must be overt to render [Spec, Agr_O] and [Spec, VP] equidistant for overt movement of the object. This is illustrated in (7). This notion that chains formed by head movement have an effect on the relevant distance between constituents, and in particular the formulation of equidistance offered here and in Chomsky 1993, adapt an insight of Baker's (1988) Government Transparency Corollary (GTC). There

(7) LF object shift



is, however, one key difference between the GTC and the combined effects of Shortest Movement and equidistance. The GTC is transitive: if a head γ incorporates into head β , and subsequently β incorporates into α , then α governs everything that both β and γ governed. Chain formation, by contrast, is not transitive. In the derivations at hand, raising of the verb to Agr_O results in the chain CH = (V, t_{verb}) and in the complex head [Agr_O Agr_O, V]. It is this complex Agr_O head that subsequently raises to T⁰, and not the verb per se. Crucially, a new chain is formed by this movement, CH' = (Agr_O, t_{AgrO}), where the head Agr_O is itself internally complex because it contains the head of the chain CH. The foot of CH' is in Agr_O and its head in T⁰. Relative to the first chain, CH, [Spec, VP] and [Spec, Agr_OP] are equidistant from the complement of V (i.e., the object). Relative to the second chain, CH', [Spec, Agr_OP] and [Spec, TP] are equidistant from the complement of Agr_O (i.e., the VP and its contents), but there is no chain for which more than two specifier positions are equidistant from any other element. Crucially, there can be no chain for which [Spec, TP], [Spec, Agr_OP], and [Spec, VP] are simultaneously equidistant from other elements. The result is that no more than one specifier position may be "skipped" without violating Shortest Movement, the crucial factor in understanding why raising to the specifier positions of Agr phrases follows "crossing" and not "nested" paths.⁹

As an obvious consequence, this system entails that raising of the object to [Spec, Agr_OP] is dependent upon verb raising (and adjunction) to Agr_O. As Chomsky (1993:18) observes, this

assume that there is no movement in English, noting that if this assumption is incorrect, then the movement is of a strikingly different type than what we are calling object shift throughout this article. See Bobaljik 1995:chap. 3, for discussion.

⁶ There is a slight abstraction here. Any of the three specifier positions (of Agr_SP, TP, Agr_OP) could be targeted for the movement of the subject, and movement to any of these would not violate Shortest Movement. Movement to (or through) [Spec, Agr_OP] could not result in a "convergent" derivation, because the object could not then check its Case features (for an explication of this, see Chomsky 1993). Therefore, economy principles must crucially be defined over the set of convergent derivations. This is not a deep point; if economy conditions were defined over all derivations, convergent or otherwise, then the most "economical" derivation would be the one that involves no movement and thus fails to converge. The possibility of the subject raising through [Spec, TP] (see Chomsky 1993:45 n. 11) is assumed not to be permitted in English. In what follows we will address this point at some length.

⁷ The trace here is necessary for semantic interpretation (especially the relation it bears to the verbal trace) and thus cannot be deleted. For extensive discussion of deletion of traces at LF and its implications, see Epstein 1993.

⁸ Chomsky (1993) defines Shortest Movement in terms of "domains." This difference need not concern us here, though it is by no means trivial.

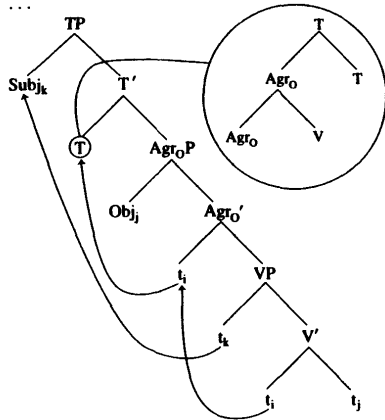
⁹ See Murasugi 1992 for an alternative proposal based on different assumptions. Additionally, we discount here the possibility that the operation Form Chain applies to heads in the IP complex—specifically, the case that Chomsky (1993: 45 n. 17) puts aside, whereby the head Agr_O raises directly to [Agr_O, Agr_S, T], leaving an intermediate trace in T⁰. There are various means of ruling this hypothetical derivation out, and we make no claim here about which one is correct. Epstein (1993) considers a number of interesting related derivations. One promising approach, motivated by independent (and mainly theory-internal) considerations, is that the heads of TP and the AgrPs themselves delete at LF. Although differing in some finer details, Epstein's approach shares with ours the important conclusions of section 1.2 and will be noted again at that point.

captures the generalization noted by Holmberg (1986) that overt verb raising is a necessary condition for OS in the Scandinavian languages. As verb raising in English does not occur until LF, overt object raising is blocked in this language; both the verb and the object raise at LF. Thus, sentences such as (8a) are excluded in English, but constructions such as (8b) are permitted in, for example, Icelandic.¹⁰

- (8) a. *The troll my hat ate.
 [Agr_SP the troll_i [Agr_oP my hat_j [VP t_i ate t_j]]
- b. Jólasveinninn borðaði [Agr_oP hatinn_i; [VP ekki t_{verb} t_i]]. [Ice]
 the.Christmas.troll ate the.hat not
 'The Christmas troll didn't eat the hat.'

An additional assumption is that movement is constrained by the Strict Cycle Condition, which imposes an ordering on syntactic derivations.¹¹ This requires that even in a language with overt object raising, the object must raise to [Spec, Agr_oP] before the subject raises to a higher position. At the point in the derivation where the object is raised to [Spec, Agr_oP] and the subject is in its base position (i.e., [Spec, VP]), a configuration parallel to the one just considered is established, only one node higher in the tree. Compare (9) with (7).

(9) ...



¹⁰ Chomsky cites an earlier version of Vikner 1991 and 1994b for this observation and its extension to the Germanic languages generally. There is much debate over whether or not the correlation with overt verb movement obtains in the head-final (i.e., SOV) Germanic languages; see Déprez 1991 for one articulation of this observation. We assume here, crucially, that the correlation does obtain, at least at some level. Watanabe (1993) offers an account of apparent surface

In (9) the subject must raise across the (shifted) object in [Spec, Agr_oP]. Like the raising of the object across the subject (or its trace) in [Spec, VP] (the situation just considered), this raising escapes violating Shortest Movement iff head movement renders the position occupied by the object and some higher position equidistant from the subject. Adjunction of Agr_o⁰ to T⁰ is necessary to permit the subject to "skip" [Spec, Agr_oP] and then raise to [Spec, TP]. If the subject were to raise to [Spec, Agr_sP] directly, moving across a potential [Spec, TP], Shortest Movement would be violated.

It would appear that there is a paradox here in what we have said: on the one hand, potential (i.e., unfilled) specifier positions do not "count" for purposes of Shortest Movement (the case of subject raising in English), but on the other hand, we are claiming that once a filled specifier position is "skipped," the next potential specifier position must be targeted. In fact, the paradox is only apparent. Intervening potential specifier positions are not relevant for the purposes of determining the first appropriate landing site in Shortest Movement, allowing subject raising directly to [Spec, Agr_sP] in English, the subject skipping no filled specifiers as in (6). On the other hand, the first intervening filled specifier position will always count as the first appropriate landing site, and Shortest Movement will preclude movement to any position farther than this. As just discussed, in the case of head movement (adjunction), defining distance over chains will render only the specifier position of the next phrase above this landing site equidistant from the starting point of movement. Although unfilled (and therefore nonexistent) specifier positions do not count for purposes of determining the first appropriate landing site, only one potential specifier position (realized or not) may ever be "no farther than" the first appropriate position.

Returning to overt OS, we see that if a language does not license [Spec, TP] at S-Structure, then OS is prohibited. As an empirical diagnostic, then, by *modus tollens*: if a language has overt OS, then it licenses [Spec, TP] as a (potential) A-position at S-Structure.¹² To summarize, the interaction between Shortest Movement ((crucially) defined with respect to chains) and the requirements of the Strict Cycle Condition entails that subjects must raise (eventually) to [Spec, Agr_sP] and objects to [Spec, Agr_oP], the reverse being impossible. Though in principle subject and object raising could be either overt (S-Structure) or covert (LF), overt movement of the object to [Spec, Agr_oP] must precede subject raising and is restricted to environments in which the verb raises overtly and [Spec, TP] is an available position for the subject.

violations in German and Dutch in terms of excorporation of Agr_o, which then raises to T after the verb has adjoined to Agr_o. This would suffice for present purposes. Jonas (1995a) suggests that Holmberg's Generalization follows from her proposal that bare functional heads cannot check features. Thus, Agr_o⁰ cannot check Case by itself; it can do so only when the verb adjoins to it. Bobaljik (1995) argues that Holmberg's Generalization, where it obtains, derives from considerations of adjacency in morphology, and suggests an account for the observation that verb movement is relevant for OS in the SVO languages but not in the SOV languages.

¹¹ In Chomsky 1993 this is formulated as a requirement that the movement operation Generalized Transformation extend the phrase marker. For ideas on how this may reduce to principles of economy, see Kihara 1995.

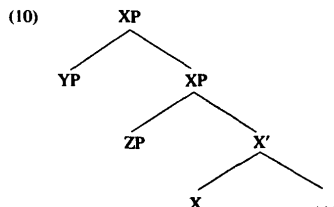
¹² This conclusion is worked out in detail, with discussion and relevant data, in Bobaljik 1992, for Inuit; Branigan 1992, for English and Romance; and Bures 1992, 1993, for Germanic.

2 Object Shift and TP

Two questions must be answered at this point: What, in this framework, constitutes "object shift"? and How is an A- (and thus an \bar{A} -) position to be characterized? We will begin with the second question, since the first in some sense depends on it.

2.1 A- and \bar{A} -Positions

Consider the structure in (10).



Using the term *L(exical)-features* to refer to those features relevant for checking theory, we may say that if the head X has no such features, then neither YP nor ZP is an L-related position and both are thus \bar{A} -positions (Chomsky 1993:28–29). If the head X does have such features, then YP and ZP may be called *L-related positions*. A finer distinction may be made such that ZP (the specifier of XP) is called *narrowly L-related*, and YP (an adjoined position) *broadly L-related*. Chomsky (1993:28–29) suggests that narrowly L-related positions are A-positions; he leaves open the status of broadly L-related positions. Ura (1993) provides a more refined definition, claiming that in addition to simple structure, whether or not YP or ZP actually checks L-features with the head is important for the A versus \bar{A} distinction. He defines the distinction as follows (1993:257):

A *narrowly L-related position* is always an A-position. A *broadly L-related position* counts as an A-position only if it is *actually L-related* to an L-head; otherwise it is an A-Bar [\bar{A}] position. A position is *actually L-related* if feature-checking actually takes place between that position and some L-head.

The insight captured here is very similar, at least in spirit, to the definitions of "specifier" advanced by Déprez (1989) and Kayne (1994). For present purposes, we will be concerned only with narrowly L-related positions, the specifier positions of standard X-bar theory (i.e., daughter of XP, sister of X'). As each head will be able to check its N-features with only one NP, a broadly L-related position (adjunct) will be an A-position only when no NP occupies the narrowly L-related position and checks features in that position. Similarly, if a head with L-features satisfies its checking requirements with an NP that is not in its X-bar-theoretic specifier position, then the "specifier" position will not be an A-position. For each functional head there will be only one

L-related position that actually checks features, and thus only one corresponding A-position in its minimal domain. In what follows, we will therefore use *specifier of X* as shorthand for the *unique A-position in the minimal domain of X*. As noted, this will be the structural specifier position, the two exceptions being the case where the adjoined position checks L-features with X (in which case it will be the specifier of X) and the case in which the structurally defined narrowly L-related position does not check L-features with the head (in which case we will not refer to it as the specifier position).¹³

However, Branigan's (1992) and Ura's (1993) analyses of Romance require that some adjoined positions count as A-positions, in particular, exactly those positions that check L-features with the heads. However, since at most one position will ever check a given set of L-features with a given head (see below on checking as deletion), there will be only one *actually* L-related position (i.e., A-position) per head, be it broadly or narrowly L-related.

2.2 Object Shift

We have shown that overt "object shift" is permitted only in limited contexts, that is, when the verb has raised overtly and [Spec, TP] (an A-position within the checking domain of T) is licensed at S-Structure. As the term *object shift* (OS) has recently been used differently by a number of authors in different contexts, we will briefly sketch its interpretation in the framework of Chomsky 1993.

A-movement of object arguments across some element denoting the left edge of the VP, but within IP, is attested in all of the Germanic languages except English.¹⁴ Examples are given in (11).

- (11) a. Jólasveinninn borðaði [Agr_{NP} hattinn] [_{VP} ekki t]. [Ice = (8b)]
 the.Christmas.troll ate the.hat not
 'The Christmas troll didn't eat the hat.'
- b. ... dat er veel mensen dat boek [_{VP} gisteren t_i gekocht] hebben. [Du]
 that there many people the book yesterday bought have
 '... that many people have bought the book yesterday.'
 (Zwart 1992:489)

¹³ By adopting this definition of A- and \bar{A} -positions, we close off the potential "escape hatch" of adjunction to VP explored by Chomsky (1986). That is, V (by definition) is a head with L-features; thus, [Spec, VP] is a narrowly L-related position, and a position adjoined to VP is a broadly L-related position. If such positions were to be defined as A-positions, then adjoining the object to VP would allow it to cross the subject trace in [Spec, VP] without violating Shortest Movement; subsequent adjunction of the subject NP to VP would again circumvent such a violation.

(i) ... [_{VP} Subj] [_{VP} Obj] [VP t_{Subj}] [_V V t_{Obj}]]]]]

Verb raising would not be a requirement for OS, nor would [Spec, TP] or [Spec, Agr_T] play any role. The distribution of OS phenomena would be unexplained. It is clear that this derivation should be excluded in principle, which means that the adjoined positions should not be A-positions.

¹⁴Contra Johnson (1991), Koizumi (1993). These authors' claims are obviously inconsistent with ours, though as Koizumi shows, the hypothesis that English has overt OS requires a different view of the original position of the subject. Under Koizumi's account, the subject must be base-generated in some position higher than the shifted position of the object, which is not the case for the remaining Germanic languages, as can be shown by the relative positions of adverbs and by more subtle tests such as quantifier stranding and the *was-für* split. See Bobaljik 1993:chap. 3 for discussion.

That this movement is indeed A-movement is argued by Déprez (1989, 1991) on the basis of tests such as the lack of weak crossover effects, anaphoric binding, the availability of quantifier float, and reconstruction effects compatible with A-chains.¹⁵ In addition, German, Dutch, and Frisian appear to allow IP-internal A-movement; this is shown for German in (12), where the scrambled object may strand a quantifier between two adverbials following initial OS to that position.

- (12) Er wird [*die Bücher*_i [*ohne Zweifel* [*alle*_i [*nicht* [*lesen*]]]]]. [Ge]
 he will the books without doubt all not read
 'Without a doubt, he will not read all the books.'
 (Vikner 1991:291)

For discussion of the distinction between OS and IP-internal A-movement and the data bearing on it, see, among many others, Holmberg 1986, Vanden Wyngaerd 1989, Webelhuth 1989, Mahajan 1990, Vikner 1991, Bures 1992, Holmberg and Platzack 1993, Jones 1993, and Bobaljik 1995.

In Faroese and the Mainland Scandinavian languages, IP-internal A-movement is further limited to unstressed pronouns.

- (13) a. Jógvan keypti **bókina/hana*_i [_{VP} ikki t_i]. [Fa]
 Jógvan bought the.book/it not
 'Jogvan didn't buy the book/it.'
 (Vikner 1991:297)
- b. Í gár læste Peter **bogen/den*_i uden tvívl [_{VP} ikke t_i]. [Da]
 yesterday read Peter the.book/it without doubt not
 'Peter without a doubt didn't read the book/it yesterday.'
 (Vikner 1991:300)
- c. Johan läste **boken/den*_i [_{VP} inte t_i]. [Sw]
 Johan read the.book/it not
 'Johan didn't read the book/it.'

Thus, expanding upon Bures 1992, 1993, the list of languages that allow OS of full NPs, illustrated in (11a–b), includes Afrikaans, German, Dutch, Frisian, Icelandic, and Yiddish.¹⁶

Holmberg (1986) notes the apparent similarity between Romance clitics and Mainland Scandinavian shifted pronouns, distinguishing these from shifted full (i.e., nonpronominal) NPs in Icelandic. Déprez (1989) and Bures (1993) suggest that 'pronoun shift' in the Scandinavian languages is best analyzed as a process of head movement or cliticization, akin to the process found in Romance languages. Concrete arguments in favor of this view are offered by Josefsson (1992) in work on Swedish. Although there are empirical problems with the strongest version of

¹⁵ Holmberg and Platzack (1993) argue, however, that OS is not A-movement to [Spec, Agr_{CP}] but A-movement to the leftmost edge of VP. This conclusion is based on the fact that full-NP OS in Icelandic does not show the binding possibilities that would be expected if it were A-movement.

¹⁶ Afrikaans is not considered in this regard in much of the current literature. For evidence that Afrikaans does indeed have OS of full NPs, see Bobaljik 1995.

this view, at least a weak version—specifically, that clitics and perhaps weak pronouns systematically target a different position from that targeted by shifted NP objects—seems to be required by the present framework (see Déprez 1989, Kayne 1989, 1991, Branigan 1992, and Zwart 1993a for related views and analyses). We will thus further restrict the use of the technical term *object shift* (OS), which we will adopt here, excluding A-movement of (weak) pronominals as a distinct process.

In summary, the framework provides, and indeed requires, two principled distinctions: between A-movement and A-bar-movement, and between NP-movement and cliticization. In the technical sense of this framework—the sense we will use here—the term *object shift* refers to A-movement (as opposed to A-bar-movement/scrambling) of object arguments that are lexical NPs (as opposed to cliticization). This movement is to some (expanded) IP-internal position, external and to the left of the VP. As discussed above, languages that exhibit OS in this technical sense must license [Spec, TP] at S-Structure.

We conclude this section by observing that when OS is characterized as our theoretical assumptions dictate, the Germanic languages fall neatly into two groups (cf. Bures 1992, 1993).

NP OS	No NP OS
Icelandic	English
German	Faroese
Dutch	Norwegian
Yiddish	Danish
Frisian	Swedish
Afrikaans	

Since overt OS entails the S-Structure licensing of [Spec, TP], we take it that Icelandic, German, Dutch, Afrikaans, Frisian, and Yiddish license this position at S-Structure. Though the correlation in the other direction does not follow from the theory (so far), we will assume that the languages in the right-hand column of (14)—English, Faroese, and the Mainland Scandinavian languages—do not license [Spec, TP] at S-Structure.

3 Subject Positions

We have argued that in the case of overt OS, the subject NP must move through [Spec, TP]. Logically, the next step is to look for evidence that the subject ever occurs overtly in that position. In this section we will argue that it does so in two types of constructions. Specifically, we will argue on empirical grounds that (agentive) subjects in Germanic previously assumed to be in VP-internal position (i.e., [Spec, VP]) are in fact external to VP at S-Structure. There are two constructions in which agentive subjects have been productively analyzed as occupying [Spec, VP] at S-Structure: TECs (see (2)) and the definite/indefinite or generic/existential constructions exemplified in (3). In sections 3.1–3.3 we examine previous accounts of TECs and show that the standard conclusion that the subjects in these constructions are VP-internal at S-Structure is untenable on

empirical grounds. In section 3.4 we extend our arguments to the type of data that Diesing (1990) uses to motivate the Mapping Hypothesis. We suggest that the VP-external, "lower" subject position is [Spec, TP]. In section 3.5 we provide evidence that the subjects do occupy a position lower than the object at some point in the derivation. That is, even though a shifted object may never precede the subject in the overt syntax, the base position of the subject is lower than the shifted position of the object.

3.1 Transitive Expletive Constructions

Although expletive constructions of some form or another are attested in all the Germanic languages (Vikner 1991, 1994b), transitive expletive constructions (TECs), with nonextraposed subjects, are excluded in English, Afrikaans, one dialect of Faroese (here called Faroese II), and the Mainland Scandinavian languages.¹⁷

- (15) a. *There has someone eaten an apple.
 b. *Tað bygdu nakrir íslendingar hús í Havn. [Fa II]
 there built some Icelanders houses in Torshavn.
 ('Some Icelanders built houses in Torshavn.')
- c. *Der har nogen spist et æble. [Da]
 there has someone eaten an apple
 ('Someone has eaten an apple.')
- (adapted from Vikner 1991:184)
- d. *Det har någon ätit ett äpple. [Sw]
 there has someone eaten an apple
 (same as (15c))
- e. *Daar het baie mense baie bier gedrink.¹⁸ [Afr]
 there have many people much beer drunk
 ('Many people have drunk a lot of beer.')

¹⁷ Christer Platzack (personal communication) points out that some speakers of Faroese allow TECs. Jonas (1994) shows that there is a clear dialect split on many constructions; hence, we speak of Faroese I and II in what follows. Faroese I behaves in many respects like a language that licenses [Spec, TP], though it does not exhibit NP OS. See section 5 for a discussion of apparent exceptions to Bures' Correlation.

Apparent expletive constructions with rightward-extraposed subjects are to varying degrees acceptable in some of the languages, in constructions (e.g., transitives, unergatives) where expletives are not otherwise acceptable; for example, apparent "transitive" expletives are more or less acceptable in English examples such as (i).

- (i) (?) Suddenly there $\left\{ \begin{array}{l} \text{entered the room} \\ \text{opened the door} \end{array} \right\}$ a six-eyed troll.

Note that extraposition also gives rise to surface orders of object preceding subject in Icelandic, as in (ii).

- (ii) Það máluðu sanulega húsið vandlega margir stúdentar. [Ice]
 there painted probably the house carefully many students

We assume that such constructions involve movement in some way related to heavy NP shift, though we have nothing interesting to say about them here. David Pesetsky (class notes, MIT 1992) has suggested for independent reasons that heavy-NP-shifted NPs do not enter into the mechanisms of structural Case (he posits a null Case-assigning preposition). If Pesetsky is correct, then such constructions are structurally intransitive in that they contain only one NP that must check structural Case. It has also been suggested that constructions like (i) are unaccusative at some level. This is all the

By contrast, such constructions are clearly acceptable in Icelandic, German, Dutch, Faroese I, Frisian, and Yiddish.

- (16) a. Það hafa margir jólasveinar borðað þúðing. [Ice]
 there have many Christmas.trolls eaten pudding
 'Many Christmas trolls have eaten pudding.'
- b. Es essen einige Mäuse Käse in der Küche. [Ge]
 there eat some mice cheese in the kitchen
 'There are some mice eating cheese in the kitchen.'
- c. Er hat iemand een appel gegeten. [Du]
 there has someone an apple eaten
 'Someone has eaten an apple.'
 (adapted from Vikner 1991:184)
- d. Es hot imitser gegesn an epl. [Yi]
 there has someone eaten an apple
 (same as (16c))
 (adapted from Vikner 1991:184)
- e. Der lést ien in boek. [Fr]
 there reads somebody a book
 'There is someone reading a book.'
 (data from Hoekstra 1991)
- f. Tað bygdu nakrir íslendingar hús í Havn. [Fa I]
 there built some Icelanders houses in Torshavn
 'Some Icelanders built houses in Torshavn.'

The distribution of TECs in the Germanic languages is summarized in (17).

(17) TECs	No TECs
Icelandic	English
Faroese I	Faroese II
German	Norwegian
Dutch	Danish
Yiddish	Swedish
Frisian	Afrikaans

more plausible in light of the fact that such constructions are generally most acceptable with nonagentive subjects; hence, many speakers perceive a contrast between the sentences in (i), on the one hand, and (iii), on the other.

- (iii) *Suddenly, there kicked the ball a striker.

In Yiddish (Molly Diesing, personal communication), rightward-extraposed subjects of TECs are not subject to the definiteness effect that governs other subjects of expletives, though light indefinites such as *imitser* 'someone' can apparently not shift, strongly suggesting the analogy with heavy NP shift.

¹⁸ This sentence is acceptable if *daar* is interpreted as locative: 'Many people have drunk a lot of beer (over) there'. The ungrammaticality pertains to the expletive reading.

Though this distribution of TECs was, to our knowledge, first discussed in the literature by Vikner (1991, 1994b), it was Bures (1992) who first observed the correlation between this distribution and the similar distribution of NP OS (as characterized in (14)) in the Germanic languages.¹⁹

(18) *Bures's Correlation*²⁰

Within Germanic, the languages that allow NP OS are those languages that also allow TECs.

In this section we consider two previous accounts of these constructions, focusing on the positions of the subjects. Relying on adverb positions as a diagnostic, previous authors have commonly assumed that the subjects in (16) and similar examples are internal to the VP at S-Structure.²¹ We will challenge this assumption, basing our arguments on evidence not only from the positions of adverbs but also from the relative positions of the subjects of these constructions and shifted objects and from the distribution of stranded quantifiers. We will then sketch an analysis along the lines mentioned at the beginning of the section.

3.2 Previous Accounts

We discuss two accounts of TECs in the recent generative literature. Drawing on a proposal by Belletti (1988), Vikner (1991, 1994b) offers an account in terms of the notion of partitive Case. Operating within the framework adopted here, Bures (1992, 1993) proposes that TECs are the LF analogue of (S-Structure) OS. (Sigurðsson (1991) also discusses these constructions, though not in the context of an analysis of expletive constructions. The structure he proposes is identical to that of Vikner (1991, 1994b), though the theory he is working within is substantially different, since he does not adopt a theory of partitive Case. Sigurðsson's data and analysis are considered in some detail in Jonas and Bobaljik 1993:86ff.)

Vikner (1991, 1994b) proposes a significant revision in Belletti's (1988) notion of partitive Case. For both Vikner and Belletti, partitive Case is assigned by a verb under θ -government, and it is defined in such a way that it can be assigned only to indefinite NPs. Vikner extends the proposal, suggesting that assignment of partitive Case is not sufficient and that it must also be licensed under head government. Licensing is possible only when the verb that assigned partitive Case, or an auxiliary (which has no θ -assigning properties), is in the head I^0 , and the language

¹⁹ Vikner (1991) assumes a slightly different characterization of OS. On his account, only the Scandinavian languages allow OS, and Bures's Correlation is therefore unstable. Vikner's arguments for his characterization of OS versus scrambling draw on the fact that A-movement (scrambling) is possible in German and Dutch, though not in Scandinavian. Although this is true, it deemphasizes the fact that A-movement is also possible in German and Dutch (Weibelhuth 1989, Déprez 1989, 1991, Vanden Wyngaerd 1989, Mahajan 1990). Following Déprez (1989) and Mahajan (1990), Bures (1992, 1993) correctly observes that OS is attested in German and Dutch as well as the Scandinavian languages, but that the former two also allow scrambling (A-movement) whereas the latter group does not.

²⁰ Faroese I and Afrikaans are exceptions to this. Faroese I allows TECs but does not allow OS of full NPs. Afrikaans allows OS of full NPs but does not allow TECs. That there are exceptions is a problem for Bures's theory. On the theory to be developed in section 4, exceptions of this sort are not unexpected. See also section 5 for discussion.

²¹ We are aware of only two exceptions. Zwart (1992) agrees with Jonas (1992) that the subjects in TECs in Dutch, like those in Icelandic, are external to the VP. Thráinsson (1994) builds upon Jonas's (1992) arguments to reach the same conclusions.

is a verb-second (V2) language. Under Vikner's analysis, this means that the language must have V-to-I movement independent of verb raising to second position (e.g., C⁰). When these two conditions are met, partitive Case can be licensed in (the highest) [Spec, VP] position. On this approach, the V2 languages that have V-to-I raising independent of verb raising to second position (including Icelandic) have a step in the derivation in which the verb or auxiliary is in I^0 , whence it can license partitive Case in [Spec, VP]. The V2 languages that do not have V-to-I raising independent of V2 effects (Mainland Scandinavian and Faroese) have no such step in the derivation.²² Again, Sigurðsson (1991) proposes the same structure but with a different analysis. Whereas Vikner attributes the distribution of NPs in such constructions to his interpretation of Belletti's partitive Case, Sigurðsson develops a theory of the licensing of 'lexicalized' specifiers—specifiers with overt NPs at S-Structure. The differences are not important here since both Vikner and Sigurðsson assume that the subjects in TECs are in [Spec, VP] overtly.

Building on the correlation in (18), Bures (1992) attempts to unite the two phenomena, TECs and NP OS. Specifically, he proposes to extend the analysis of (overt) OS to argue for an LF cycle. He proposes that a TEC is the exact LF analogue of OS: the expletive *there* satisfies the Extended Projection Principle (EPP), and the subject and object both remain in situ in the overt syntax, raising at LF. Under Bures's analysis, the derivation in (9) characterizes the movement of the arguments in NP OS and TEC constructions. In an NP OS construction the movements in (9) are all overt, whereas in a TEC the XP movements are all covert. The arguments and discussion summarized in section 2.1 carry over directly. The object raises over the subject ([Spec, VP]) to [Spec, Agr_{OP}]. For the subject to then raise across the object, [Spec, TP] must be available. On this view, a very natural account arises. [Spec, TP] is necessary for NP OS at S-Structure and is likewise necessary for what is, by hypothesis, the LF analogue of OS (i.e., the TECs). Bures suggests that since (14) may be reduced to parameterization of [Spec, TP], so may (17). The correlation in (18) is straightforwardly explained by the [Spec, TP] parameter (after Bures 1993).

(19) *The [Spec, TP] parameter*²³

Some languages license [Spec, TP]; others do not.

On Bures's (1992) analysis, if a language allows [Spec, TP], then it allows NP OS (in which the subject raises through [Spec, TP] overtly) and it allows TECs (in which the subject raises through [Spec, TP] covertly). His (1993) analysis (based on observations to be presented in section 3.3) differs minimally in allowing the subject of a TEC to be in [Spec, TP] at S-Structure, just in case there is overt NP OS. However, since his arguments for an LF cycle rely crucially on subject and object both being able to remain internal to the VP at S-Structure, TECs in which the object does not shift overtly must be cases in which the transitive subject is VP-internal in overt syntax.

²² See Reinholtz 1989 for a different account. Reinholtz proposes that Danish, at least, has verb movement to T⁰. On V-to-T movement in Germanic generally, see Jonas 1995a.

²³ That [Spec, TP] is an A-position for subjects in Icelandic, and in particular that it is the S-Structure position of the indefinite subject in a TEC, was originally proposed by Jonas (1992). This proposal was adopted and discussed by Thráinsson (1994). Bobaljik and Carnie (1996) make the same proposal for Modern Irish.

In section 3.3 we present empirical arguments that the subject NP in TECs is not internal to the VP. In section 4 we present converging, theory-internal evidence that a transitive subject may not remain in its VP-internal base position at S-Structure.

3.3 Against VP-Internal Subjects at S-Structure: TECs

For present purposes, the relevant claim of previous analyses of TECs is that the subject is no higher than (the highest) [Spec, VP] at S-Structure. This claim is based on the relative positions of subjects and sentential adverbs. Ottósson (1989) first noted that the subject of a TEC obligatorily follows a sentential adverb such as *sennilega* 'probably' or *kannski* 'perhaps', as in (20), and proposed on this basis that these subjects are located overtly in [Spec, VP]. Similar proposals have been made by Kosmeijer (1991) and Sigurðsson (1991), among others, and indeed, the view has become standard.

- (20) Það hafa [_{VP} sennilega [_{VP} margir stúdentar lesið bókina]]. [Ice]
 there have probably many students read.the.book
 'Many students have probably read the book.'

The argument is that the adverb *sennilega* 'probably' is adjoined to the (highest) VP projection, and since the adverb precedes the subject, it follows that the subject must be internal to the VP. Thráinsson (1994) and Jonas (1992) demonstrate that this argument is not compelling. Not all adverbs behave uniformly in this regard (see Travis 1988, Jackendoff 1972). Jonas (1992:sec. 3.3) demonstrates that (indefinite) subjects show a different distribution in TECs with adverbs such as *alveg* 'completely' and *ekki* 'not'.²⁴

- (21) a. Það luku sennilega einhverjir stúdentar alveg [Ice]
 there finished probably some students completely
 [_{VP} verkefnum].
 the.assignment
 'Some students probably completely finished the assignment.'
 b. *Það luku sennilega alveg [_{VP} einhverjir stúdentar
 there finished probably completely some students
 verkefnum].
 the.assignment

On a restrictive view of adverb placement, which allows adverbs to be adjoined only to maximal projections (i.e., XP),²⁵ a plausible assumption is that sentential adverbs (Travis's AUX adverbs)

²⁴ Vikner (1994a) and Vikner and Schwartz (to appear) raise points similar to those we raise below, to show that definite subjects (their examples use the proper name *Jón*) of simple declaratives are external to the VP, yet Vikner explicitly states (1994a:n. 8) that "it should be emphasised that [the arguments against VP-internal subjects do] not hold for indefinite constructions with *það*." Vikner does not discuss the relevant data with TECs, but there is no difference between definite and indefinite subjects with respect to the relevant tests.

²⁵ We ignore here the possibility suggested by Larson (1988, 1990) that (VP-) adverbials are generated as complements of some V in a series of recursive VP 'shells' and are not adjoined at all. Another possibility is that adverbs may adjoin

are adjoined to TP, whereas manner adverbs (VP adverbs) are adjoined to VP. The data in (20) and (21) would then indicate that the (indefinite) subject in a TEC is in some position external to the VP (to the left of a VP-adjoined adverb), but dominated by TP (to the right of a TP-adjoined adverb). Jonas (1992) first proposed that these indefinite subjects are in [Spec, TP], and Thráinsson (1994) adopts this proposal. For the structures proposed by, for example, Bures, Sigurðsson, and Vikner, these arguments alone are sufficient to demonstrate that the subject of a TEC is external to the VP. The manner adverb *alveg* 'completely' could not be adjoined anywhere lower than (the left of) the VP in (21), and as the subject may occur only to the left of this position, the subject cannot be VP-internal at S-Structure.

Of course, as pointed out by Iatridou (1990) and others, adverb placement is somewhat less than an optimal diagnostic of structural position (though it is the sole empirical argument in favor of the VP-internal analysis in the cases under consideration). Other assumptions about the nature of adverb positions are not totally implausible (see Larson's (1988, 1990) arguments that manner adverbs are actually complements of (some projection of) the verb, or Johnson's (1991) and Koizumi's (1993) suggestion that adverbs may never adjoin to Agr projections). We believe that the data we have cited do support our analysis, but for these reasons, the argument is potentially weakened.

Fortunately, there is another diagnostic, which has not been explored in connection with TECs by Vikner (1991, 1994b). Earlier, following a view common in the 'Economy' framework (Chomsky 1991) since the appearance of (e.g.) Vanden Wyngaerd 1989, Déprez 1989, and Mahajan 1990, we claimed that OS is movement of the (definite) object NP to [Spec, Agr₀P], its Case-checking position. For the present point to be made, it suffices to assume that shifted objects are in some position higher than [Spec, VP], for example, that they are in a VP-external position or adjoined to VP (Holmberg 1986, Vikner 1991, 1994b). The prediction is straightforward, as Jonas (1992) discusses. If shifted objects are VP-external and subjects of TECs are VP-internal, then in a TEC with a shifted object, the object should precede the subject. The Icelandic examples in (22) and (23) show that this is clearly not the case.

- (22) a. Það lauk einhverjir verkefnum, [_{VP} t_i alveg t_j]. [Ice]
 there finished someone the.assignment completely
 'Someone completely finished the assignment.'
 (Jonas 1992)
 b. *Það lauk verkefnum, [_{VP} (alveg) einhver t_i].
 there finished the.assignment (completely) someone
 (Jonas 1992)

to X'. Extending the approach to X-bar theory taken by Kayne (1994), we would suggest that the only principled bar-level distinction is between terminal and nonterminal categories (i.e., X⁰ vs. Xⁿ⁻¹). If this extension is pursued, then the evidence from sentential versus manner adverbs is inconclusive, *pace* the discussion of (neo-Larsonian) VP-recursion structures following. The arguments from OS and stranded quantifiers are not affected by expanding the theory of adverb placement to allow adjunction to X', and none of the facts presented here is inconsistent with our analysis on this approach. We will not consider the proposal that adverbs may adjoin to X⁰ (Travis 1988) since it adds many further complexities that go beyond the scope of this article.

- (23) a. það borðuðu *margin strákar*_i bjúgun_i [_{VP} ekki [_{VP} t_i (ðil) t_j]].
 there ate many boys the.sausages not (all)
 'Many boys didn't eat (all of) the sausages.'
 b. *það borðuðu bjúgun_i [_{VP} ekki [_{VP} *margin strákar* (ðil) t_j]].
 there ate the.sausages not many boys (all)

As shown by Zwart (1992:489), the same argument can be constructed for Dutch. Zwart also claims for Dutch that the shifted object *dat boek* 'the book' in (24) must be VP-external and thus the subject of this TEC must also be external to the VP. Agreeing with the present analysis, he proposes that the subject in (24) is in [Spec, TP].

- (24) ... dat er *veel mensen* dat boek [_{VP} gisteren [_{VP} gekocht hebben]]. [Du]
 that there many people the book yesterday bought have
 '... that many people bought the book yesterday.'

As in Icelandic, the subject of the TEC cannot occur to the right of the shifted object; that is, in Dutch the subject cannot occur in its base position internal to the VP at S-Structure, even in a TEC (C. Jan-Wouter Zwart, personal communication).

- (25) *... dat er dat boek [_{VP} *veel mensen* gekocht hebben]. [Du]
 that there the book many people bought have
 (same as (24))

Similar examples in German are marked or ungrammatical with neutral intonation (compare (16b)).

- (26) */?Es essen Käse einige Mäuse in der Küche. [Ge]
 there eat cheese some mice in the kitchen
 ('There are some mice eating cheese in the kitchen.')

Previous accounts of TECs rely on the widely accepted assumption that the subjects in such constructions are VP-internal at S-Structure. However, we have shown that even if the evidence of adverb tests is discounted, this assumption cannot be maintained: by itself, the fact that the subject of a TEC obligatorily precedes a shifted (i.e., VP-external) object, as in (22) and (23), suffices to prove that these subjects are external to the VP.

Bures (1993) attempts to reconcile the claim that transitive subjects may be VP-internal in at least some TECs (his empirical argument for a cycle at LF) with the evidence from NP OS in TECs that these subjects are VP-external. He points out that our key examples indicating that the subjects are VP-external involve shifted objects. Thus, he suggests that TEC subjects are VP-external only when overt NP OS has taken place. This is not implausible. If one maintains, with Bures and with Chomsky (1993), that features of Agr_S and Agr_O cannot be distinct, then an interesting situation emerges. If the N-features of Agr_O are strong, triggering OS, then the N-features of Agr_S are strong as well. Bures suggests that the expletive may check the features of Agr_S, but that the subject must also raise overtly to check the strong N-features of T. However, if there is no OS, then the N-features of both Agr heads are weak. The expletive may check the N-features of T, and the subject and object may both remain internal to the VP at S-Structure.

We will soon show that there are theory-internal reasons to exclude this analysis. However, there is an empirical reason as well.

If Bures (1993) is correct in claiming that the only TEC subjects that occur (overtly) in [Spec, TP] are those in sentences involving NP OS as well, then an asymmetry is predicted. Subjects in [Spec, TP] and subjects in [Spec, VP] should behave quite differently with respect to adverbs that occur anywhere in the field between TP and VP. As the evidence above indicates, however, no such asymmetries exist. With or without overt OS, the subjects of TECs occur in the same structural position, a position we claim is [Spec, TP].

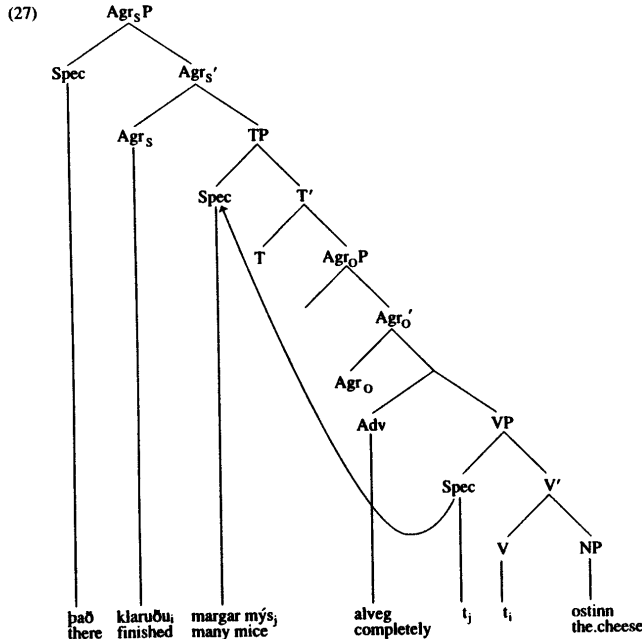
The correlation between TECs and OS observed by Bures is surely not spurious. We believe that he is ultimately correct in implicating [Spec, TP], even though the specific analysis he proposes is empirically untenable. In section 4 we will present theory-internal evidence that dovetails neatly with the empirical results of this section. For now, we suggest that the S-Structure position occupied by the subject of a TEC is [Spec, TP]. Bures's Correlation is accounted for straightforwardly, in a manner similar in spirit to Bures's own suggestion: only in the languages that license [Spec, TP] at S-Structure is [Spec, TP] licensed at S-Structure as an A-position that the subject may occupy. The derivation of a TEC is thus (27) without overt OS, and (28) with overt OS (see pp. 216–217).

3.4 Against VP-Internal Subjects at S-Structure: The Mapping Hypothesis

We will now show that the most generally accepted instance of overt [Spec, VP] subjects is not VP-internal. Although the subject of a TEC does occur in a lower structural position than declarative definite NP subjects, this position is external to the VP. Diesing (1990, 1992) has provided a good deal of evidence that subjects in German may occupy one of two structurally distinct A-positions at S-Structure, specificity and genericity being key factors governing the distribution. She claims that the higher of these two positions is [Spec, IP] and the lower, [Spec, VP]. Though we believe her evidence for two positions to be compelling, her claim that these positions are [Spec, IP] and [Spec, VP] is clearly incompatible with the present theory.

To summarize Diesing's (1990, 1992) principal observations: she notes that the two positions that the bare plural subject NP may occupy in a sentence like (29)—preceding or following the sentential particles *ja doch* 'indeed'—correlate with two different readings.

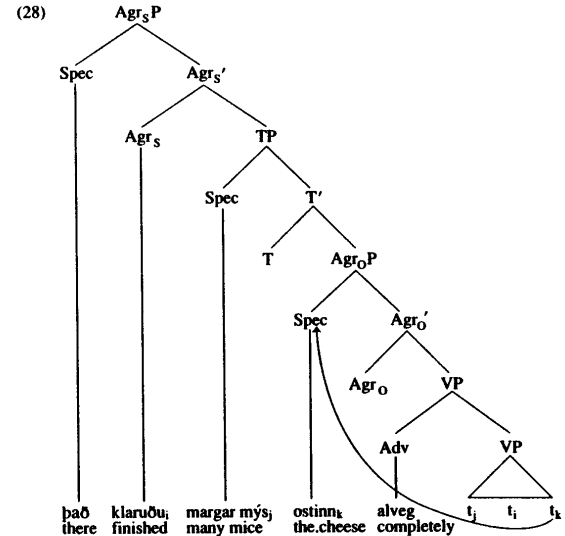
- (29) a. ... weil (Linguisten) ja doch (Linguisten) Kammermusik spielen. [Ge]
 since (linguists) PRT PRT (linguists) chamber music play
 GENERIC EXISTENTIAL
 Generic reading: '... since linguists play chamber music.'
 Existential reading: '... since linguists are playing chamber music.'
 (Diesing 1992:270)
 b. ... weil (Mäuse) ja doch (Mäuse) Käse essen.
 since (mice) PRT PRT (mice) cheese eat
 GENERIC EXISTENTIAL
 Generic reading: '... since mice eat cheese.'
 Existential reading: '... since mice are eating cheese.'



As indicated here, a subject NP preceding the particle receives a generic reading, and a subject NP following a particle, an existential reading.²⁶ Diesing suggests that the particle *ja doch* marks the left edge of VP and therefore that the lower subject position in these constructions is [Spec, VP] and the higher position is [Spec, IP] (= our [Spec, Agr_SP]).

Like the TEC data discussed in section 3.3, Diesing's proposal is incompatible with the theory we are defending (we will show in section 4 that transitive subjects may never remain internal to the VP at S-Structure if the N-feature of T is strong). Before we discuss Diesing's

²⁶ The distinctions cited by Diesing are not representative of all speakers. In particular, some speakers do not find a generic reading for subjects in the lower position at all awkward in, for example, (29a). As far as we have been able to determine, although some speakers do not find the distinctions cited by Diesing, or find much weaker ones, distinctions in the opposite direction are not found.



data and analysis, let us return briefly to Icelandic. Like German, Icelandic shows evidence for two subject positions, but, as with the TECs, the SVO word order and the absence of clause-internal \bar{A} -movement/scrambling in Icelandic allow a clearer view of the structural positions occupied by NPs in this language than in German.

3.4.1 Two Subject Positions in Icelandic In support of the claim that two hierarchically distinct subject positions are available, at least in some languages, we add the following representative paradigm from Icelandic, repeated from (3):

- (30) a. \acute{f} gær kláruðu (*þessar mýs*) sennilega (**þessar mýs*) ostinn. [Ice]
 yesterday finished (these mice) probably (these mice) the.cheese
 DEF DEF
 'These mice probably finished the cheese yesterday.'
- b. \acute{f} gær kláruðu (*?margar mýs*) sennilega (*margar mýs*) ostinn.
 yesterday finished (many mice) probably (many mice) the.cheese
 INDEF INDEF
 'Many mice probably finished the cheese yesterday.'

Definite subjects obligatorily precede the sentential adverb *sennilega* 'probably'; indefinite subjects are preferred in the position following this adverb (exactly the structural position occupied by the (obligatorily indefinite) subjects of TECs). Following Diesing, then, or assuming that adverbs lack the features necessary for movement (Chomsky 1993), we find that Icelandic, like German, has two distinct positions for the subject NP.

Now consider how these constructions fare with respect to the tests used above to diagnose the position of the subjects in TECs. If the lower subject position in Icelandic and German is [Spec, VP], then the indefinite subjects would be predicted to occur to the right of VP-adjoined adverbs or negation, and to the right of shifted objects. As in the TEC cases, these predictions are easily shown to be false.

- (31) a. *Í gær kláraði [_{VP} alveg [_{VP} mús ostinn]]. [Ice]
 yesterday finished completely a.mouse the.cheese
 ('A mouse finished the cheese (completely) yesterday.')
- b. *Í gær kláraði [_{AGR_{CP}} ostinn]_i [_{VP} (alveg) [_{VP} mús t_i]].
 yesterday finished the.cheese (completely) a.mouse
 (same as (31a))
- c. Í gær kláraði [_{TP} mús_k [_{AGR_{CP}} ostinn]_i [_{VP} alveg [_{VP} t_i]]].
 yesterday finished a.mouse the.cheese completely
 (same as (31a))

Consider especially the latter pair, (31b) and (31c). The shifted object must be in [Spec, Agr_O]. The lowest position that the indefinite subject could occupy, then, is [Spec, TP], which we know to be available in Icelandic (and in German, Dutch, and Yiddish). If adverbs adjoin to maximal projections, then the adverb that delineates the two subject positions in (30) could not be adjoined lower than TP if the lower subject position is [Spec, TP]. Therefore, the higher subject position is (unsurprisingly) no lower than [Spec, Agr_SP]. In the absence of any reason to assume that the subject positions should be higher than [Spec, TP] and [Spec, Agr_SP], we assume that this is the correct characterization of these positions. The lower position, [Spec, TP], is restricted to indefinites/nonspecific NPs; and on this view, TECs are then a subclass of constructions whose subjects occur in this lower position.

3.4.2 Two Subject Positions in German In light of the results for Icelandic, it is worth reexamining Diesing's data from German. In particular, Diesing relies on the position of the subject NPs relative to sentential particles to determine their structural position, essentially the arguments made by Ottósson (1989) and others, regarding the surface position of Icelandic subjects of TECs. Although the evidence is less clear in German than in Icelandic, the same tests appear to give the same results. Replacing the sentential particle *ja doch* with a manner adverb (*sorgfältig* 'carefully') that is more likely VP-adjoined, we find that the existential subject must precede this adverb ((32a) vs. (32b)), even though it is clearly in the lower subject position (see (32c)) following the particle *ja doch*.

- (32) a. Es essen *Kinder* sorgfältig Äpfel. [Ge]
 there eat children carefully apples
 'There are children carefully eating apples.'
- b. *Es essen sorgfältig *Kinder* Äpfel.
 there eat carefully children apples
 (same as (32a))
- c. Es essen ja doch *Kinder* sorgfältig Äpfel.
 there eat PRT PRT children carefully apples
 'There are indeed children carefully eating apples.'

Finally observe that an existential subject in the lower subject position (the higher position being occupied by the expletive *es* 'there')²⁷ also precedes a definite object that in turn precedes a manner adverb, such as *sorgfältig*. As we did for the Icelandic examples, we maintain that the object to the left of the arguably VP-adjoined adverb has "shifted" to [Spec, Agr_O]. With or without the adverbs, the subject may not follow the shifted object.

- (33) a. Es essen ja doch brave *Kinder* grüne Äpfel [Ge]
 there eat PRT PRT well-behaved children green apples
 [_{VP} immer sorgfältig [_{VP}]].
 always carefully
 'There are indeed always well-behaved children eating green apples carefully.'
- b. Es essen *einige Mäuse* Käse in der Küche.
 there eat some mice cheese in the kitchen
 'There are mice eating cheese in the kitchen.'
- c. *Es essen [_{AGR_{CP}} Käse [_{VP} *einige Mäuse* in der Küche]].
 there eat cheese some mice in the kitchen
 (same as (33b))

Various complications of course arise because of the V-final nature of German and because of the availability of IP-internal \bar{A} -scrambling, which greatly expands the number of positions to which NPs may move. Nonetheless, the data in (32) and (33) demonstrate that the positions delineated by Diesing in German are at the very least amenable to the analysis we have proposed for Icelandic—that is, that both positions are external to the VP, the higher being [Spec, Agr_SP] and the lower [Spec, TP]. Since (as we will argue) this is the claim the theory requires, it is the one we will adopt. We accept Diesing's evidence for two subject positions in German, and we extend the scope of the discussion to Icelandic, but we reject Diesing's characterization of the two positions, arguing that they are instead [Spec, Agr_SP] and [Spec, TP].

²⁷ For arguments that the expletive occupies the higher subject position at least in Icelandic, see Jonas 1995a. For the view that the expletive is in [Spec, CP], see, among others, Sigurðsson 1991 and references therein. In either case, the expletive is undoubtedly inserted in [Spec, Agr_S] since it must check features with that head.

From this conclusion, we are forced to abandon Diesing's (1990, 1992) Tree Splitting/Mapping Hypothesis, in its strongest form. Diesing (1990, 1992) and Diesing and Jelinek (1993) suggest that interpretive differences correlating with position reduce to something like Heim's (1982) Existential (\exists -) Closure. The suggestion is that at LF the tree is "split" in such a way that elements within IP but external to the VP are semantically differentiated from those within the VP. On this view, the "lower" subjects discussed above are VP-internal and hence subject to \exists -Closure, whereas the higher subjects are VP-external and hence not subject to this rule. An extension we believe to be promising is that of Tsai (1994) wherein Mapping to LF (and hence \exists -Closure) is applied cyclically. This cyclic approach captures the fact that objects show similar positional-interpretive correlations, even though definite objects follow indefinite, existential subjects.²⁸

In light of the previous discussion, the conclusion reached in this section should not be surprising. We argued in section 3.1 that Icelandic and German (and Dutch and Yiddish) license [Spec, TP] as an A-position to which the subject can legitimately move at S-Structure. This position is necessary for overt OS, which these languages display. In section 3.3 we proposed that the surface position occupied by the subject of TECs, generally taken to be VP-internal, is in fact [Spec, TP], and we provided empirical evidence that this is the lowest position such subjects can occupy. We conclude, then, that these languages license two overt positions for subject NPs, [Spec, TP] and [Spec, Agr₃P]. Diesing's evidence, along with the data in (30) from Icelandic, can be viewed as further support for this hypothesis. Perhaps more correctly viewed the other way around, TECs are simply a special case of constructions whose subjects appear in the lower of two subject positions. Although [Spec, Agr₃P] is always licensed in finite clauses, [Spec, TP] is subject to parametric variation. When it is licensed, OS is possible (dependent upon verb raising); and subject to various constraints, the subject NP may surface in either position. TECs, then, are merely a special case of the subject occurring in the lower of the two positions. Bures's Correlation falls slightly short of the mark, the true generalization being that the Germanic languages that allow OS are those that license two overt subject positions.

3.5 Is the Subject Ever VP-Internal?

In the preceding discussion we have challenged on empirical grounds the two most standard instances of VP-internal subjects at S-Structure in the Germanic languages. An important question arises at this point. Is there any evidence that subjects are *ever* internal to the VP? If there is no such evidence, then the above discussion would seriously challenge one of our underlying assumptions, namely, the basic clause architecture in (4). Without this, the notion of equidistance and the derivation of Holmberg's Generalization in section 1 become highly suspect. Fortunately, there is evidence that the base position of the subject is lower than the shifted position of the object.²⁹

²⁸ Adger (1994) presents an alternative view of similar data.

²⁹ For a critical review of the arguments that the subject is base-generated lower than the shifted position of the object, and of the implications of an alternative view, see Bobaljik 1995:chap. 5.

In Icelandic examples such as (34a), the position of the VP is clearly delineated by the resultative *rautt* 'red' on the right and the adverb *stundum* 'sometimes' on the left. That the object in (34a) occurs to the left of the adverb indicates that it is indeed shifted. The subject-oriented quantifier *allir* 'all' may follow the shifted object.³⁰ If the definite object is not shifted (i.e., it follows the adverb), then the quantifier may not follow the object (34b–c). Recalling that indefinite objects may not shift, we compare (34a–c) with similar examples involving an indefinite object (see (35)). The quantifier may not follow the indefinite, and thus unshifted, object. The paradigm is rounded out with example (36), which shows that the quantifier cannot follow the object NP if no verb raising has taken place—as is to be expected since OS is not possible.³¹

- (34) a. Í fyrra máluðu stúdentarnir húsið [VP stundum] [Ice]
last year painted the.students the.house sometimes
allir rautt].
all red
'Last year, all the students sometimes painted the house red.'
- b. ??Í fyrra máluðu stúdentarnir [VP stundum húsið *allir* rautt].
last year painted the.students sometimes the.house all red
'Last year, all the students sometimes painted the house red.'
- c. Í fyrra máluðu stúdentarnir [VP stundum *allir* húsið rautt].
last year painted the.students sometimes all the.house red
'Last year, all the students sometimes painted the house red.'
- (35) a. *Í fyrra máluðu stúdentarnir [VP einhver hús *allir* rauð].
last year painted the.students some houses all red
'Last year, all the students sometimes painted some houses red.'
- b. Í fyrra máluðu stúdentarnir [VP *allir* einhver hús rauð].
last year painted the.students all some houses red
'Last year, all the students sometimes painted some houses red.'
- (36) *Í gær hafa strákar [VP málað húsið *allir* rautt].
yesterday have the.boys painted the.house all red
'Yesterday, the boys have all painted the house red.'
(Collins and Thráinsson 1993:136)

As the paradigm indicates, the distribution of the floating quantifier is not free. Sportiche (1988) argues that "floating" (subject-oriented) quantifiers are in a position occupied by the subject at some point in the derivation. If we adopt this argument, then (34a) entails that the subject at some

³⁰ The Icelandic examples do not show the ambiguity present in the English glosses with regard to the antecedent of the quantifier. The quantifier *allir* is masculine, plural, nominative and is therefore unambiguously associated with the (also masculine, plural, nominative) subject NP, *stúdentarnir* 'the students'.

³¹ Thanks to Chris Collins for bringing the relevance of such examples to our attention. As stranded quantifiers are acceptable only with definite subjects, comparable examples cannot be constructed for either TECs or the "lower" subject positions, both of which are restricted to indefinites. For discussion of the relevance of floating quantifiers, we thank Chris Collins, Höskuldur Thráinsson, and Viviane Dépez.

point occupied a VP-internal position *lower than the shifted object*, even though, as we have shown, NP subjects cannot remain in that position at S-Structure.

3.6 Conclusion

We have shown that a range of data falls neatly within the bounds of the [Spec, TP] parameter. Subjects are base-generated internal to the VP, in [Spec, VP]. If a language allows [Spec, TP] at S-Structure, then subjects may move to this position, a necessary condition for NP OS. Although some transitive subjects move only as far as [Spec, TP] in the overt syntax, giving rise to the interpretive effects associated with two subject positions and, as a subclass of these, TECs, all transitive subjects must raise at least this far. Two questions remain: What is the status of [Spec, TP] at LF? and Why should it be the case that transitive subjects never remain in their VP-internal base position at S-Structure? We believe that there is one common answer to both questions, and it is to this that we now turn.

4 Checking Theory Refined: [Spec, TP] and LF

4.1 Checking Theory and the Extended Projection Principle

Chomsky (1993:28ff.) develops the broad outlines of a theory of (abstract) features of the inflectional elements, T and the Agr heads. Each inflectional head has two sets of features, verbal (V-features) and nominal (N-features). The verbal features check the corresponding inflectional properties of the verb, and the nominal features check the properties of NPs (i.e., DPs). The derivation "converges" (satisfies the checking theory) if, for any given inflectional head, the N- and V-features are properly paired ("match"). It is presumed that all of these features vary arbitrarily across languages with respect to a "strong" or "weak" valence. Strong features must be checked prior to the point in the derivation that feeds the phonological interface; checking of weak features may be postponed until LF.³² Taking some inflectional head (for concreteness, Agr_0^0), if the V-feature is strong, then the verb (or a complex head containing the verb) must raise overtly, adjoining to Agr_0^0 to check features. If the V-feature of Agr_0^0 is weak, then this relation need not be established until LF. Whereas the V-features relate to head movement, the N-features correspond to Case (broadly construed—that is, case and agreement) and thus govern the movement of the arguments to the specifier positions of functional projections. Taking the head Agr_0^0 again for concreteness, if the N-feature of this head is strong, then an NP argument, in this case the object, must enter into the specifier-head relationship with the head in the overt

³² Chomsky suggests that this could be derived from the principle of Full Interpretation, which dictates that every element must be relevant for the interpretation. On this approach, all of these features are visible at LF, but uninterpretable at that point. If the features are not checked (i.e., deleted; see below) before LF, then Full Interpretation is violated by the presence of uninterpretable elements. Strong features are furthermore visible (but uninterpretable) at PF. These features then must be checked (deleted) by PF in order for the derivation to converge.

"Arbitrary parameterization" here means that strong or weak valence is not necessarily tied to overt morphological variation. Bobaljik (1995:chap. 2) suggests that there is an overt morphological correlate for at least some of the variation in the Germanic languages, specifically, a correlation between the inflectional paradigms and the licensing of [Spec, TP] at S-Structure that we have been discussing.

syntax, and of course, if the N-feature of Agr_0^0 is weak, then this relation need not be established until LF. (Refinements and revisions of this theory are offered by Watanabe (1993) and other authors, but these need not concern us here.)

This checking approach to morphology allows yet another reanalysis of the well-known word order difference between English and French, discussed by Emonds (1978), Pollock (1989), Ouhalla (1990), and Chomsky (1991).

- (37) French: Les lutins mangent souvent des gâteaux. (V-Adv)
 goblins eat often cakes
 English: Goblins often eat cakes. (Adv-V)
 French: Agr[V] is strong → V raises to Agr_S^0 overtly.
 English: Agr[V] is weak → V raises at LF.

The solution offered by Chomsky (1993) is that the V-features of Agr are strong in French, but weak in English. Hence, following Emonds (1978), the verb in French is taken to raise overtly and adjoin to Agr_S^0 in order to check (and delete) the strong features, which would otherwise be uninterpretable at PF. In English the weak V-features of Agr will not cause problems at PF, and the verb may (and, by Procrastinate, must) remain in situ in the VP until LF. The verb then raises in English covertly (i.e., at LF) and adjoins to Agr_S^0 at that level—movement that is forced to ensure checking of the weak features, which would otherwise violate Full Interpretation.³³ At LF, English and French clauses are thus isomorphic.

The major advantage of this approach is that it does not appeal to syntactic lowering, as earlier approaches did, a mechanism that encounters well-known technical and conceptual problems (see, e.g., Ouhalla 1990, Speas 1991, Chomsky 1993). Further, it allows one to maintain, contra Ouhalla (1990), that the order of functional projections is constant, at least among the Romance and Germanic languages. The "problem" of how the inflectional affixes come to be realized on the verb in V^0 in English ceases to be a problem if the affixes are not generated in I^0 and if, instead, the verb is inserted from the lexicon fully inflected and has its features checked throughout the derivation.³⁴

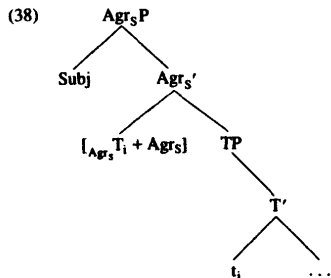
Turning now to the application of this theory of L-features that will be of central concern here, we examine the nature of the N-features of T.³⁵ Chomsky (1993:31) suggests that the requirement that all clauses have a subject (i.e., the "extended" part of the EPP (Chomsky 1982:10)) can be reduced to strong N-features of T. That is, the features of T must be checked by some NP that stands in the specifier-head relation to T at S-Structure. This requires some comment for the languages that do not license [Spec, TP] at S-Structure (i.e., the non-OS lan-

³³ In Pollock 1989 and Chomsky 1991, LF raising of the verb in English was necessary to salvage a violation of the Empty Category Principle, the trace of the lowered I being ungoverned. This is superfluous in the framework developed in Chomsky 1993.

³⁴ Though see Bobaljik 1995 for a contrary view of inflection and affixation, which does not adopt the lexicalist approach. See also Halle and Marantz 1993 for some criticisms of this instantiation of a checking theory.

³⁵ We will not discuss V-features here at all. Considerable work has been done on the distribution of verb movement among the Germanic languages. Vikner 1991 and 1994b provide an excellent overview of the issues, with a detailed bibliography. See Zwart 1993a,b for more discussion within the present framework.

guages). It would seem that we are faced with a paradox: the strong N-feature of T requires that some NP check Case features in the specifier-head relationship with T at S-Structure, but [Spec, TP] is not licensed at exactly this level. There is one solution: the head T⁰ must raise overtly, adjoining to Agr_S⁰; raising of the subject NP to [Spec, Agr_SP] can thus satisfy the requirements of T via specifier-head agreement with the complex head [_{Agr_S} T, Agr_S]. This is illustrated in the (partial) tree in (38).



Though there is no structural position [Spec, TP] in (38) (i.e., the languages in question lack NP OS, TECs, etc.), the head T may still enter into a specifier-head relationship with an NP in [Spec, Agr_S] by virtue of the fact that T is adjoined to Agr_S. It is important that expletive *there*³⁶ is sufficient to check the N-features of T, allowing the subject of an existential, unaccusative, or passive expletive construction to remain in complement position.

- (39) a. [_{Agr_SP} There were [_{VP} three trolls in my garden]].
 b. [_{Agr_SP} There [_{VP} arrived three trolls promptly at noon]].

This is the "independent" (i.e., independent of verb raising) adjunction of T to Agr_S discussed by Chomsky (1993). Now, in the languages that do license [Spec, TP] at S-Structure, the derivation in (38) would satisfy the feature-checking version of the EPP, just as it does in English and the other non-OS languages. The overt licensing of [Spec, TP], however, means that these languages

³⁶ And the preposed locative in locative inversion structures such as (i).

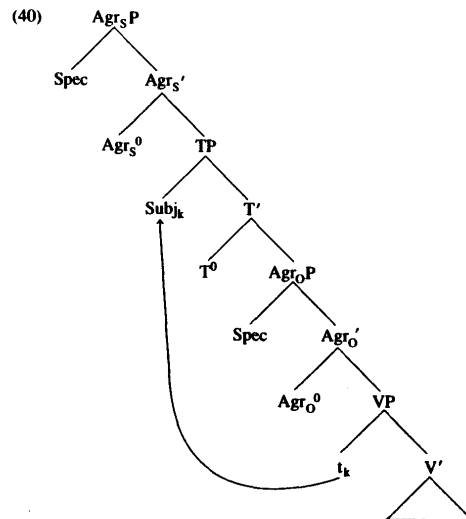
- (i) Into the room waltzed the troll.

Locative inversion is not incompatible with an expletive.

- (ii) Into the room there sauntered a/the troglodyte.

This suggests that the structure of (i) might be more complex. Specifically, if the preposed PPs in (i) and (ii) are in the same structural position, then perhaps the structure of (i) involves a nonovert expletive pro in [Spec, Agr_SP], corresponding to the overt expletive *there* in (ii), much along the lines proposed by Branigan and Collins (1993) for the English quotative construction. Note that the hypothetical expletive pro does not trigger the same definiteness effect as overt expletive *there*; hence, the definite NP is acceptable in (i) but not in (ii). Thanks to Noam Chomsky and Howard Lasnik for discussion of some of the merits and implications of this analysis. For an extensive discussion of locative inversion, see Bresnan 1994; also see Den Dikken and Næss 1993.

permit another derivation that also satisfies the feature-checking requirements for the N-features of T: the subject NP raises overtly to (or through) [Spec, TP], as illustrated in (40) (with certain abstractions).³⁷



4.2 [Spec, TP] at LF

In the discussion of our basic theoretical assumptions in section 1, we assumed that specifier positions may be generated freely in the course of a derivation, modulo (e.g.) parametric variation in the S-Structure licensing of [Spec, TP]. This statement was sufficient for the purposes of that discussion. However, some clarification is needed before we progress. An important assumption in the framework outlined in Chomsky 1993 is that any given feature may be checked only once in the course of a derivation. If checking is characterized in such a way that features disappear when they are checked (Chomsky 1993:30; see Watanabe 1993 for some modifications), this assumption is trivially true. This will serve to prevent the licensing of [Spec, TP] at LF in all

³⁷ See Jonas and Bobaljik 1993 for applications of these structures to expletive constructions in Icelandic not considered here. The relevant observation is that the "subject" NP in unaccusative and passive constructions in Icelandic may occur either in [Spec, TP] or in its base (complement of V) position when there is an overt expletive. This contrasts with languages that do not allow [Spec, TP], where the subject may occur only in its base position in these constructions. See Jonas 1995a for discussion of a wider range of phenomena in the Germanic languages more generally.

languages in which the N-features of T are strong, regardless of whether or not [Spec, TP] is licensed at S-Structure.³⁸ Though this conclusion may seem somewhat trivial, it has an important consequence, namely, that transitive subjects always have to raise out of the VP at S-Structure. Let us consider this consequence in more detail.

Recall that the N-features of an inflectional element are associated with the checking relationship between the head and some L-related NP. In the simple case, the features are checked by movement of an NP to the specifier position of the relevant inflectional projection. Another case involves head movement—adjunction of the inflectional head to a higher head, where the specifier-head relationship is established with a complex head. This is the case of English (and French) subjects in (38). When the N-feature of T is strong, one of these two configurations must be established at S-Structure with respect to the head T; its N-feature is checked, and disappears. Either way, T no longer bears an N-feature at LF. If the N-feature of T has been checked at S-Structure and has disappeared, then T can by definition not check an N-feature with any other element at LF. "[Spec, TP]"—the unique A-position L-related to T within the maximal projection of T—is never licensed at LF if the N-feature of T is strong. Note that this rules out the derivation analogous to OS at LF. We showed above that basic considerations of the system entail that [Spec, TP] is a necessary A-position for the subject if the object raises overtly (OS): the object may "skip" the subject in [Spec, VP], but such skipping is restricted to maximally one specifier position and the object moves to [Spec, Agr_{OP}]. By parity of reasoning, for the subject to raise out of [Spec, VP], "skipping" the (raised) object in [Spec, Agr_{OP}], the farthest the subject may raise at that step of the derivation is [Spec, TP]. Overt raising of both subject and object is restricted to those languages that license [Spec, TP] at S-Structure (and have overt verb raising).

Consider the hypothetical analogous derivation at LF. LF movement of the object over the subject would be permitted, assuming the verb had raised, but subsequent raising of the subject across the raised object must proceed through [Spec, TP] and would therefore be blocked.³⁹ As a first approximation, the nonlicensing of [Spec, TP] at LF would appear to force at least one argument to raise in the overt syntax. In fact, the consequence is even stronger. That [Spec, TP] is not available as an intermediate A-position at LF forces *all* transitive subjects to raise at S-Structure, regardless of whether or not the object raises overtly. We have shown the derivation of OS, in which both arguments raise at S-Structure, and have just noted that the derivation in

³⁸ Recall that we are crucially using the term *specifier* to refer to "the unique position that *actually* checks its features with the head"—that is, the unique L-related A-position. The structural position "daughter of TP, sister to T" could in principle be licensed as a position, but it will not be licensed as an A-position if the head T cannot check features with it.

³⁹ This assumes that the Strict Cycle Condition (or whatever it reduces to; see Kitahara 1995, Watanabe 1994) is relevant at LF as well as S-Structure. Chomsky (1993) assumes that LF movement may be countercyclic, but this assumption stems from formulating the Strict Cycle Condition in terms of extending phrase markers by Generalized Transformation, which is problematic for independent reasons. If the Strict Cycle Condition in fact does reduce to economy principles, then the null hypothesis should be that it is relevant at LF. Bures (1992, 1993) argues extensively for the existence of the cycle at LF, principally on the basis of his analysis of TECs in Germanic. We are in the position of rejecting Bures' arguments and analysis on empirical grounds (see section 3), but accepting the conclusion that the Strict Cycle Condition holds at LF. However, this move is supported by two independent views of the cycle, both of which entail that it holds at LF, namely, those of Kitahara (1995) and Watanabe (1994).

which both arguments raise at LF is excluded. The derivation in which the subject raises overtly and the object at LF has also been discussed, because it is the assumed derivation of English and Romance transitive clauses, given in (6) (abstracting away from the variation in verb raising). The remaining derivation to consider, then, is the one in which the object raises overtly and the subject at LF. The subject must raise at LF across the shifted object in [Spec, Agr_{OP}], but by hypothesis it cannot utilize [Spec, TP]. Regardless of the movement of the verb, there will be no chain with respect to which [Spec, Agr_{OP}] and [Spec, Agr_{SP}] will be equidistant and the raising of the subject will violate Shortest Movement. The derivation is, in fact, in all ways identical to the excluded derivation of OS in languages that do not license [Spec, TP] overtly, and to an intermediate stage of the excluded derivation of subject and object raising at LF. Thus, we claim that

- (41) a. The EPP qua strong N-feature of T entails that [Spec, TP] will not be available at LF.
 b. The lack of [Spec, TP] at LF entails that the subject of a transitive clause must always raise to a VP-external position at S-Structure.

Such a claim would appear to run counter to a number of fairly convincing arguments in the literature that subjects of certain transitive clauses are VP-internal at S-Structure. However, in the preceding sections we have shown that these arguments, specifically the standard analyses of TECs and of interpretive correlations of positional differences for subjects, do not stand the test of an expanded range of data. That is, we have demonstrated not only that there are no empirical arguments in favor of VP-internal subjects at S-Structure, but also that whenever the position of a transitive subject can be carefully tested, it turns out to be external to the VP, in a position we have suggested is [Spec, TP].

We have thus reached the fortunate state of affairs where the empirical arguments in section 3 and the conclusions of the theory-internal arguments in this section dovetail very neatly. Such a situation, we feel, cannot be accidental.

5 Summary and Extensions

In this article we have examined a range of constructions that appear to covary among the Germanic languages, including those involving OS, TECs, and semantic correlates of two hierarchically distinct subject positions. Building on work by Jonas (1992) and Bures (1992, 1993), we have shown that there are both empirical and theory-internal factors that implicate [Spec, TP] in all of these constructions, suggesting a natural place in the theory for parametric variation. We first examined the nature of OS in this respect, motivating its use as a diagnostic for the licensing of [Spec, TP]. We then introduced empirical evidence that supports Diesing's (1990, 1992) claim that there are two overt subject positions in German, extending this claim to other languages and constructions. However, contrary to Diesing's account and to previous analyses of TECs (see especially Sigurðsson 1991, Bures 1993, Vikner 1994b), we have shown that both subject positions are external to the VP at S-Structure. Assuming the articulated IP clausal structure in (4), we have shown that both subject positions are higher than the position of the shifted object [Spec,

Agro] yet within IP (i.e., lower than the position occupied by the topicalized element and the verb—the V2 effect). This is the clearest piece of empirical evidence for the existence of [Spec, TP]. Finally, we presented theory-internal reasoning that forces the conclusion that although the S-Structure availability of [Spec, TP] may be subject to parametric variation, this position is not available at LF in any language that displays so-called EPP effects. Further, the unavailability of [Spec, TP] at LF entails that transitive subjects always raise out of the VP in the overt syntactic component. Clearly, then, the theoretical and empirical evidence converge in an interesting way.

There is one final point we would like to touch upon, though thorough consideration of it must be left for future research. So far we have discussed the syntactic implications of the [Spec, TP] parameter without proposing what might derive such a parameter. In the spirit of Chomsky 1993, the feature or features that underlie crosslinguistic variation could in principle be purely arbitrary, and not obviously tied to any visible (i.e., overt) morphological differences. This is how Chomsky intends strong versus weak variation of the N- and V-features of functional heads to be understood (see section 4 above). However, here we suggest another approach and propose a way to relate the [Spec, TP] parameter to other aspects of Germanic, both syntactic and morphological. First we discuss aspects of the syntax of [Spec, TP], proposing a syntactic trigger to account for acquisition of the parameter; then we discuss a morphological approach.

5.1 The Syntax of the [Spec, TP] Parameter

In section 4.1 we argued that in languages in which [Spec, TP] is not licensed at S-Structure, the EPP requirement that the strong N-feature of T be checked overtly forces the head T to raise independently and adjoin to Agr_S. As discussed, this feature checking can take place in two ways: the EPP may be satisfied either in [Spec, Agr_S] if T raises to Agr_S (independent of verb raising), or in [Spec, TP] when this position is available in the overt syntax. Further, we have proposed elsewhere (Jonas and Bobaljik 1993) that [Spec, TP] is the position where subject Case checking occurs in TECs in Icelandic, the subject raising to [Spec, Agr_S] at LF to replace the expletive and check agreement features. Jonas (1995a) extends this analysis to propose that the configuration of T required to license [Spec, TP] as a Case-checking position for the subject is [_{TP} Agr_O V_{fin} Agr_O] T, whereas the trace of T following independent raising of T to Agr_S cannot accomplish this licensing. The general idea in this account is that a functional head can enter into a checking relation only if it has a full set of L-features. With respect to the head T, this means that the Case of the subject can be checked in [Spec, TP] only when the head T has a full set of L-features. A full set of features is provided by adjunction of the complex head Agr_O (containing the verb) to T. Thus, it is only in the absence of overt verb movement to T (or rather V-to-Agr_O movement, followed by Agr_O-to-T movement) that T raises independently to Agr_S and the Case of the subject is checked in [Spec, Agr_S].⁴⁰

The proposal sketched above can account for the distribution of TECs in the Scandinavian

⁴⁰ When T raises independently to Agr_S, forming the complex head [_{Agr_S} T Agr_S], which contains a full set of L-features, enabling subject Case (and agreement) checking to occur.

languages, since the Scandinavian languages that allow TECs are those that also have overt V-to-T movement (Jonas 1995a). Vikner (1994a) accounts for the distribution of TECs in the Germanic languages by arguing that only those languages that have verb movement to I⁰ independent of verb movement to C⁰ license subjects in [Spec, VP] in these constructions. V in I assigns Case to the indefinite subject in [Spec, VP] whereas I⁰ without lexical content (without V-to-I movement) is not a licenser. We have shown that the subjects of TECs must be in a VP-external position at S-Structure; however, there is a correlation between the possibility of TECs and overt V-to-T movement (Vikner's V-to-I movement) in the Scandinavian languages.⁴¹

Vikner (1994a) uses the following two diagnostics to show that a language has V-to-I movement: verb movement in clauses embedded under nonbridge verbs and verb movement in embedded indirect questions. Vikner proposes that nonbridge verbs do not allow CP recursion, whereas bridge verbs do freely allow CP recursion and hence their complements may have main clause properties, including V-to-C movement.⁴² As stated in section 3.1, Faroese I does allow TECs, and there are also speakers who allow verb movement in contexts that Vikner takes to be diagnostic of V-to-I movement. Examples are given in (42).⁴³

- (42) a. Eg spurdi hví Jógvan hevði; ikki t; lisið bókina. [Fa I]
I asked why Jógvan had not read the book.
'I asked why Jógvan had not read the book.'
- b. Venjarin harmast um, at dreinginir komu; ikki t; til venjingina.
the.coach regrets that the.boys came not to.the.practice
'The coach regrets that the boys didn't come to practice.'

Thus, Faroese is not a counterexample to the generalization made by Jonas (to appear) with regard to verb movement and the availability of [Spec, TP] in the Scandinavian languages.

This correlation between V-to-I movement and the availability of [Spec, TP] as an A-position potentially provides an account of how the language learner might correctly set the [Spec, TP] parameter. Jonas (1995b) proposes that the presence of overt V-to-T movement in a language may provide the language learner with a linguistic trigger (in the sense of Gibson and Wexler 1994) to show the availability of [Spec, TP] as an intermediate A-position. Taking the unmarked case for the language learner to be that T raises independently to Agr_S, the child may learn on the basis of evidence for V-to-T movement that [Spec, TP] is licensed as a subject position within a given language.⁴⁴

⁴¹ To extend this account to Germanic in general means assuming that the Germanic OV languages also have overt V-to-T movement in both main and embedded clauses, since TECs occur in both contexts. This is not an uncontroversial claim.

⁴² See Vikner 1994a for an extensive discussion of embedded word order facts in Scandinavian.

⁴³ Younger speakers do not accept verb movement in embedded clauses as readily as older speakers, nor do they accept TECs to the same extent (see Jonas 1995a for discussion). For different analyses of verb movement in Faroese, see Vikner 1994a and Rohrbacher 1994.

⁴⁴ See Jonas 1995b for an account of the 'optional infinitives' stage (Wexler 1994) in the acquisition of verb syntax. Under this account, when the child produces nonfinite (and nonraising) forms of the verb, T adjoins independently to Agr_S. It is only later, upon learning that the language has V-to-T movement, that the child concludes that [Spec, TP] is potentially available.

5.2 The Morphology of the [Spec, TP] Parameter

In Bobaljik and Jonas 1993, building on an observation by David Pesetsky, we noted an apparent correlation between the [Spec, TP] parameter and verbal inflectional paradigms.

(43) Morphological licensing of [Spec, TP]

A language licenses [Spec, TP] (in addition to [Spec, Agr_S]) at S-Structure, iff it has independent tense and agreement morphology.

By *independent morphology*, we mean that tense and agreement morphemes cooccur at least somewhere in the paradigm of main verbs. Contrast, for instance, Icelandic and English inflectional paradigms for regular (i.e., weak) verbs.

(44)	Icelandic: <i>kasta</i> 'to throw'		English: <i>toss</i>	
	Present	Past	Present	Past
1sg	<i>kasta</i>	<i>kasta-ði</i>	<i>toss</i>	<i>toss-ed</i>
2sg	<i>kasta-r</i>	<i>kasta-ði-r</i>	<i>toss</i>	<i>toss-ed</i>
3sg	<i>kasta-r</i>	<i>kasta-ði</i>	<i>toss-es</i>	<i>toss-ed</i>
1pl	<i>köstu-um</i>	<i>köstu-ðu-m</i>	<i>toss</i>	<i>toss-ed</i>
2pl	<i>kast-ið</i>	<i>köstu-ðu-ð</i>	<i>toss</i>	<i>toss-ed</i>
3pl	<i>kasta</i>	<i>köstu-ðu</i>	<i>toss</i>	<i>toss-ed</i>

In the Icelandic past tense, the morphemes indicating tense and agreement are discrete, and they cooccur in single forms (e.g., 1pl past *köstu-ðu-m*). We say, therefore, that they are independent. In English, although there are discrete morphemes that mark past tense (-*d*) and agreement (3sg: -*s*), the two are in complementary distribution. Thus, in the sense relevant for (43), the morphemes are not independent.

There are two problems with (43). First, given the lexicalist hypothesis (checking theory), there is no reason that any correlation should hold between inflectional morphology and syntactic structure, and if such a correlation does exist, why (43) should be more natural than any other possibility. More importantly, (43) does not hold.

Within Germanic, three languages potentially pose a problem for (43): Faroese, Yiddish, and Afrikaans. As mentioned earlier, one dialect of Faroese does not license [Spec, TP], though it has number agreement in the past tense. Yiddish has no simple past tense (hence, it does not show cooccurrence of agreement and tense morphology), yet it licenses [Spec, TP]. And although accounts for these cases are not unimaginable, Afrikaans provides the worst possible problem for (43): it has no person, number, or tense morphology in its verbal inflection, yet it, like Yiddish, licenses [Spec, TP].

Bobaljik (1995:chap. 1) offers an alternative proposal, related to (43).

(45) In a given language, if tense morphology blocks agreement morphology, then that language does not license [Spec, TP].

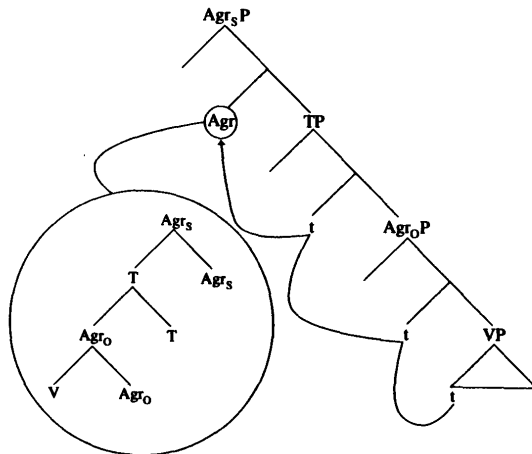
Abandoning the lexicalist hypothesis in favor of a theory of morphology in which morphemes

are inserted at terminal nodes concatenated by the syntax (cf. the Distributed Morphology of Halle and Marantz 1993, Noyer 1992), Bobaljik proposes to derive (45) from more basic principles of morphology.

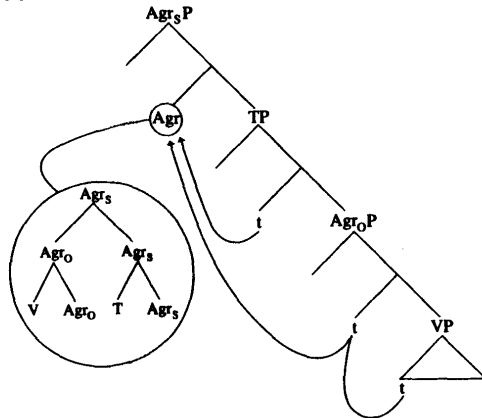
In brief, he suggests that complementarity between tense and agreement markers in the verbal paradigm indicates that the two *compete* for insertion at the same terminal node, but, given standard assumptions about disjunctivity, only one will ever be inserted. This is, by hypothesis, possible only if a single node (i.e., head or subhead) is created in the syntax that dominates both Tense and Agreement but excludes the verb. The two possible derivations that satisfy the EPP, alluded to in section 5.1, create the heads shown in (46).

In (46a), the head created by the syntactic derivation that does permit [Spec, TP], there is no node that dominates both tense and (subject) agreement but excludes the verb. This head is thus incompatible with a language whose morphology includes a past tense marker, but in which agreement markers and the past tense marker do not cooccur (i.e., English and the Mainland Scandinavian languages), though it is entirely licit for a language with independent tense and agreement markers (Icelandic, continental Germanic) and for a language with no simple past tense (Yiddish, Afrikaans). By contrast, (46b) does have a node that dominates both tense and subject agreement and excludes the verb. Therefore, this derivation is permitted in English and Mainland Scandinavian. However, as discussed above, this head is the result of a syntactic derivation that precludes the use of [Spec, TP]. In this manner, the [Spec, TP] parameter reduces to observable aspects of the inflectional morphology.

(46) a. [Spec, TP] licensed



b. [Spec, TP] not licensed



5.3 Concluding Remarks

The two analyses sketched above, from Jonas 1995a and Bobaljik 1995, both account for the [Spec, TP] parameter, reducing it to other facts about the grammars of the languages concerned. However, both require altering or abandoning certain theoretical assumptions that underlie sections 1–4 of this article. Although neither analysis entails abandoning the account or conclusions central to the article, both extend the research in ways the full implications of which are neither clear at the present moment, nor thoroughly germane to the discussion. We have included the analyses to suggest that the [Spec, TP] parameter may not be a matter of arbitrary parameterization, and may well be derived from basic principles of the grammar. We leave explication of this issue, and consideration of its consequences, for future work.

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CP Recursion and *that-t* Effects

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The adverb effect (adverbials mitigating *that-t* effects) is given a CP recursion analysis within a minimalist framework. Derivational CP recursion yields structures in which the head of the lower CP, whose specifier contains the adverbial, licenses a subject trace by virtue of the relation between the specifier and head of the superordinate CP. Although affective adverbials generally trigger inversion, they do not in adverb effect constructions because of the relations among specifiers and heads in CP recursion structures. Argument topics in CP recursion structures do not mitigate *that-t* effects because they achieve their position via Move, whereas adverb effect adverbials enter the structure via Merge.

Keywords: *that-t* effect, adverb effect, CP recursion, topics, affective adverbials

1 Introduction

No theory of movement or the licensing of empty categories can be complete without an explanation for the familiar paradigm in (1).

- (1) a. Who do you think will arrive on time?
- b. *Who do you think that will arrive on time?
- c. What do you think (that) Lee bought?
- d. How do you think (that) Robin fixed the car?

Chomsky and Lasnik (1977) attribute the ungrammaticality of (1b) to a filter that rules out the sequence *that t*. One goal of Government-Binding Theory has been to discover an explanation for the sensitivity of subject traces to adjacent overt complementizers that would derive from structure-based licensing conditions on empty categories. A variety of approaches to this problem have been proposed, among them those of Chomsky (1986), Rizzi (1990), and Lasnik and Saito (1992).

Culicover (1992a) has argued that the data in (2) provide evidence that a filter-based account of the *that-t* effect is empirically more adequate than an Empty Category Principle (ECP) account.¹

- (2) a. Robin met the man Leslie said that for all intents and purposes was the mayor of the city.

¹ Culicover regards the sentences in (2) as fully grammatical, though some people disagree. My feeling is that some examples are marginal, but all are markedly better than the sentences in (3).

[*Editor's note:* The work listed as Culicover 1992a was written after the works listed as Culicover 1992b,c. The three works appear in the reference list alphabetically rather than chronologically.]