NP-movement in Icelandic and Multiple Specifier Constructions

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Abstract: Icelandic NP-movement is Case-driven A-movement dislocating any NP with structural Case to the middle field. We argue that all NP-movement targets a Multiple Specifier Construction of TP. The hypothesis explains why the landing site does not correlate with the Case of the NP, why sentential adverbs show that all NP-movement targets the same phrasal category, and why the c-command relations under movement mirror those in-situ ('tucking in'). To allow \( vP/Agr \)-driven NP-movement (Object Shift) to target \([Spec, TP]\), cyclicity is simplified so that head movement to provide a limited escape hatch. The system, relying only independently needed principles of locality, predicts all and only possible combinations of NP-movements. The nature of the property that allows a head to host multiple specifiers (or one feature to trigger multiple movements) is cast as an optional 'marked' operations of Reinhart (1995), and a theory is proposed for all such movements that allows the addition of EPP features up to convergence.

1 Introduction

This paper argues that NP-movement in Icelandic uniformly targets the TP, creating under certain conditions a MULTIPLE SPECIFIER CONSTRUCTION (MSC) of TP, rather than different phrasal categories depending on the Case of the NP (e.g. \([Spec, Agr_3P]\) for nominative, \([Spec, Agr_0P]\) for accusative)\(^1\). I use NP-movement for those displacements of NPs that interact with Case licensing and are characterized by A rather than \( \overline{A} \)-properties, thus excluding both \( \overline{A} \)-movement and A-scrambling. Icelandic has a rich inventory of NP-movements, and a rich system of Case and agreement\(^2\). Like all Germanic languages, it has the familiar object promotion of the agreeing nominative argument of passive/unaccusative verbs, obligatory if an expletive does not satisfy the EPP:

1)a) Það mundu hafa verið seldir \([\text{fjórir bílar}]_{\text{NP}}\) 
   there would-3.PL have been sold-N.PL.M four cars-N.PL.M
b) \([\text{Fjórir bílar}]_{\text{NP}}\) mundu hafa verið seldir \( t_{\text{NP}} \)

According to the VP-internal Subject Hypothesis, the same movement displaces the

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\(^1\) I would like to thank Elizabeth Cowper, Alana Johns, the audience at CGWS 16, and especially Diane Massam for comments.

\(^2\) This proposal has been made for movement of nominative associates in expletive constructions in Icelandic by Chomsky (1995:sec. 4.10), and for all Icelandic NP-movement by Richards (1997:92-3); that OS creates MSCs of \( vP \) has been argued by Rezac (2001). This is in contrast to earlier proposals, e.g. Chomsky (1993), Bobaljik and Jonas (1996), Collins and Thráinsson (1996), where nominative, accusative, and dative each target a different phrasal category.

\(^2\) The four Cases with their abbreviations are nominative (N), accusative (A), genitive (G), and dative (D). Agreement marks person (1, 2, 3) and number (SG, PL) on finite forms, and number, Case, and gender (M, F) on passive participles. The combination 3.sg.N/A.neut also marks default agreement (DFLT).
subject of a transitive or unergative verb from its in-situ position in [Spec, vP].

However, objects of passives/unaccusatives and external arguments of transitives/unergatives can also undergo optional NP-movement if the EPP is satisfied by an expletive, giving the following distribution:

2)a) Það munu fórir bílar hafa verið seldir
   there would-3.PL <four cars-N.PL.M> have been sold-N.PL.M
b) Það munu flestir hafa flestir gert neitt
   there would-3.PL <most-N> have <most-N> done anything-A

As can be seen in (2)a), this movement of the nominative is to the 'middle field', a position between the highest verbal material in T₀ (the modal mundu)⁴ and the EXTENDED VERBAL COMPLEX (EVC) which consists of the remaining in-situ modals/auxiliaries (hafa, verið) and the main verb (seldir). The EVC can never be broken up by NP-movement.

The accusative objects of transitive constructions, in-situ in (3)a), also undergo an optional NP-movement known as OS (OS). OS can freely combine with the previously mentioned NP-movements of nominatives ((3)b), (3)c); the negative adverb ekki marks the left edge of the EVC), but must preserve the in-situ nominative > accusative ordering:

3)a) Jón hefur ekki lesið þrjár bækur
   John-N has-3.SG not read three books-A
b) Jón las þrjár bækur ekki
   John-N read-3.SG three books-A not
c) Það sáu margir þessa mynd ekki
   there saw-3.PL many-N this picture-A not

The same remarks observations hold of triadic constructions, which are always ditransitives with a nominative external argument and various patterns of accusative/m-case morphology on the internal arguments ((D, A), (A, D), (A, G), (D, D), (D, G); Yip, Maling and Jackendoff 1987). Here OS can apply to one or both objects up to and including the lowest object with structural Case (thus to both D and A in the (D, A) pattern, but only A in the (A, D) pattern), again combining with subject movement, but always necessarily preserving in-situ ordering:

4) Ég lána Maríu bækurnar ekki t₁ t₂ t₃
   I lend Maria-D the.books-A not

Beside nominative monadic passive/unaccusative constructions, and nominative-accusative dyadic transitive constructions, Icelandic also has monadic passive/

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³ The <x> ... <x> convention means that in any expression, only one instance of x is to be realized; normal grammaticality and parentheses conventions apply as expected.
⁴ Icelandic is a symmetric V2 language in which V-to-I (T) raising can be demonstrated as an independent verb movement, as opposed to Mainland Scandinavian where the I position is targeted only due to the Head Movement Constraint in V-to-C raising: e.g. Vikner (1995), Jonas (1996a). Depending on the analysis of V2, the auxiliary in (2) may be either in T⁰, or both the auxiliary and the initial constituent have further moved to C⁰ and [Spec, CP], resp.: see section 3.1.
unaccusative constructions with NPs with morphological case (m-case) (5)a), dyadic transitive constructions with a nominative external argument but m-case on the object (5)b), and dyadic intransitive constructions with an m-case marked external argument and nominative object, sc. *piacere*-class psych-verb unaccusatives and passives of ditransitives and (5)c):

5) a) \( V_{\text{pass./unacc.}} \ NP-DAT \)
b) \( \text{NP-NOM} \ V_{\text{trans.}} \ NP-DAT \)
c) \( \text{NP-DAT} \ V_{\text{psych./pass.ditrans.}} \ NP-\text{NOM} \)

NPs with m-case do not trigger agreement, unlike NPs with structural Case. However, the pattern of NP-movements available for them is exactly the same as for those constructions with an analogous NP with structural Case. The dative in (5)a) has the same range of NP-movements as a nominative object of passives/unaccusatives, the dative in (5)b) undergoes OS in the same way an accusative does and combines with nominative NP-movement in the same way as well, and the range of NP-movements available in (5)c) is exactly the same as for a nominative-accusative transitive construction. An example of the last is the following (cp. (3)c)):

6) \( \text{Það liked-DFLT} \ \text{flestum most-D} \ \text{þessi this} \ \text{bók book-N} \ \text{ekki not} \)

Both the OS of accusatives in (3) and NP-movement of the internal argument in (5)b) and (5)c) obey Holmberg's Generalization (HG): 6

7) HG: If a verb has an external argument, NP-movement of an internal argument is only possible if \( V^0 \) moves to \( T^0 \).

Given this parallel, therefore, when Case theory is not crucial I will often restrict given examples to nominative and accusative only. Descriptively, I will use the term SUBJECT MOVEMENT to refer to the movement of the only or highest argument (either for EPP purposes or to the middle field), and OS for movements of the internal argument(s) when there is an external argument (namely those constrained by HG).

Icelandic also has ECM infinitivals in Raising and object ECM constructions, and NP-movement operates here in full generality (and is not possible across other clausal boundaries). For example, in (8)a) the object of the embedded unaccusative moves into the matrix middle field, and similarly for OS of the ECM subject in (8)b):

8)a) \( \text{Það would-3.PL} \ \text{mundu many men-N} \ \text{virðast to.seem have.been} \ \text{þessi this} \ \text{hafa to.be} \ \text{t’ here} \)

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5 There are also more marginal dyadic intransitive patterns with both arguments bearing morphological Case (a variety of (5)c), with both psych-verbs and passives of (D, D), (D, G) ditransitives), and an unaccusative construction with the internal argument ending up with an apparently structural accusative (Zaenen and Maling 1990).

6 Besides V-to-T movement, long head movement of the verb to the CP also licenses OS (regularly only of pronouns) in Norwegian (Holmberg 1999); this movement is not available in Icelandic.
b) Hann telur Maríu líklega [t vita svarið]

he believes-3.SG Mary-A probably to.know the.answer

Multi-clausal examples will not be the main focus here, since for our purposes their properties are identical to those of monoclausal constructions.

The argument presented in this paper is that despite most previous analyses, all NP-movements target [Spec, TP], creating an MSC of TP if multiple NP-movements take place, or if an expletive is present in combination with NP-movement(s). Section 2 discusses the properties of NP-movement, showing that it is Case-driven A-movement targeting a landing site which is also the locus of sentential adverbs. Section 3.0 shows why this presents a paradox in the case of OS, and states the assumptions about the Case/Agreement/A-movement system adopted here, which are those of Chomsky (2000). Section 3.1 surveys the properties of MSCs established in previous literature and defends the MSC analysis for NP-movement of nominatives. It also addresses the question of the position of the verb in the MSC of TP by providing a CP analysis of Icelandic symmetric V2. Section 3.2 shows how OS can be incorporated into this system, targeting the TP despite being driven by the accusative Case licenser \( v^0 \), without violating cyclicity. Section 3.3 shows how the MSC hypothesis in conjunction with the theory of Locality gives a correct account of the constraints on NP-movement interactions without added stipulations such as equidistance, and section 3.4 compares this with the major previous analyses in terms of theoretical machinery and empirical coverage. Section 4 investigates the nature of MSCs and the syntactic mechanisms that license them from a different angle, the concept of optional 'marked' operations of Reinhart (1995), and presents a theory of how such operations are encoded in the syntax. Section 5 concludes.

2 Properties of OS and AS

2.1 Icelandic NP-movement as Case-driven A-movement

In English, NP-movement in passive and Raising constructions is characterized by an array of properties that distinguish A-movement from Ā-movement: absence of weak cross-over (WCO), non-licensing of parasitic gaps (PGs), and the creation of new configurations for Conditions A and C of the Binding Theory. In Icelandic, NP-movement can be compared on these tests with Ā-movements (wh, topicalization); in particular, NP-movements to the middle field can be compared with a minimally different type of Ā-movement displacing NPs to the left edge of EVC: NEGATIVE/QUANTIFIER MOVEMENT (NM/QM), which obligatorily affects negative objects and for some speakers optionally affects quantified objects (Rögnvaldsson 1987, Svenonius 2000), and is not constrained by HG.

9) Jón hefur <ekkert> gert <*ekkert>

John has <nothing> done <nothing>

The above diagnostics have been applied to NP-movement and contrasting Ā-movements since Holmberg (1986) used them for OS in Swedish, so I will only review
the results. For WCO and PG licensing, there is unanimous agreement: subject movement for EPP purposes or to the middle field and OS do not trigger WCO or license PGs, while NM/QM, wh-movement, and topicalization do.

In terms of establishing new binding-theoretic configurations, the results have been more controversial. While there is agreement that OS creates new Condition C effects, Holmberg and Platzack (1995:149) claimed that OS, unlike passive movement, does not create new configurations for Condition A (anaphor binding). This has been challenged in the literature by Jónsson (1996:74ff.) and McGinnis (1998:168); cp. Thráinsson (2001:176ff.) for comments. McGinnis seems to have convincingly resolved the question in favor of OS feeding Condition A: in (10), binding of the anaphor sínú is possible by the object Jón iff it undergoes OS (10)a) or passive movement (10)c).

10)a) ég sá Jóní [aldrei í lífi sínú] tₙ₁ active, OS
I-N saw John-A never in his life
b) *égsá [aldrei í lífi sínú] Jóní active, no OS
I-N saw never in his life John-A
c) Jóní sást [aldrei í lífi sínú] tₙ₁ passive
John-N was.seen never in his life

Similarly, Jónsson (1996:74) shows that middle-field subject movement also creates new Condition A configurations, unlike topicalization and NM/QM.

Since Chomsky (1981), A-movement has been associated with structural Case licensing and agreement. Following Holmberg (1986) for OS and Maling and Zaenen (1985) for passive promotion in Icelandic, Jónsson (1996:71, 86) shows that OS and subject movement affect only NP arguments, including some with m-case, but not PPs or their NP complements. Wh-movement, topicalization, and NM/QM can affect either:

11)a) María hefur [um ekkert annað], talað tₙ₁ í meira en viku (NM/QM)
Mary has about nothing else talked for more than a.week (NM/QM)
b) *Ég talaði [við Jón], ekki tₙ₁ (OS)
I talked to John not

Thus, all NP-movement is A-movement sensitive to structural Case licensing.

2.2 The target of NP-movement

NP-movement broadly targets two positions. The high position, which must be filled by either an expletive or the highest NP with structural Case, precedes T₀ and all sentential adverbs (excepting V3 adverbs, q.v. below), and follows complementizers in (a layer of) CP. This position is traditionally identified with [Spec, TP], required by the

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7 For OS, Déprez (1989:202ff) was the first to demonstrate absence of WCO results, and Déprez (1989:202-208) the non-licensing of PGs. For the rest, the most extensive investigations is Jónsson (1996:66ff., 84ff.).
8 The seminal work of Zaenen et al. (1985), is at the heart of the later argument that some NPs with morphological Case also need structural Case licensing, and thus despite m-case this evidence can still be taken to draw a line between structural and lexical Case; see section 3.0.
With NP-movement to the middle field (OS and subject movement to the middle field), the question of a landing site is more complicated. It is left-delimited by T₀ and right-delimited by the left edge of the EVC, which contains in-situ modals/auxiliaries and verbal material. The problem lies in interaction with sentential adverbs.

A brief excursus is needed on the linear order of sentential adverbs in the middle field, all of which must be to the left of the EVC (cp. e.g. Jónsson 1996:57). The negative adverb *ekki* is the lowest of the sentential adverbs, obligatorily following evaluative adverbs like *sennilega* 'probably' and temporal adverbs like *stundum* 'sometimes' (Jónsson 1996:91, 122). These in turn generally occur to the right of T₀ filled by the highest verbal material (modal, auxiliary, or main verb), exceptions being V3 adverbs which can be sandwiched between the subject and T₀ (Thráinsson 1993; e.g. *eflaust* 'doubtlessly' vs. V3 *sennilega* 'probably'). For diagnostic purposes it is important to note that negation and some temporal adverbs (*stundum* 'sometimes', *aldrei* 'never'), but not all (*oft* 'often'), are restricted to the middle field and cannot follow the VP, unlike manner adverbs and the manner reading of sentential adverbs (*örrugglega* manner 'in a sure manner' when final, rather than sentential 'surely, definitely': Vikner 1994:139).

Typically, negation and temporal adverbs have been used as middle-field NP-movement diagnostics, distinguishing OS from subject movement. However, looking at a wider range of examples in the literature, what we find is that all NP-movements to the middle field, regardless of the Case of the NP, can in fact target exactly the same positions between T₀ on the left and negation on the right (see Jónsson 1996, Jonas 1996a, Collins and Thráínsson 1996, and the examples in Sigurðsson 2000, 2001)⁹:

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This point is brought out rather strikingly when we consider that in cases of multiple OS in ditransitive constructions, the two shifted objects can be split by an evaluative adverb:

13a) *Ég kenndi nemendunum, sennilega/stundum kvæði, alls ekki t₁, t₂*

*I taught the.students-D probably/sometimes the.poem-A at.all not*

(Collins and Thráinsson 1996:413, ex. 38a-b)

13b) *?Ég gaf Mariú þetta símanúmer líklega/sennilega/eflaust upp*

*I gave Maria-D this phone.number.probably/probably/doubtlessly up*

⁹ Judgment in the literature varies on OS between evaluative adverbs and temporal adverbs; it is judged ungrammatical by Vikner (1991:289), but only somewhat degraded (?) by Jónsson (1996:68, ex. 62a), and fine in other examples like (14c) below. Collins and Thráínsson (1996:409, ft. 28) show that judgments vary with specific adverbs of the similar meaning; cp. also Thráínsson (2001:162-3). There is similar variation in the examples Sigurðsson (2000, 2001) gives, governed by such factors as bare quantifier (*margir* 'many') vs. restricted quantifier (*margir kommar* 'many commies'). This is consonant with the semantics of NP-movement discussed in section 4, where it is argued that NP-movement takes place only if it can derive an otherwise unavailable semantic representation, including focus structure and scopal relations between NPs and adverbs. Cp. also Collins and Thráínsson (1996:406) on the effect of intonation in multiple NP movement.
The same holds generally of NP-movement interaction, for example the nominative external argument and accusative internal argument in a transitive expletive construction:

14a) Paðá | saw | margir | many-N | þessa | this movie-A | ekki | not

14b) Paðá | bought | margir | stúdentar | many-N | stúdentar | students-A | námsbækunar | the.textbooks-A | ekki | not

14c) Í fyrra | luku | sennilega | margir | stúdentar | finished probably | many-s | verkfnunum | mine-N | aldrei | not

It thus seems that the landing site of NP-movement cannot be correlated with the Case of the NP, as far as interaction with sentential adverbs can be used as a diagnostic, and further that this interaction is fairly free.

A comparison of intermediate NP-movement with the landing site of NM/QM is also interesting, since both are movements to the middle field right-delimited by the left edge of the EVC (Rögnvaldsson 1987:44). In contrast to NP-movements, the landing site of NM/QM is obligatorily below evaluative adverbs like líklega 'probably' and temporal adverbs like ennþá 'yet, still' (Jónsson 1996:91-2, Svenonius 2000, ex. 50), below the position of NP-movements (OS in particular, Rögnvaldsson 1987:46; also below middle field subjects, Jónsson 1996:90)\(^\text{10}\). Jónsson (1996) concludes that NM targets a NegP category that selects the EVC as its complement, while Svenonius (2000) argues that NM/QM is Quantifier Raising to the left edge of the EVC. The contrast between NM/QM and NP-movement is useful because it allows a conclusion about the target of OS that is relatively independent of the particular theory of adverbs one adopts. On the standard assumption that the locus of accusative Case licensing (say v\(^0\)) is part of the EVC and in particular that it is c-commanded by the position of negation and sentential adverbs, OS (and all NP-movement) cannot target a position locally related to v\(^0\), but a higher position\(^\text{11}\). This tallies with the relative freedom w.r.t. sentential adverbs.

The free ordering of sentential adverbs and NP-movement is problematic for some contemporary theories of adverb placement. The fundamental result of the extensive recent research on adverb positions, esp. Alexiadou (1997) and Cinque (1999), is that the relative ordering of (classes of) adverbs with respect to each other is largely fixed cross-linguistically, and that this ordering also holds, albeit inversely, among suffixes of parallel semantic import. Let us call this result the Adverbial Hierarchy. It has been interpreted in two ways (ep. Svenonius 2001). Alexiadou (1997) and Cinque (1999) follow what Ernst (1984) called a 'tight-fit' approach to adverb placement. This approach calls for a close connection between syntactic structure and adverb placement.

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\(^{10}\) As Rögnvaldsson (1987:46) demonstrates, NM/QM can cross over A-positions, so Relativized Minimality is not at work.

\(^{11}\) The NM/QM – OS contrast is significant because HG blocks OS unless EVC is empty; NM/QM allows us to control for this.
Much as Jackendoff’s (1972) three mutually-ordered classes of adverbs (manner, subject-oriented, and speaker/discourse-oriented) were interpreted as marking the edges of different phrasal categories (e.g. Emonds 1976), Cinque interprets the Adverbial Hierarchy as evidence for over thirty separate phrasal categories, with the adverbs base-generated in their specifiers and inflectional affixes in their heads. The alternative approach, e.g. Ernst (1984), Shaer (1998), Svenonius (2001), argues that the Adverbial Hierarchy follows from a combination of partial correlation between adverb placement and syntactic structure, and adverbial semantics and scope. The hierarchy is encoded by giving each adverb a semantic type which determines its possible composition with other objects. Although this ‘loose-fit’ approach allows a certain amount of desirable flexibility and prevents the otherwise unmotivated proliferation of syntactic categories, it does so at the cost of multiplying the semantic ontology.

The interaction of Icelandic NP-movement with sentential adverbs is not easily compatible with interpreting the Adverbial Hierarchy exactly as Cinque does. The freedom we have seen suggests that the syntactic phrasal structure which NP-movement sees is simply orthogonal to whatever structure or mechanism determines the Adverbial Hierarchy. In loose-fit approaches this is not a problem since the mechanism is not syntactic. In the tight-fit approaches, there is first the high theoretical cost of the free association of EPP features with any of the large number of functional heads. This cost should be high, for the simple reason that other types of movement in configurational languages (e.g. NM/QM in Icelandic) do not display such ordering freedom. Second, we have seen that when OS affects multiple objects, these can be separated from each other by sentential adverbs, leading to the conclusion that one NP-movement trigger can be discontinuously associated with several heads.

Nevertheless, there is a cogent way of combining Cinque’s approach to the Adverbial Hierarchy and the idea that intermediate NP-movement targets a single phrasal category. The encoding of the Adverbial Hierarchy for Cinque follows from universal selectional restrictions between heads. However, this selectional mechanism can be interpreted as operating over features rather than phrasal categories. In this scenario, interpretable features corresponding to individual adverb/affix classes could reside in a single syntactic category, but be ordered with respect to each other for the purposes of satisfaction (via adverb Merge). This idea is close to Zubizarreta’s (1998) analysis of \( T^0 \) in Spanish as a syncretic category which hosts both A-movement and Ā-movement features. In this system, the uninterpretable NP-movement EPP feature(s) are simply not ordered with respect to the interpretable features which trigger adverb merger\(^{12}\).

Since there are ways of encoding the Adverbial Hierarchy without multiplying

\(^{12}\) Similarly Diesing (1990) for \( \bar{T}^0 \) in Yiddish. A similar analysis is appropriate whenever there is evidence that a functional head is not independently present in the syntax; for example in Mainland Scandinavian (Vikner 1995) and some IP-absorption languages (Richards 1997) \( C^0 + T^0 \) would form a syncretic category.

Still more directly paralleling Cinque’s mechanism and the notion of a syncretic category would be encoding the Adverbial Hierarchy not by features, but by separate functional heads, which are assembled by head-to-head Merge (or adjunction) into a single \( 0 \)-level category, say \( T^0 \), without themselves projecting. Adverb Merge is then triggered by selectional features on such categories (say \( X^0 \)) and creates specifiers of the syncretic category \( T^0 + X^0 + \ldots \). The evaluation of the adverb-selecting features of such heads needs either percolation or the cyclicity definition proposed in section 3.2 (namely (34)). No ordering exists between the evaluation of \( T^0 \)’s \( \phi \) or EPP features (and consequent NP-movement) and the evaluation of adverb Merge features on adverbial \( X^0 \)’s.
phrasal categories in both the loose-fit and tight-fit approaches, we can take the all NP-movement to the middle field evidence at its face value as targeting a single phrasal category. In the next section, I will argue that this category is the TP, the locus of nominative Case and agreement.

3 TP as the locus of NP-movement

3.0 The paradox of NP-movement

There are three conditions that a hypothesis about NP-movement must account for. The first are the core syntactic properties of NP-movement: limitation to NPs that require Case-licensing and consequent A-properties. The second is a correct account of the target of NP-movement, particularly the absence of a correlation between Case positions. Last comes the interaction of NP-movements with each other and with conditions on syntactic dependencies. In this section we will consider the paradox entailed by the first two.

The first desideratum is to encode the dependency between NP-movement and Case-licensing. The theory of Case licensing in Chomsky (1981) arose out of the observation that the class of NPs subject to NP-movement and verbal agreement correlates with the absence of m-case: NPs assigned invariant m-case by prepositions never undergo verbal agreement or NP-movement, while those whose m-case varies configurationally between nominative and accusative do undergo NP-movement and agreement in the passive, with concomitant nominative assignment. The empirical problem raised in Zaenen et al. (1985), Belletti (1988), Cowper (1988), Freidin and Sprouse (1991), and Schütze (1993) was that in languages like Icelandic, some NP arguments receive θ-related m-case from their verbs yet observe the structural distribution of nom./acc. NPs; this is the 'quirky' Case phenomenon. The split in m-case distribution is parallel to the original one which motivated the idea of abstract Case: some, lexical, m-case NPs do not undergo NP-movement, while others, quirky, do (cp. McGinnis 1998 for the distribution of (non)quirky m-case).

These facts served to shape the Case-licensing system in Chomsky (2000). Case licensing is driven by the need to check the uninterpretable φ-features of Case licensers, with category-dependent Case assignment as a consequence (T^0 assigns nominative, v^0 accusative). This accounts for the Case/Agreement correlation (Schütze 1996). In order for checking to take place between a Case licenser (goal) and an NP (target), both must be ‘active’: the φ-features of the goal must be uninterpretable (unvalued), while the NP must have an uninterpretable Case feature. The latter excludes NPs that have been assigned lexical Case. Overt displacement is driven by an EPP property of the target.

Quirky NPs are distinguished from non-quirky NPs because they possess both θ-related m-case and a structural Case requirement. Chomsky (2000:126-128) proposes a specific theory of how the licensing of quirky Case in addition to structural Case works in his analysis of Belletti and Rizzi’s (1988) piacere-class psych-verbs in Icelandic. These verbs select a high dative NP and a low NP without m-case. The low NP receives structural Case and agrees with T^0, while the high dative NP moves by NP-movement to [Spec, TP] (Zaenen et al. 1985). This is evidence that both enter into a relationship with
T\(^0\). Since the movement of the dative is also NP-movement, both movements should be driven by the \(\phi\)-set of T\(^0\). Although the dative does not agree, there is independent evidence that it enters into a relationship with the \(\phi\)-set from the effect of the dative on nominative agreement: if a dative is present, as with these verbs, 1\(^{\text{st}}\) or 2\(^{\text{nd}}\) person nominatives are disallowed (Sigurðsson 1996:35):

15) Henni *líkuðum/*líkuðu/?*líkaði þið


She likes you.

Chomsky (2000:128 and ft. 88) thus proposes that the \(\phi\)-set of T\(^0\) enters into an asymmetric one-to-many relationship with the two NPs. The higher dative NP is a potential match for T\(^0\) because it has a \(\phi\)-feature set, which suffices to allow NP-movement to satisfy the EPP of T\(^0\), but it cannot check T\(^0\)'s \(\phi\)-features because it has m-case. Since the \(\phi\)-set of T\(^0\) remains uninterpretable, it may enter into a relationship with the lower nominative which can check it\(^13\). Chomsky's proposal is extended to active and passive Double Object Constructions in Icelandic in Rezac (2001), where the licensers are \(v^0\) and T\(^0\) respectively.

Most theories of Case licensing assume two separate heads, Agr\(_S\)/T\(^0\) for the nominative and Agr\(_O\)/V/\(v^0\) for the accusative. The exact identity of these heads is not important for us; what matters are the fact that there are two and their relative positions\(^14\). The thematically external argument of transitive and unergative constructions is always restricted to the nominative, while for the internal argument both nominative and accusative are possible cross-linguistically (Rezac 2002). Since syntactic dependencies are limited to the c-command domain of the higher member of the dependency (its scope), this asymmetry entails that the external argument c-commands the accusative licenser, and that the nominative licenser in turn c-commands the external argument. Morphological evidence confirms the latter, since transitivizing and object-agreement affixes cross-linguistically appear closer to the root than nominative agreement affixes. What is important for us here is the following c-command relation:

16) nom. licenser/Agr\(_S\) > external argument selector \(\geq\) acc. licenser/Agr\(_O\).

For simplicity in this paper, I will follow Chomsky (2000) in taking T\(^0\) to be responsible for both temporal interpretation and nominative licensing/agreement, and \(v^0\) for external argument selection and accusative licensing/agreement, although the results achieved here can be recast into other assumptions that conform to (16)\(^15\).

\(^{13}\) The mechanism responsible for 1\(^{\text{st}}\)/2\(^{\text{nd}}\) person blocking needs further investigation.

\(^{14}\) It is not my purpose here to argue in detail for these basic assumptions about clause structure, which are given in detail elsewhere (cp. Holmberg and Platzack 1995).

\(^{15}\) In GB theories, these conclusions were encoded by taking V as the accusative licenser and Infl (T\(^0\)) as the nominative licenser. Chomsky (1995:315-6 and ft. 90; 351ff.) observes that uniting the external argument selector and the accusative licenser in one head, \(v^0\), we achieve a simple statement of Burzio's Generalization, which stipulates just such a unification; for Scandinavian, cp. Holmberg and Platzack's (1995) ActP. Investigations of short OS in English and its interaction with ellipsis (Lasnik 1999) suggest that the accusative licenser is separate from and c-commanded by the external argument selector.

In contrast to these conclusions and the argument in the text, developments of the Split-INFL
The paradox mentioned at the beginning of this section is the contradiction between the location of the external argument selector as the upper bound on the locus of accusative-driven OS and the empirical evidence regarding the target of NP-movement. Research pursuing the VP-internal subject hypothesis (Kitagawa 1986, Koopman and Sportiche 1991) has extensively documented that the in-situ position of the external argument is c-commanded by the lowest sentential adverbs (for example Diesing 1992 for the low subject position in German and Déprez 1990 for Stylistic Inversion in French):

17) Wahrscheinlich hat ihn später **ein Man** gesehen  
   *probably had him-A later a man-N seen*  
   'A man probably saw him later.' (Bettina Spreng, p.c.)

This in turn must c-command the accusative licenser by (16). However, as we have seen in the section 2.2, NP-movement of both nominative and accusative targets identical among the sentential adverbs, including above very high adverbs such as 'probably', but always above the negation. The target do not correlate with the Case of the NP. This means that the target of both movements is above the external argument selector, and moreover suggests that the two movements (and multiple instances of them) target the same phrasal category which is also the locus of sentential adverb insertion.

3.1 The TP as the target of nominative NP-movement and MSCs

I would like apply the suggestion of Chomsky (1995:sec. 10) that in Icelandic constructions with an expletive or a dative subject, and NP-movement of the nominative to the middle field, both elements target the TP to create a Multiple Specifier Construction (MSC). Chomsky suggests that the EPP feature (in the 1995 system, [D-]/[N-] features), which requires checking by at least one XP, can be parametrized to allow further checking by other XPs. I will symbolize this as EPPM, which thus has an obligatory part (EPP proper: there must be [Spec, TP]) and an optional part (as many [Spec, TP] positions are licensed as necessary). (18)a) receives the analysis in (18)b) (I will defer discussion of the position of the highest verbal material, here mundu 'would', to the end of this section):

18)a)  **Pað** mundu **fjórir bílar**  hafa verið seldir t
   *there would four cars-N have been sold*

   b)  [[Spec, TP] **Pað** [[Spec, TP] **fjórir bílar** [T0+mundu [EVC ... [VP verið **fjórir bílar** ]]]]]

In the Chomsky (2000) system of Case, Agreement, and NP-movement adopted here, an MSC analysis for such nominative movement correctly captures its properties.

---

hypothesis placed Agr₀ fairly high in the tree. This, however, relies on a certain conflation of evidence which is open to question: (1) Pollock’s (1989) demonstration that some head position is required between TP and VP based on syntactic arguments that did not demand a specific identification of the position; (2) Belletti’s (1990) application of Baker’s (1985:4) Mirror Principle (“Morphological derivations must reflect syntactic derivations (and vice versa).”) to argue that Agr₃P must be above the TP in English; (3) and the consequent identification of the head necessary for (1) with Agr₀P. Obviously, (3) is not a necessary consequence of (1) and (2); as argued above, the position Agr₀ is upwards-bounded by the vP.
The movement is A-movement driven by nominative Case licensing, which operates in conjunction with agreement on $T^0$. Its target should therefore be the TP. To account for the freedom of sentential adverb interaction with middle field nominatives, we will take the syntactic phrasal category TP to be the locus of sentential adverb merger, under either of the two implementations of the Adverbial Hierarchy discussed in section 2.2. This correctly places sentential adverbs outside the EVC, the latter itself left-delimited by NegP (or a parallel category) as the locus of the negative adverb *ekki* and NM/QM.

In the formation of MSCs, two theoretical constructs constitute a departure from earlier theories and are open to question: the existence of multiple specifiers, and the existence of an EPP$_M$ feature which allows multiple movements to satisfy one feature. However, extensive research, particularly Ura (1996), Richards (1997), McGinnis (1998), and Doron and Heycock (1999), has confirmed the existence of MSCs and described some of their properties.

Two types of MSCs can be distinguished according to their mode of formation. One type is formed by multiple movements of the same type, such as multiple wh-constructions in Bulgarian (Rudin 1988, Richards 1997):

19)  **Koj na kogo kakvo beše kazal?**
   *who to whom what AUX said*

This movement forms multiple Ā-specifiers of the CP. That actual movement, rather than base-generation, is involved, is demonstrated by Richards (1997:76ff), since parasitic gaps are licensed along the movement path. An example forming multiple A-specifiers is OS of both the indirect and direct objects in a Double Object Construction, discussed in Richards (1997:90ff) and Rezac (2001):

20)  **Ég lána Mariúi bækurnær ekki t₁ t₂**
   *I lend Maria-D the.books-A not*

The property of both $A$ and Ā MSCs formed by multiple movements of the same type is that the c-command relations of the specifiers preserve the pre-movement c-command relations among the displaced XPs, a phenomenon which Richards termed 'tucking-in'. McGinnis (1998:114-5) further clarifies the situation by showing that 'tucking-in' is only observed by multiple movements which are triggered by the same feature-class, where a feature-class is that set of features which interact with each other for the purposes of Locality. In the original formulation of the latter, Rizzi's (1990) Relativized Minimality, the feature classes were $A$-, Ā-, and head movement features. Multiple movements driven by features of different classes on a single category will not 'tuck in'.

The other type of MSC occurs when some specifier(s) are created by base Merge and others by Move. Such are the so-called 'broad-subject' constructions of Japanese, Hebrew, and Arabic for example, investigated in Doron and Heycock (1999). Their Arabic example illustrates several properties:

21)  **hind-un qaT-Tulla:b-u yuqa:bilu-una-ha**
   *hind.F-N the-students.M-N meet.3M-PL-her*
'The students are meeting Hind.'
Literally: 'Hind, the students are meeting her.'

The broad subject is the first nominative hind-un 'Hind', the narrow subject is the second nominative ḥaT-Tulla:b-u 'the students'. The narrow subject is always closer to the head of the MSC ('T' in (21)) and only it can induce verbal agreement. It is moreover the closest NP-argument of the verb capable of receiving nominative and undergoing movement. The broad subject forms the higher specifier, cannot induce agreement, and its semantic relationship to the rest of the clause is that of general predication; it can substitute for example for a what would alternatively be expressed by an object or possessor NP (thus (21) has a non-MSC alternant with 'Hind' in the accusative and post-verbal), the latter in some cases in extraction islands. Doron and Heycock (1999) argue that the broad subject is introduced by Merge and the narrow subject by Move, but that nevertheless the broad subject forms an MSC with the narrow subject and is not an instance of Merge targeting another category, as in left dislocation or topicalization.

These investigations have thus established the existence of MSCs as objects with characteristic properties. The existence of MSCs formed by multiple movements of the same type lends prima facie support for the existence of a mechanism that allows multiple movements; I label this mechanism an EPF_M feature, the properties of which for Icelandic will be investigated more fully in section 4. MSCs are characterized by the following theorem which describes 'tucking-in'16:

22) **THE MULTIPLE SPECIFIER THEOREM (MST):**

Given αP, βP, XP such that occurrences αP₁ and βP₁ are of the structural description [Spec, XP], αP₁ c-commands βP₁ iff both αP₁ and βP₁ are introduced into [Spec, XP] by Move of occurrences αP₂ and βP₂ and αP₂ c-commands βP₂, or αP₁ is introduced by Merge and βP₁ by Move.

Condition: αP₁ and βP₁ both match17 the same feature class F on X₀.

I have labeled this a theorem because both Richards (1997:113) and Chomsky (2000:136-8) provide a derivation of (22) (but not relativized to feature classes) from more basic principles.

Let us return to the case of nominative movement to the middle field, which forms an MSC of TP in combination with a higher specifier. This higher specifier is either an NP with m-case (typically dative) introduced by a previous NP-movement also driven by the φ-features of 'T' (23a) or an expletive (23b):

23)a) **Jóni** líkaði **bókin** ekki

*John-D liked the.book-N not*

Analysis: [TP Jóni₁ [TP bókin₂ [T₀⁺líkaði [NegP ekki [EVC ... t₁ ... t₂]]]]]

---

16 I have given examples of MST for MSCs formed by multiple Ā-movement, and by base-generating an XP in [Spec, TP] combined with a single A-movement, but not for multiple A-movement, which is most relevant to the Icelandic case. In fact such movement does obey MST, as Richards (1997:78-90; cp. also ft. 29) shows for TP-level A-scrambling in Japanese (independently of his suggesting that NP-movement in Icelandic also falls under the MST); I omit his argument only for reasons of space.

17 See section 3.3.1 for a definition of ‘match’. 

13
b) \( \text{það mundu fjórir bílar hafa verið seldir} \)

*there would four cars-N have been sold*

Analysis: \( [\text{TP það [TP fjórir bílar}_1 [T^0 +mundu [EVC \ldots [VP verið t_1 ]]]}] \)

In (23)a) both specifiers are introduced by NP-movement, the dative NP Jóni obligatorily c-commands the nominative NP bókin, which recapitulates their base-generated order in which the dative c-commands the nominative. This is exactly what the MST predicts for multiple movements to satisfy the same feature class (here multiple NP-movements). In (23)b) the expletive is introduced by Merge to satisfy the EPP feature of \( T^0 \), and the nominative NP fjórir bílar by Move. Since the expletive can undergo NP-movement\(^{18}\), it is also interacting with the feature-class that triggers NP-movement. Chomsky (2000:128) suggests that the expletive has an uninterpretable [person-] \( \phi \)-feature which matches the uninterpretable [person-] \( \phi \)-feature Probe of \( T^0 \), but Agree fails between two uninterpretable features. Consequently the MST predicts that the expletive (analogous to the 'broad subject') should c-command the nominative, which is indeed the situation in (23)b)\(^{19}\).

In both MSCs in (23), sentential adverbs above the negation ekki can be freely positioned between the two specifiers (with the V2 restriction on the verbal material in \( T^0 \)). If adverbs are introduced by Merge as specifiers, this also follows from the MST because adverbs do not interact with the Case/Agreement feature class, and tucking-in need not apply\(^{20}\). If on the other hand adverbs are introduced by adjunction, the freedom of adjunction also gives the correct result.

The remaining problem to be addressed is the position of the verbal material in \( T^0 \), which should be c-commanded by both specifiers and thus follow them (as in the Arabic MSC construction in (21)), but which is actually positioned between the first and second specifier. Chomsky (1995:393, ft. 139, 1995:368) suggests that this placement is a PF phenomenon resulting from the V2 nature of Icelandic, and some recent work on head movement suggests that those instance of head movement which do not have semantic consequences are a matter of phonology (prosody) and/or morphology (cp. Boeckx and Stjepanović 2001)\(^{21}\).

---

\(^{18}\) The phenomenon in English is demonstrated by *There seem to have arrived three men* as opposed to *There seem to have three men arrived*, which forms the basis of the Merge-over-Move preference, as discussed in Chomsky (1995:346). The same holds for the Scandinavian languages; in Icelandic care must be taken to control for subject movement to the middle field in ECM infinitives for some speakers.

\(^{19}\) The broad subject Hind-un in (21) does not induce agreement, despite being merged in before the \( \phi \)-feature triggered movement of the narrow subject. As discussed in section 3.3.1, (features of) \( X^0 \) are limited to the c-command domain of \( X^0 \) for dependencies formed by Probe/Attract; consequently, the \( \phi \)-features of \( T^0 \) cannot check against the broad subject. Nevertheless, it is of the same feature class as the narrow subject, since it has \( \phi \)-features, and has not undergone \( \text{Ā} \)-movement which would render them inaccessible (see the discussion of the Improper Movement generalization in section 3.3.3; a more explanatory account would rely on deriving MSC formation for more fundamental principles, which is not attempted here). As for the expletive, Chomsky (2000:128) proposes that as an \( X^0 \) head, can itself Probe/Attract to check its [person-] feature against \( T^0 \), which is in its c-command domain.

\(^{20}\) Specifically, under the mechanism for the Adverbial Hierarchy which derives it from ordered features on \( T^0 \) or heads adjoined to \( T^0 \) (ft. 12), there is no ordering imposed between the evaluation adverb selectional features and \( \phi \)-features; they may happen ‘in parallel’.

\(^{21}\) Following Chomsky (2000:150, ft. 102, 2001) in addition to the preceding references. They in turn cite references on the role of prosody and morphology in head movement.
A less radical solution combines the standard analysis of symmetric V2 (den Besten 1983), and Diesing's (1990) proposal for Yiddish that a category can license both an A and Ā-specifier. In V2 languages, the verb follows the first constituent in matrix clauses, whether a topic, wh-word, or subject. Icelandic V2 is symmetric, since it occurs in both matrix and embedded clauses. In asymmetric V2 languages like German, V2 is absent in embedded clauses if a complementizer is present, and obligatory if it is absent. These properties have lead to the conclusion that V2 is movement to C⁰. Combining these results with an MSC of TP, we get the following structure for matrix clauses, in which the highest [Spec, TP] and T⁰ move to [Spec, CP] and C⁰ respectively:

\[
24) \quad [CP \quad XP \quad [T^0 \quad [TP \quad t_{XP} \quad [TP \quad Spec2 \ldots \quad [t^0 \quad [EVC \ldots
\]

Symmetric V2 in embedded clauses for languages like Danish has been dealt with using CP-recursion (e.g. Vikner 1995), which postulates two CP layers, the higher C⁰ hosting the complementizer, the lower CP layer having the structure in (24). The problem with postulating such an analysis for Icelandic is that subject/expletive-initial embedded clauses are not islands for extraction, while topic-initial clauses are (Zaenen 1980:40, Jónsson 1996:40, 49). This has led to an alternative analysis where topic/wh-initial clauses are CPs and subject/expletive-initial clauses are IPs (Travis 1984, Jónsson 1996:chapter 2). However, the objections to a uniform CP approach disappear if topic islands are islands because of Locality (Relativized Minimality). In this approach, C⁰ in Icelandic has an EPP feature, which can be satisfied by Ā-movement if an Ā-feature is present on C⁰, or by movement of the nearest XP if not: the highest [Spec, TP], which hosts the subject or expletive. Since only topics/wh-words have Ā-features, only these create Locality islands for topic/wh-extraction, while the subjects and expletives do not, even though in [Spec, CP]. Consequently, we may adopt the structure in (24) for all clauses. As a consequence, the highest [Spec, TP] and T⁰ will always be displaced to the CP domain, creating the V2 phenomenon which appears to break up the MSC of TP.

As we have seen in this section, following up on Chomsky's MSC analysis of intermediate nominative movement gives precisely the correct results about the mutual ordering of the specifiers, and allows us to capture the freedom of sentential adverb placement. It also correctly captures the fact that both movements in dative-nominative construction are Case-driven A-movements, and that in expletive constructions the
expletive can interact with the Case/Agreement/NP-movement system while the movement of the nominative associate is Case-driven A-movement. The target here should thus always be the locus of nominative licensing and agreement, $T^0$.

However, a problem arises when we consider $v^0$-driven OS. As shown in the previous section, here we enter into a paradox: $v^0$ must be low in the EVC structure, but the interaction of sentential adverbs with OS shows that OS targets the same phrasal category as intermediate subject movement. In the next section we will provide an analysis that allows OS to target the TP while preserving the idea that it is driven by $v^0$.

### 3.2 The TP as the target of OS

According to standard analyses, OS targets the locus of accusative licensing, here $v^0$. As discussed in section 3.0, Rezac (2001) extends Chomsky’s (2000) analysis of *piacere*-class verbs to ditransitives in the Double Object Construction (DOC): an asymmetric relationship is established in each case between the $\phi$-set of $T^0$ and two arguments, a higher dative argument whose m-case prevents it from checking $\phi$-features but whose structural Case allows NP-movement, and a lower NP with only structural Case. As Collins and Thráinsson (1996) show, the two objects of a DOC construction in Icelandic can optionally undergo OS, either the dative alone or the dative and accusative together, with the restriction that the accusative cannot cross over either the shifted or unshifted dative, the following being the only possibilities:

\[
\begin{aligned}
25) \quad & \text{Ég lána \textit{<ekki>} Maríu \textit{<ekki>} bækurnar \textit{<ekki>}} \\
& I \text{ lend \textit{not} Maria-D \textit{not} the.books-A \textit{not}}
\end{aligned}
\]

Since OS as NP-movement is a reflex of the Case/Agreement mechanism, and since there is evidence that in the latter the single $\phi$-feature set of $v^0$ interacts with both the dative and accusative, Rezac (2001) argues that in (25) OS of both arguments has produced an MSC of $vP$ (Richards 1997:90 makes the same suggestion).

While here I would like to keep that argument, OS cannot target the $vP$. As we have seen, OS targets exactly the same positions as middle field subject (incl. nominative) movement does. There is no position, even above very high sentential adverbs, that OS cannot target, and no position so low that the shifted object can appear there but middle field nominatives cannot. Indeed, under multiple OS in DOCs, the dative and the accusative can be separated from each other (and from the EVC) by sentential adverbs, as in (13) repeated here:

\[
\begin{aligned}
26) \quad & \text{Ég kenndi \textit{nemendunum sennilega kvæðið} alls ekki} \\
& I \text{ taught the.students-D probably the.poem-A at.all not}
\end{aligned}
\]

I suggest that this evidence at its face value: OS, like nominative movement, targets a [Spec, TP] licensed but not forced by EPP$_M$. However since it is Case-driven NP-movement, it must nevertheless be triggered by $v^0$. This interaction between the EPP$_M$ feature of $T^0$ and the $\phi$-features of $v^0$ in a framework that constructs phrase structure cyclically, seems like a counter-cyclic derivational memory at the TP level of what business $v^0$ has engaged in. However, the mechanism to achieve exactly this
already exists, namely Head Movement (HM) which brings the \( \phi \)-features of \( v^0 \) to \( T^0 \).
Moreover, cyclicity can be so construed as to provide exactly the correct interaction between \( v^0 \)'s \( \phi \)-features and \( T^0 \)'s EPP, without weakening its function.

As a first step in the argument, we need to establish that whenever OS happens, \( v^0 \) does in fact move to \( T^0 \). This is ensured by Holmberg’s Generalization (7), a subset of which states that whenever OS takes place the main verb has raised to \( T^0 \), and thus \( v^0 \) also has raised to \( T^0 \) as a consequence of Travis’s (1984) Head Movement Theorem. Let us therefore turn to cyclicity.

There are two appealing proposals in recent literature. Chomsky (2000:132) states that no item may be introduced into the derivation until the properties of the current item (pivot) are satisfied (his (53)):

\[
27) \text{Properties of the probe/selector } \alpha \text{ must be exhausted before new elements of the lexical subarray are accessed to drive further operations.}
\]

This definition follows from the insight that the Extension Condition of Chomsky (1993:190) was mostly independently ensured in Chomsky (1995) by the requirement that a strong feature must be checked as soon as possible (cp. esp. Richards 1997 on featural cyclicity). By (27), if \( \alpha \) has properties that have not been or cannot be satisfied, no further computation is possible.

Frampton and Gutmann (1999:3), on the other hand, propose that upon the introduction of a pivot into the derivation, syntactic operations apply to it until its properties are either exhausted or found unsatisfiable. The derivation is a sequence of cycles, defined as follows:

\[
28) \text{The Cycle (definition):}
\]
a) (Select) A new lexical item is introduced. It selects its arguments and is merged with them.
b) (Satisfy) The features of this newly introduced head are satisfied as fully as possible by checking, which introduces overt movement whenever possible.

Consider the operation Attract. It will fail if a matching interpretable feature is not within the search-space of the pivot. Nevertheless, the derivation is allowed to move on. Crucially, such a feature cannot be checked after the introduction of a new pivot into the derivation. Failure to satisfy selectional or uninterpretable features results in an LF-crash.

Thus we have two different implementations of cyclicity. For Chomsky (2000), a derivation cannot move on unless all the properties of the pivot are satisfied. For Frampton and Gutmann (1999), cyclicity rests in applying operations as fully as possible to a pivot, but allowing the derivation to move on regardless of whether all the properties of the pivot actually are satisfied. Both approaches account for the two core generalizations that cyclicity implements: (a) a licensor c-commands the licensee; and (b) where \( \alpha, \beta, \gamma \) are syntactic objects and there are syntactic relationships \( R_1(\beta, \gamma) \) and \( R_2(\alpha, \gamma) \), then if \( \alpha \) c-commands \( \beta \) then ordering \( R_1 \) before \( R_2 \) simplifies the statement of
(the conditions on) \( R_2 \). This is done by restricting the application of operations to the pivot.

The Frampton and Gutmann version of cyclicity nearly allows for OS to be driven by \( v^0 \) but to target the TP, under a particular interpretation of HM and "as fully as possible" in (28b). OS requires that its target provide a position for overt movement. Suppose that \( v^0 \) does not license one. Then the combination of Case/Agreement and overt movement driven by \( v^0 \) cannot take place with \( v^0 \) in-situ, but must wait until a category with an EPP property is reached: \( T^0 \) with its EPP\(_M\). What we need first is for HM to allow inheritance of the properties of the moving head by the target, so that Case-licensing can happen from the \([T^0+v^0]\) complex. The required definition of cyclicity would allow syntactic operations to apply to a pivot and to any properties it may 'inherit' by virtue of HM which incorporates other syntactic items in it. This is simply the idea that HM forms a single lexical item for syntactic purposes. The following stipulation has the necessary properties regardless of the exact formulation of HM, which might further constrain such 'feature percolation':

29) Symbolize the HM of \( Y^0 \) to \( X^0 \) by \( Z^0 \); then it is the case that for all \( F_i \in X^0 \), \( F_i \in Z^0 \), and for all \( F_j \in Y^0 \), \( F_j \in Z^0 \).

(29) combined with (28)b) allows a head to satisfy its features if it can form an HM complex with the pivot. This does not appear to have any unwanted consequences for cyclicity.

Let us now take OS in the basic transitive configuration:

30) \( T^0 \ldots [v_P NP_1 v^0 + V [v_P t v NP_2]] \)

Cyclicity now allows the \( \phi \)-features of \( v^0 \) to be satisfied at the TP level of the derivation, but (a) only under HM to \( v^0 \) to \( T^0 \), (b) if they cannot be satisfied in-situ "as fully as possible". It is not clear that (b) is necessary (below, ft. 27), but let us assume it is. The intuition is that "as fully as possible" can differentiate between feature satisfaction with and without overt movement, so that if overt movement is necessary for an independent reason, checking alone without movement will not satisfy "as fully as possible". We will investigate the conditions under which 'optional' movements like OS are necessary in section 4. Thus, the \( \phi \)-features of \( v^0 \) which drive the Case/Agreement/NP-movement system can be satisfied at the vP level, but only if overt movement is not necessary.

If movement is necessary, the \( \phi \)-features of \( v^0 \) are not satisfied at the vP level, but can be satisfied at the TP level since EPP\(_M\) of \( T^0 \) provides positions for movement and \( v^0 \) undergoes HM to \( T^0 \) in OS contexts:

31) \([T^0 + v^0 + V]_\alpha \ldots [v_P NP_1 t^0 + v [v_P t v NP_2]]\)

---

26 Take for example \( \alpha = C^0 \), \( \beta = T^0 \), \( \gamma = wh \)-word, \( R_1 \) A-movement, \( R_2 \) Ā-movement; then this is the argument of Chomsky (1995:328) for ruling out *who was \( _\alpha a \) picture of \( _\alpha \) taken \( _\alpha \) by Bill under the copy theory. This argument for cyclicity from the interaction between A and Ā-movement follows precisely the same lines as an early argument for rule ordering in Chomsky and Halle (1968:340ff.), taking spirantization/Grimm's Law as A-movement, voicing/Verner's Law as Ā-movement.
Locality (see further section 3.3.1) requires that Agree happen between the head complex $\alpha$ and NP$_1$ before it happens between $\alpha$ and NP$_2$. We wish to rule out an unwanted derivation where the $\phi$-features of $v^0$ in $\alpha$ Agree with the $\phi$-features of NP$_1$, while the $\phi$-features of $T^0$ in $X$ Agree with the $\phi$-features of NP$_2$, which would assign the external argument accusative and the internal argument nominative. One way to do this would be via a more fine-grained definition of cyclicity combined with the idea that HM proceeds by head-to-head adjunction, in which case $X$ has the following structure (where $[K=x]$ is the Case-assigning property):

$$32) \quad T[\phi-], [K=\text{nom.}],$$

$$\quad \quad \quad \quad v[\phi-], [K=\text{acc.}],$$

$$\quad T$$

$$\quad \quad \quad \quad [\phi-], \quad v \quad V$$

$$\quad [K=\text{nom.}], [\phi-],$$

$$\quad [K=\text{acc.}],$$

A top-down access by syntactic operations to the pivot would ensure that the satisfaction of $T^0$'s $\phi$-set takes place first, and Locality dictates NP$_1$'s $\phi$-set is the one picked for this operation.

However, there seems to be a more general solution which has additional benefits. Head movement of $v^0$ to $T^0$ can only take place once $T^0$ has merged with the $vP$. But once $T^0$ has merged with $vP$, $T^0$'s $\phi$-features can be satisfied (by the closest NP) as well. Both of these operations can take place immediately at the TP level after the $vP$ has been merged in, and in that respect they are not ordered with each other. The satisfaction of $v^0$'s $\phi$-features (with movement), on the other hand, needs to be delayed until HM of $v^0$ to $T^0$ has taken place. This gives an ordering between the two operations, and by transitivity between the satisfaction of $T^0$'s $\phi$-features (first) and $v^0$'s $\phi$-features (second). An economy metric that ensures syntactic operations follow this ordering by taking place as soon as possible gives the correct result. This is similar to the Earliness Principle of Pesetsky and Torrego (2000) and the definition of Minimality in Collins (1997):

33)a) Earliness Principle (Pesetsky and Torrego 2001:400): An uninterpretable feature must be marked for deletion as early in the derivation as possible.

b) Minimality (Collins 1997:77): An operation OP (satisfying Last Resort) may apply only if there is no smaller operation OP' (satisfying Last Resort). [For Move 'smaller' means shortest path, implementing locality, and for Merge 'smaller' means least number of elements, implementing binary branching. -MR]

The economy metric orders features at a particular step of the derivation, not globally. We can thus incorporate it into the definition of cyclicity directly by replacing Frampton and Gutmann's (28)b) by (34)\textsuperscript{27}:

\textsuperscript{27} An alternative formulation is (i):

(i) Selectional features are satisfied immediately. If uninterpretable features are satisfied, they are satisfied as soon as possible.

(i) is a weaker statement for uninterpretable features: it does not require that they are satisfied at all, but if
(Satisfy) The features of the pivot are satisfied "as fully as possible" as soon as possible, with overt movement if an EPP feature is present.

To give OS in (31), repeated as (35), the derivation must proceed as given in (36):

35) \([T^0 + v^0 + V]_X \ldots [v_P NP_1 t^0_v + V [vp t_V NP_2]]\]

36) Step 1: Select \(T^0\). Merge \(T^0\) with \(v_P\).
   Step 2a: Satisfy the \(\phi\)-set of \(T^0\) by Probe/Agree with \(NP_1\) and overt movement since the EPP is present.
   Step 2b: HM of \(v^0\) to \(T^0\).
   Step 3: Satisfy the \(\phi\)-set of \(v^0\) by Probe/Agree with \(NP_2\) and overt movement since the EPP is present.

Steps 2a and 2b are unordered by (34). However, both are ordered with respect to step 3, which must wait on 2b.

(34) imposes a partial order on the evaluation of features in a syntactic category: features that do not depend on other features to be satisfied are unordered with respect to each other, but ordered before those that have a dependency. A consequence is that the Merge-over-Move preference of Chomsky (1995:346) falls out automatically. If an expletive is available, the Merge of the expletive and the \(v_P\) complement are not mutually ordered by (34)\(^28\), while movement out of the complement must wait upon the merger of the \(v_P\). This result is not surprising, since the reasoning behind the Merge-over-Move preference establishes a similar metric over operations.

In this section we have established that there is a natural and advantageous way of encoding cyclicity in syntax that allows the \(\phi\)-features of \(v^0\) to wait for checking until movement to \(T^0\) just in case this checking has overt movement as a consequence, because \(T^0\) provides positions for movement\(^29\). The result is that OS targets \([\text{Spec}, TP]\), giving

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\(^{28}\) They may be ordered by convergence requirements; Merge must take place in such an order that the \(v_P\) becomes a complement and not a specifier; otherwise its members would not be accessible to syntactic operations from \(T^0\) since specifiers are islands.

\(^{29}\) It is interesting to compare the present account with Miyagawa's (1997) theory of IP-level A-scrambling in Japanese (Miyagawa 1997:21, ex. 63):

(i) \([\text{DP} [\text{IP} \text{Te-o}, [\text{IP} \text{Tanaka-ga kyonen musuko-ga heteru-gyoo-ni t, nobasita]} \text{uwasa}]]\]

   hand-A Tanaka-N last year son-N hotel-business-to extended rumour

   The rumour that Tanaka, his son became involved in the hotel business last year

   Here we have an MSC construction of TP (\(Agr_0P\)) with multiple nominatives, separated by an adverb, and preceded by the A-scrambled acc. \(te-o\) 'hand', part of an idiom chunk. Miyagawa shows that A-scrambling depends on a category that both agrees with the subject and licenses MSCs, Agr\(^0\)/\(T^0\). He takes A-scrambling to be driven by Case and thus Agr\(_o\), and proposes that 'weak' Agr\(_o\) incorporates into Agr\(_s\). Agr\(_o\) drives movement and Agr\(_s\) provides the position(s), just as it provides them for MSCs.
correct results for the identity of its target with that of intermediate subject movement, and the interaction of both with sentential adverbs. In the next two sections, we will see that the derivational mechanics given here has an advantage over previous theories because it immediately accounts for the possible combinations of NP-movements.

3.3 NP-movement interaction and Locality

3.3.1 Locality theory

In section (3.0) we identified three desiderata that a theory of NP-movement in Icelandic must meet: (1) construing the movement as driven by the Case/Agreement mechanism, (2) accounting for the absence of a correlation between movement target and the Case of the NP, and (3) accounting for the interaction of NP-movements with each other. (1) and (2) have now been met. In this section we will see how (3) falls into place in the present theory, by showing that possible NP-movements fall out from independently motivated locality constraints on a class of syntactic dependencies.

As Rizzi (1990) showed, a class of syntactic dependencies between two elements are blocked if there is a third element with relevant properties that is c-commanded by the first but c-commands the second. This class of dependencies are those that are formed by Attract-F in Chomsky (1995) and by Probe/Agree in Chomsky (2000) 30. Let us take the implementation in Chomsky (2000). An uninterpretable (unvalued) feature [F-] will crash the derivation at LF unless it is eliminated in the syntax, which can happen only if [F-] enters into a relationship with an interpretable (valued) [F+]. This relationship is Agree, by which [F+] checks (values) [F-]. Chomsky (2000:122) formulates the constraints on Agree as follows:

37) Matching is a relation that holds of a Probe P and a goal G. Not every matching pair induces Agree. To do so, G must (at least) be in the domain D(P) of P and satisfy locality conditions. The simplest assumptions for the probe-goal system are:

(i) Matching is feature identity ['Identity of the choice of feature, not value', Chomsky (2000:124)]
(ii) D(P) is the sister of P
(iii) Locality reduces to 'closest c-command'

The theory developed here is similar to Miyagawa's proposal for Japanese, which later proved problematic because IP-level A-scrambling can in fact move PPs, and thus is not driven by Case/Agreement (McGinnis 1998:106). This, presumably, is also the reason why Japanese A-scrambling does not tuck-in under the nominative(s) in (i), but Icelandic OS does: Japanese A-scrambling is not of the ϕ-feature class. (As Richards 1997:79-90 shows, multiple instances of IP-level A-scrambling in Japanese do observe MST w.r.t. each other, just not w.r.t. the nominative.) It is not clear what does drive it, but this is a general problem with XPs in A-positions where they cannot be base-generated because they display reconstruction effects, but whose movement cannot be tied to the Case/Agreement system: namely A-scrambling (cp. McGinnis 1998), which also does not seem to correlate with overt morphology.

30 In contrast to other dependencies that are not so constrained: controller-PRO chains, quantifier-variable binding chains, etc.
Thus \( D(P) \) is the c-command domain of \( P \), and a matching feature \( G \) is closest to \( P \) if there is no \( G' \) in \( D(P) \) matching \( P \) s.t. \( G \) is in \( D(G') \).

Overt movement takes place if there is a matching goal satisfying (37) and the category with the Probe \([F-]\) also has an EPP feature.

Chomsky (2000) also adopts the copy theory of movement (Chomsky 1993:202ff.), under which material interpretable at the interfaces cannot be eliminated in the syntax (a consequence of the inclusiveness condition, Chomsky 1995:228). This would imply that there can be no MSCs formed by multiple movements to [Spec, XP] through matching between \([F-]\) on \( X^0 \) and multiple occurrences of \([F+]\). The pre-movement configuration would be (38), with \( > \) as c-command:

38) \([F-]_H > [F+]_{XP_1} > [F+]_{XP_2}\)

Since \([F+]\) on \( XP_1 \) is interpretable, under inclusiveness it cannot be eliminated from the copy even if \( XP_1 \) moves, and by Locality should always block access to \([F+]\) on \( XP_2 \). As we saw in section (3.1), however, such MSCs do exist; an example is multiple \( wh \)-movement MSC in Bulgarian.

However, based on independent evidence from agreement in Icelandic, Chomsky (2000:131) comes to the following conclusion:

39) It is only the head of the A-chain that blocks matching under the locality condition (iii). A-movement traces are 'invisible' to the probe-associate relation; or from another perspective, the A-chain itself (regarded as a set of occurrences of \( \alpha \)) constitutes the barrier.

Chomsky (2001:40-1) argues that (39) follows from the nature of chains in general. The hypothesis in (39) has found extensive empirical support in the work of Anagnostopoulou (to appear). She investigates constructions of the type (38) in Greek, where \( H \) is \( T^0 \) with uninterpretable \( \phi \)-features and the ability to license nominative, \( XP_1 \) is an NP but with a genitive m-case\(^{31}\) that prevents it from entering into Agree, and \( XP_2 \) is an NP with structural Case. She finds the following generalization (chapter 1):

40) When a nominative argument undergoes NP-movement [subsuming Case/agreement without XP pied-piping -MR] to \( T \) in the presence of a dative DP argument, the dative DP is not allowed unless it is a clitic or is doubled by a clitic.

An example is the passive of a ditransitive in the Double Object Construction:

41) \( \text{To grama}_j \text{*}(\text{tu}_i) \text{ taxidromitike} \text{ tu Petru}_i \text{t}_{ij} \text{ xtes} \ \text{Greek Passive DOC} \)
     \( \text{the letter-N} \text{*}(\text{CL-G}) \text{ was.sent} \ \text{the Peter-G yesterday} \)

Since both NPs have \( \phi \)-features, by Locality only the higher should be able to enter into Agree with the \( \phi \)-features of \( T^0 \). However, the higher NP has genitive m-case, which

\(^{31}\) There is no independent dative in Greek, genitive is borne by experiencers, indirect objects, etc.
prevents it from entering into Agree for independent reasons. Anagnostopoulou shows that the φ-features of lower NP can in fact enter into Agree with the φ-features of T\(^0\), licensing the NP's nominative, but only if the higher genitive NP undergoes clitic-doubling. Clitic-doubling adjoins an X\(^0\) category with the φ-features of the genitive to T\(^0\), forming a chain. Anagnostopoulou argues that cliticization is a movement which displaces the φ-features of the genitive to the position of T\(^0\), and this renders the genitive invisible to the relationship between T\(^0\) and the nominative.

Anagnostopoulou's conclusions conform exactly to Chomsky's (39), and so does her investigation of the configuration (38) elsewhere, such as experiencer intervention effects in Raising constructions in French and Italian. Whatever the reason, it seems clear that (39) is correct, and allows the formulations of the movement-derived MSCs. Below, we will see that the independently required principles of Locality correctly determine all and only possible positions of NPs under NP-movement(s) if we assume the theory developed in the preceding sections where NP-movement targets [Spec, TP].

### 3.3.2 Intransitive constructions

Clauses with one NP with structural or quirky Case (NP\(_{\text{Case}}\)) raise no issues if there is no expletive: the MSC-licensing feature EPP\(_M\) subsumes the EPP requirement that one [Spec, TP] be filled by NP-movement. If an expletive is present, the Merge-over-Move preference (a consequence of (34) as noted) means that it is Merged into [Spec, TP] before any movement takes place. Since an expletive interacts with the NP-movement system, the MST requires that any subsequent NP-movement to [Spec, TP] allowed by EPP\(_M\) be c-commanded by the [Spec, TP] created by the expletive. This is indeed correct for Icelandic, but forced independently of the MST because the Icelandic expletive can only appear overtly if clause-initial\(^{32}\).

Clauses with two NP\(_{\text{Case}}\) are either intransitive or transitive. Intransitive are piacere-class psych verbs like líka 'like' and passives of ditransitives in the Double Object Construction, both of which have a high 'quirky' dative NP and a low NP with structural Case which gets nominative. As discussed in section 3.0, we assume for these a structure with only one Case licenser and φ-feature locus, T\(^0\). Since NP-movement targets [Spec, TP] to create an MSC, Locality and the MST predicts that with or without an expletive the dative > nominative order is preserved under NP-movement. For constructions without an expletive, this was copiously established by Zaenen et al. (1985) who employ a wide range of tests showing that the dative is the subject of these constructions\(^{33}\). The nominative may either stay in situ, or undergo NP-movement to the middle field (42)a) since the dative in [Spec, TP] forms a chain with its in situ position and therefore its copy does not prevent matching between T\(^0\) and the nominative. If an expletive is present, Jónsson (1996) shows that the dative (42)b) or both the dative and nominative (42)c) may

\(^{32}\) Thus under topicalization, wh-movement, etc., which targets [Spec, CP], the expletive in [Spec, TP] has a null variant, the conclusion of Vikner (1995) among others.

\(^{33}\) Care must be taken to ensure for ditransitives that the Double Object Construction rather than the inversion construction is the source (in the latter the direct object c-commands the dative indirect object which is headed by a null preposition and not quirky); cp. Falk (1990), Holmberg and Platzack (1995:187ff.), Collins and Thráinsson (1996). For the piacere-class a similar variation in structure exists for some verbs, but not for others like líka 'like', leiðast 'bore' (cp. Sigurðsson 2000, Barðdal 2001).
undergo movement into the middle filled, but the nominative cannot cross over the dative (42)d):

42)a) **Jóni líkaði bókin ekki**

*John-D liked book-N not*  
(Jónsson 1996:124, ex. 51a)

b) **Það hafði öllum sennilega líkað þessi bók**

*there had all-D probably liked this book-N*  
(Jónsson 1996:120, ex. 36)

c) **Það líkaði flestum þessi bók ekki**

*there liked most-D this book-N not*  
(Jónsson 1996:124, ex. 52a)

d) ***Það hafa einhver bók líkað Jóni***

*there had some book-N liked John-D*  
(Jónsson 1996:121, ex. 43)

The facts are exactly in accordance with the theory that NP-movement creates an MSC in accordance with the MST; all and only possible NP-movement configurations are predicted by Locality. Although movement to the middle field (whether subject movement or OS) is generally optional, it is obligatory for the dative in dative-nominative constructions (e.g. ditransitive passives) when an expletive satisfying the EPP, as discovered by Maling (1988):

43)a) **Það var <mögum stúdentum> [úthlutað <*> styrkjum til framhaldnáms]**

*there was <many students-D> distributed <*> fellowships-D for gradstudy*  
(Maling 1988:183)

This remarkably confirms theorem (39), which says that occurrences are invisible if in a chain whose head is locally related to the target of movement. The theorem predicts that if the dative remains in-situ, it does not form a chain whose head is locally related to T₀, and there can therefore be no interaction between the φ-features on T₀ and the nominative NP across the intervening φ-features of the dative. Thus both agreement and nominative assignment are out, and the construction is ungrammatical. Only if the dative displaces to [Spec, TP] can a relationship between T₀ and the nominative take place, ‘across’ the trace of the dative as it were. At the same time, the role theorem (39) plays in forcing movement of the dative confirms that in dative-nominative constructions, the nominative NP enters into a relationship with the φ-features on T₀ (Chomsky 2000), rather than some nominative-assigning light verb as has sometimes bee proposed. Since in turn NP-movement of the nominative in (42)a), (42)c) is Case-driven, it is also be to [Spec, TP].

3.3.3 *Transitive constructions*

Transitive clauses also have two NPCase, and it is in them that NP-movement interaction provides the strongest evidence that all NP-movements target the TP. Recall that the definition of cyclicity in (34) with its partial ordering on feature evaluation
ensures that the higher argument in a transitive construction gets the nominative and agrees with $T^0$, while the lower gets the accusative from $v^0$ even if adjoined to $T^0$. Accordingly in a construction without an expletive, the nominative satisfies the obligatory EPP, while the accusative may either stay in-situ, or undergo optional NP-movement licensed by EPP$_M$ to a [Spec, TP] below the one formed by the nominative (as dictated by the MST). This is of course correct, since as in other Germanic languages the accusative in Icelandic never behaves as a subject in a transitive clause; for example, if topicalization of the accusative and rightward movement of the nominative are controlled for, the accusative must follow the nominative:

44) *Í gær málaði húsíð kona rautt
   yesterday painted the.house-A woman-N red
   (Jonas and Bobaljik 1993:92, ex. 33b)

The same conclusions hold if there is an expletive. Here we predict only two possibilities for NP-movement$^{34}$: the nominative may move alone, the accusative may move (OS) only if the nominative moves as well, in which case the order nominative > accusative must be preserved by the MST, which also dictates that the expletive is the highest specifier.

The nominative moves alone in the following, where `ekki `not' marks the left edge of the VP$^{\text{max}}$:

45) Það munu flestir ekki hafa gert neitt
   there would most not have done anything
   (Jónsson 1996:90, ex. 118a)

If nominative movement and OS take place in combination, then as predicted the nominative must precede the accusative:

46)a) Það sáu margir þessa mynd ekki
    there saw many-N this picture-A not
    (Jónsson 1996:57, exx. 33a, b)

b) *Það sáu þessa mynd margir ekki
   (Jónsson 1996:57, exx. 33a, b)

This follows because the external argument, which gets the nominative, must be first displaced by (39) in order for the internal argument to get the accusative and optionally move by OS, and the MST ensures that the c-command relations among specifiers recapitulate the order of movements (and thus the base c-command).

The same reasoning prevents OS from taking place without nominative displacement, since then the nominative stays in-situ and by Locality should block access from of $T^0$ to the internal argument. This is indeed the finding of Jonas (1992), Jonas and Bobaljik (1993), Bobaljik and Jonas (1996), and Jónsson (1996:57ff.) who give strong counter-arguments to earlier views (e.g. Sigurðsson [1989]/1991) that the subject is ever VP$^{\text{max}}$-internal in these constructions. All three show it is impossible for the

$^{34}$ As will be seen below, there is an independent constraint (of unclear nature) which blocks no NP-movement.
subject to stay in-situ if OS takes place:

47) Það borðuðu margir strákar bjúgun ekki margir strákar

there ate <many boys-N> the.sausages-A not <many boys-N>

(Jonas and Bobaljik 1993:83, ex. 21)

However while completely ungrammatical for many speakers, Jonas and Bobaljik (1993:93ff.), Jonas (1996a:32ff, 1996b:170-1, ft. 5, 6) and Jónsson (1996:57ff) also show that there are speakers who do accept such constructions under certain circumstances (cp. also Thráinsson 1986:245)35:

48) %Það máluðu húsið stundum einhverjir stúdentar rautt

there painted the.house-A sometimes some students-N red

(Jonas 1996a:37, ex. 37b)

There are reasons to believe that what is going on in (48) is in fact a separate phenomenon. Jonas and Bobaljik (1993:93) were the first to point out that even for speakers who do accept them, these constructions are limited to quantified subjects, and that these examples are uniformly bad when the subject is not quantified (ibid, ex. 35; also Jonas 1996b:170, ft. 6). They draw attention to the fact that this requirement parallels the possibility of NM/QM for quantified objects when OS is impossible by HG:

49) %Jón hefur ýmislegt gert sér til gamans

John has various.things done himself to fun

'John has done various things to amuse himself.'

(Jonas and Bobaljik:1993, p. 94, ex. 36c)

As Rögnvaldsson (1987) and Svenonius (2000) show, while NM is obligatory, QM is possible only for some speakers, with considerable variation along several variables, which also seems true of (48).

Further, speakers for whom the constructions in (48) are possible differ from others along another parameter: the SUBJECT IN-SITU GENERALIZATION (SSG) of Alexiadou and Anagnostopoulou (2001:210):

50) SSG: It is not possible for a subject and an object that "need their Case to be checked" both to be spelled out at the position in which they are initially merged.

Alexiadou and Anagnostopoulou argue that the SSG is universal, and provide data from a number of languages36. As they note, the SSG holds in Icelandic; namely, no

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35 Throughout, right-edge VP markers are necessary to guard against the possibility of rightward extrapolation of (some) indefinites, which is possible in Icelandic for both subjects and objects independently of Heavy NP Shift (Sigurðsson [1989]/1991:301, ex. 4d, 5d; Jonas 1992:ft. 7).

36 Well-known apparent counterexamples are cases like German and Dutch (Diesing 1992) and Spanish (Déprez 1990), which seem to permit constructions where the subject stays below the lowest sentential adverbs and the object is not right-dislocated. Italian (Belletti 1988) presents a minimal contrast in this respect to Spanish. In German and Dutch there is an interesting limitation: van Hoof (1993) shows that both the subject (of stage-level predicates) and the object can stay in-situ only if the object is something
more than one NPCase can appear within the EVC. It holds for all speakers in cases such as the following, where the subject is not at the edge of the EVC:\footnote{37}:

51) *Það munu hafa \textit{margir} sêð \textit{þessa mynd}

\textit{there would have many-N seen this movie-A}

Jónsson (1996:56, ex. 26)

As (51) shows, for no speakers can two NPCase remain \textit{within} the EVC (sc. following \textit{hafa}), a fact that follows from the SSG. However, when the subject is at the left edge of the EVC, but below negation, Jónsson notes (1996:91) that speakers like H. Thráinnsson do allow it to stay in-situ, while others like himself do not; this parallels those who (dis)allow (48):

52) Það hafa ekki \textit{einhverjir íslenskir stúdentar} stolið \textit{smjörinu}

\textit{there have not some Icelandic students stolen the.butter} \footnote{37}

(Jónsson 1996:91, ft. 46)

As Alexiadou and Anagnostopoulou show, the SSG can be avoided in a number of ways other than NP-movement, such as \textit{wh}-movement. In Icelandic, Heavy NP Shift (HNPS) allows it to be avoided:

53) Það hefur alltaf [VP stungið \textit{t} \textit{bókinni í vasann}] \textit{[einhver stúdent frá Akureyri]},

\textit{there has always [put the.book in the.pocket] [some student from Akureyri]}

(Jónsson 1996:58, ex. 36; \textit{alltaf} marks the left edge of the EVC)

Arguably then, the reason (52) is allowed for those speakers who allow (48) is the same: in (52) the subject is in fact undergoing QM to the left edge of the EVC, escaping the SSG. The target of NM/QM is presumably the same, NegP or rather a broader category targeted by quantifiers\footnote{38}.

\footnote{37} Thus for example, H. Á. Sigurðsson allows both the subject to remain in-situ with OS (Sigurðsson 2000:82) and (q.v. below) to remain under the negation without OS (Sigurðsson 2001:138, ex. 72b), but not for it to be realized within the EVC (\textit{ibid}, ex. 72c).

\footnote{38} Alexiadou and Anagnostopoulou (2001:216-9) explore two possibilities, which account for the SSG by preventing the formation of a complex T\textsuperscript{v0}\textsuperscript{+i\textsuperscript{v\textsuperscript{o}}} head at LF where both have unchecked Case features: either the Case feature of \textit{i\textsuperscript{v\textsuperscript{o}}} is blocked from percolation by the Case of T\textsuperscript{v\textsuperscript{o}} and thus cannot be checked, or (p. 218, ft. 29) two Case features on a complex head result in a fatal ambiguity. This proposal is fully compatible with the role to complex head T\textsuperscript{v0}\textsuperscript{+i\textsuperscript{v\textsuperscript{o}}} plays in the present theory in triggering Case-driven NP-movements to [Spec, TP], since by (34) the \textit{φ}/Case features of T\textsuperscript{v\textsuperscript{o}} are checked by the time \textit{i\textsuperscript{v\textsuperscript{o}}} undergoes Head Movement (cp. Alexiadou and Anagnostopoulou 2001:222, ft. 34 for a parallel derivation). However, their proposal is incompatible with the background assumptions here: they assume an overt/covert cycle distinction in which NP-movement is a necessary concomitant of Case checking and therefore an in-situ position means Case has not been checked, unlike in the single-cycle theory of Chomsky (2000).

As they note (p. 218-9) it might be possible to rephrase their formulation in the latter system, with additional stipulations. In terms of the theory presented here, it would suffice to claim that \textit{i\textsuperscript{v\textsuperscript{o}}} always checks its \textit{φ}/Case features from T\textsuperscript{v\textsuperscript{o}}\textsuperscript{+i\textsuperscript{v\textsuperscript{o}}}, at Spell-Out when OS takes place and at LF otherwise. In fact, then Locality alone would always demand overt displacement of the subject so that the object is visible to \textit{i\textsuperscript{v\textsuperscript{o}}} from T\textsuperscript{v\textsuperscript{o}}\textsuperscript{+i\textsuperscript{v\textsuperscript{o}}} by (39). However, Alexiadou and Anagnostopoulou do not take into account that HNPS of either the subject or object, which is VP-bounded, can void the SSG; we have argued that QM can do so as...
This solution has empirical advantages in that it accounts immediately for the restriction of the constructions in (48) to quantified NPs, and to a certain subset of speakers, which seem to be the same who allow SSG violations, and why the latter are allowed only under subject movement to the left edge of the EVC, albeit below negation. This solution raises two other questions, but ones which exist independently. One is why the negative or quantified NP moved by NM/QM does not count for Locality, both for preventing the movement of the subject (e.g. in (49)), and for moving to satisfy the EPP itself. However, this is a general problem of A/Ā-movement interaction, the Improper Movement generalization: in particular, an internal argument moved by NM/QM should ceteris paribus always interfere with a relationship between T^0 and the external argument. The other question is how the subject under QM gets nominative Case and agrees with the verb; but the same question is raised by HNPS of the subject in (53). Given that Ā-positions seem invisible to the A-system by the Improper Movement generalization, it may be that agreement and nominative assignment operate on the A-trace of the chain formed by QM and HNPS, but (as would follow under an interpretation of (39), cp. Chomsky 2001:40-1) the trace itself is invisible to Locality.

To summarize then, if the constructions in (48) can be attributed to principles orthogonal to the present discussion, the independent theory of Locality in section 3.3.1 correctly predicts the possible interactions of NP-movements, but only if all NP-movements target the TP to create an MSC. Here we have an argument that all NP-movements target an MSC of TP which is quite independent of the evidence provided by sentential adverbs. The order under NP-movements is invariably ((EXPL), SU, OB), with EVC left-edge markers such as *ekki* 'not' following the object if OS has taken place and preceding it if it has not. The conclusion that NP-movement of both nominative subjects and accusative objects must target the same category follows from considering the conditions under which Locality would force subject displacement for OS to take place, as in (47). The relevant configuration is the following, where α^0 and β^0 are potential targets of NP-movement and precedence translates into c-command:

\[
\begin{align*}
\alpha^0 & \ldots \beta^0 & \ldots & \left[ v_P \text{SU} v \left[ v_P \text{V OB} \right] \right]
\end{align*}
\]

well. Thus in cases like (53), since no overt NP-movement has taken place neither has any Case checking, which must wait until LF and the formation of a complex T^0+ν^0 head. This suggest a different account for the SSG is necessary.

As far as I can determine, only those speakers who allow QM also allow construction (48) and (52), but this needs further research.

The relevant paradigm is already found in Rizzi (1986:82-3) who observes (to put it in later terms) that an in-situ small clause subject should block by Locality the cliticization into the matrix of a small clause object, a prediction which seems correct (Italian, his exx. 45a, b):

(i) Gli *ritenevo [*sc tua sorella affezionata e]*
   
   him-D believe-1.SG your sister affectionate

(ii) Gli *ritenevo [*sc e* affezionata e anche tua sorella]*

   him-D believe-1.SG affectionate also your sister

Relativization and topicalization of tua sorella (his exx. 45c, d) also render (i) grammatical. As for the relative mildness of the ungrammaticality of (i), violations of Alexiadou's generalization (40) are also less serious than others, as indeed is for example the deviance of passivizing the direct objects of ditransitives in English, or weak island violations on the Ā-side; the fact that standard cases of super-raising past experiencers of seem verbs trigger a crashingly bad ungrammaticality is isolated in Locality theory.
Suppose \( \alpha^0 \) is the target of OS. Then subject displacement to [Spec, \( \beta \)P] will not ameliorate Locality, since the subject in its displaced position will still be closer to \( \alpha^0 \) than the object. If on the other hand \( \beta^0 \) is the target of OS, subject displacement to [Spec, \( \alpha \)P] is again irrelevant, since Locality is evaluated cyclically and \( \alpha^0 \) will not be available at the point in the derivation where OS happens. We see then that quite generally, Locality will allow OS if and only if subject displacement targets the same head as OS, say \( \beta^0 \): the subject moves first, into the higher specifier of \( \beta \)P, the object second, into the lower specifier, by the MST. This produces exactly the correct possibilities.

These findings show that all NP-movements target the same head. The argument is independent from the evidence given by interaction of these movements with sentential adverbs, but leads to the same conclusion. The identity of the head as \( T^0 \) (that is, the locus of nominative licensing and agreement) follows from the observation NP-movement is Case-driven and the mechanism for OS developed in the previous section.

3.4 A comparison with previous theories

Following Chomsky (1993), most analyses of Icelandic assume that OS targets the accusative licenser \( \text{Agr}_O \) below the locus of nominative licensing, \( \text{Agr}_S \), but above the external argument position (\( v^0 \) or an empty V head of a Larsonian shell). Then there are two Locality violations in such a derivation:

\[
55) \quad \_ \text{Agr}_S [\_ TP \_ T [\text{Agr}_O P \_ \text{OB Agr}_O [\_ vP SU v [\_ vP V t_{OB}]]]]
\]

In (55), \( \text{Agr}_O \) triggers OS, and under Locality the subject in [Spec, \( v \)P] will count as an intervening element. Similarly, Locality is violated by the subsequent movement of the nominative subject, which must cross the shifted object in [Spec, \( \text{Agr}_O \)P] during movement to [Spec, \( \text{Agr}_S \)P].

The immediately obvious solution to the second problem would be to render the object invisible to Locality by virtue of having had its Case checked, much in the same way non \( wh \)-words are invisible for \( wh \)-movement Locality because they do not contain a feature of the appropriate class. In effect, the feature relevant for the Case-driven \( A \)-movement Locality class would be deleted from the object by Case licensing. However, there are extensive arguments in the literature that this is incorrect (for \( A \)-movement especially in McGinnis 1998). Considering the analogy to \( Ā \)-movement, the same situation arises in constructions like *What did John wonder to who Mary gave, where \( who \) and the \( C^0 \) in the embedded question have all their features satisfied, much like the object and \( \text{Agr}_O \) above, yet Locality still does not allow \( who \) to cross over \( what \).

The solution to the problem has been to suggest that Locality is suspended in certain configurations, a phenomenon termed equidistance. Following Baker's (1988:64) Government Transparency Corollary\(^{41} \), Chomsky (1993:184-5) suggests that head movement renders the specifiers of the heads it connects equally distant from the moving NP, allowing the skipping of the lower specifier in OS and nominative movement in (55).

A further elaboration of Chomsky's (1993) system is found in Bobaljik and Jonas

\(^{41}\) “A lexical Category which has an item incorporated into it governs everything which the incorporated item governed in its original structural position.”
They show that within the assumptions of Chomsky (1993), there follows an implication that if a language allows OS, it also licenses [Spec, TP], if equidistance is defined derivationally, rather than representationally. HM can only connect two head positions, say \( (v_0, \text{Agr}_O) \), in a derivational step, making [Spec, vP] and [Spec, AgrP] equidistant; the next step of HM will connect the higher of these two (\( \text{Agr}_O \)) with a c-commanding head (\( T^0 \)), making [Spec, AgrP] and [Spec, TP] equidistant but excluding now [Spec, VP]. Unlike specifier positions which are freely generated by Generalized Transformations and count for Locality only if filled, head positions are always there and thus always count. Continuing the derivation in (55) after OS, the subject needs to move to [Spec, AgrP] for licensing overtly or at LF. In English, where the object remains in situ at PF, all the intervening specifier positions are empty before Spell-Out and thus invisible to Locality, which allows subject movement to target [Spec, AgrP] directly. In Icelandic under OS however, [Spec, AgrP] filled by the object will count as the closest c-commanding A-position, blocking subject movement. Here equidistance comes into play: \( [\text{Agr}_P + v_0 + v + V] \) moves to \( T \), rendering [Spec, AgrP] and [Spec, TP] equidistant. Since head positions are assumed to always count for Shortest Move, \( [\text{Agr}_P + v_0 + V] \) cannot move directly to \( \text{Agr}_S \); the subject must target the intermediate landing site [Spec, TP]. Further movement of the subject from [Spec, TP] to [Spec, AgrP] is unproblematic, with or without HM.

The empirical gain of this theory seems considerable. First, let us take Bures's Correlation (Bures 1993):

56) Bures's Correlation: Within Germanic, the languages that allow NP OS are those languages that also allow TECs [Transitive Expletive Constructions -MR].

Bobaljik and Jonas argue that contrary to previous assumptions, the subject is never VP-internal in TECs, as has been discussed in the previous section (ex. (47)). Given the assumed clause structure and the order (EXPL, SU, OB) in TECs, in a theory that allows only one specifier per head three functional projections are needed, AgrP, TP, and AgrP. The expletive is thus in [Spec, AgrP] and the subject [Spec, TP]. Since languages that have OS require the subject to move through [Spec, TP] in order to get to [Spec, AgrP] by LF (in TECs replacing the expletive), [Spec, TP] must be available in these languages. This is encoded as a parameter (Bobaljik and Jonas 1996:XXX):

57) The [Spec, TP] Parameter: Some languages license [Spec, TP], others do not.

Languages with OS must license [Spec, TP] and therefore TECs\(^{42}\). The empirical gain here was Bobaljik and Jonas's observation that OS/TEC languages independently show evidence of the [Spec, TP] position, as in (58)b):

58a) Það munu hafa verið seldir fjórir bílar
    there would have been sold four cars-N
b) Það munu fjórir bílar hafa verið seldir
    there would four cars-N have been sold

\(^{42}\) The fact that the implication is one way, and presence of TECs does not imply the presence of OS in a language, is welcome in the light of a Faroese dialect which has the former but not the latter (Jonas 1996a).
However, the [Spec, TP] Parameter is a necessary stipulation added on top of the mechanics from the derivational model of equidistance to get this gain. The mechanics itself only demands [Spec, TP] in cases of overt OS, for at LF a counter-cyclic derivation is available where OS takes place after the subject has moved to [Spec, AgrsP] (as in English, where [Spec, TP] is thus not licensed). So far so good. However, to get the [Spec, TP] position in (58)b), where there is no OS, it must be forced independently of the needs of a convergent derivation, and thus the feature licensing [Spec, TP] must be strong. But then the problem of optionality in (58) arises. Bobaljik and Jonas solved this by allowing the strong feature of T\(^0\) to be checked against the expletive in [Spec, AgrsP] under Agrs\(_5\)-to-T\(^0\) movement in (58)b). Now, however, there is really no empirical gain, since to get the correct results we need to make stipulations beyond what the mechanics itself demands, and thus do not get intermediate subject positions as in (58) for free.

The second empirical advantage is that the mechanics seemed to capture that part of Holmberg's Generalization (7) which requires V-to-T movement under OS\(^{43}\). Since [Spec, TP] is active in languages with OS, the only way for the subject to raise past [Spec, AgrsP] filled by the object is if Agr\(_0\) moves to T. However, the solution runs into a problem with Mainland Scandinavian languages and a dialect of Faroese that have pronominal OS but not TECs and thus no [Spec, TP]. Bobaljik and Jonas follow Josefsson (1992) in treating pronominal OS as a different process (cliticization); see also Jónsson (1996:54ff) who demonstrates that this holds of weak pronouns in Icelandic\(^{44}\). But pronominal OS is subject to HG in precisely the same way as full NP OS is (Holmberg 1986). HG follows from the necessity of skipping the base subject position when the object moves, which is accomplished by verb movement. Bobaljik and Jonas's argument that OS implies TECs rests on an exactly parallel argument extended to the next step of the derivation: in order for the subject to skip the derived object position, it must move to [Spec, TP] since that is the only equidistant position head movement can make available, and thus [Spec, TP] must be available if OS is. Now since HG constraints pronominal OS, [Spec, TP] should be available here also for the same reason. Yet the Mainland Scandinavian languages never license [Spec, TP]; they have neither TECs or intermediate subject movement as in (58)b).

Finally, the [Spec, TP] parameter predicts the existence of two possible subject positions. Jonas (1992, 1996a), Jonas and Bobaljik (1993) and Bobaljik and Jonas (1996) argue that two subject positions do exist in Icelandic on the basis of the following contrasts (Bobaljik and Jonas 1996:XXX):

59)a) Í ger hafa sennilega stúdentar/*/stúdentarnir/*/þessir stúdentar leisið bókina yesterday have probably students/*/the.students/*/these students read the.book  
b) Í ger hafa ?(?)stúdentar/stúdentarnir/þessir stúdentar sennilega leisið bókina

\(^{43}\) Vikner (1994, 1995), Harley (1995), and Jónsson (1996) point out that it also constraints nominative movement in dative-nominative constructions, which would be incorporated into the Chomsky (1993) theory if Agr\(_0\) is absent and the dative is in [Spec, AgrsP] while the moved nominative in [Spec, TP] (but then we require dative replacement analogous to expletive replacement at LF). Thus (7).

\(^{44}\) For example, unlike other NPs weak pronouns must move, are limited to a position adjacent to the verb in T\(^0\), and can cross over a nominative subject (‘long OS’, Josefsson 1992, 2001). This is all compatible with the pronouns first undergoing regular OS and then cliticization.
In both sentences, [Spec, CP] is filled, and the subject occupies a position either following (59a) or preceding (59b) the sentential adverb *sennilega* ‘probably’. In the post-adverbial position, a bare indefinite is fine, and a definite is out. In the pre-adverbial position, an indefinite is degraded, while a definite is fine. Jonas and Bobaljik take this contrast to follow if there are two positions for subjects, a low one in [Spec, TP] and a high one in [Spec, Agr3P], Agr3 c-commanding T0, and the sentential adverb *sennilega* adjoins to the TP. In that case, Diesing's (1992) Mapping Hypothesis can be interpreted in such a way that subjects in the low subject position allows only ‘weak’ readings and the high position only ‘strong’ readings. Diesing (1992) argues that the strong/weak reading difference correlates with a categorial boundary, VP for her. NPs that remain within the VP receive weak readings, those that move outside of VP receive strong readings. By drawing the line at the TP rather than VP as Diesing does, Jonas and Bobaljik capture the contrast.

Here it seems to me an insuperable problems arises. OS freely (in fact, as Jónsson 1996:58, ft. 10 notes, preferably) targets a position above high sentential adverbs like *sennilega* ‘probably’:

60) Hann á allar *bækurnar sennilega*
   he has all the.books probably
   (Jónsson 1996:271, ex. 80b)

This is incompatible with taking *sennilega* as TP-adjoined. Indeed as we have seen in section 2.2 adverbs cannot be used to differentiate NP-movements at all, creating the problem we set out to solve in the first place.

I have chosen to critique the Chomsky (1993) analysis of NP-movement, particularly as extended in the works of Jonas and Bobaljik. This is because these works took what was initially a stipulation (although a natural one) to get around Locality, the creation of equidistant positions via verb movement, and elegantly derived a number of empirical consequences. In this section we have seen that these in fact do not seem to follow, and this provides the impetus to consider a scenario which abandons the equidistance mechanism of Chomsky (1993), and to consider what would happen if Locality were inviolable. This was done in the preceding sections. The empirical results are that the latter theory makes the correct predictions about the independence of NP-movement positions and NP Case and the interaction of NP-movement with each other, under a strong and independently motivated theory of cyclicity and Locality. On the other hand, for Holmberg's Generalization it fares no better then the previous theory. Here the equidistance implementation ran into internal problems as we have seen. The present system automatically provides for V-to-T movement if OS takes place, as the previous one did, but also not for the full (7).

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45 Quantified NPs can be categorized depending on whether they are possible as associates in expletive constructions in English. Strong quantifiers (*every, each*, definite NPs, and specific indefinites) are not, while weak quantifiers (*a, some*, non-specific indefinites) are.

46 See section 4 on the Mapping Hypothesis and the absence of a correlation of weak/strong readings with NP-movement, both of nominatives and accusatives. So it does not much matter that Jonas and Bobaljik's interpretation of the Mapping Hypothesis is incompatible with Diesing's (1996) crucial reliance on the boundary being at the VP to explain the semantic effects of OS.

47 See Holmberg (1999), Svenonius (2000), Josefsson (2001) for recent discussions of HG.
Interestingly, Bures's Correlation fits into the theory developed here in a way that lends support to the idea that all NP-movements target the same category. We also need a parameter to capture it, distinguishing T₀’s which have an EPP feature and those which have EPPₘ. In her important work, Jonas (1996a) shows that in the Scandinavian dialects the possibility of subject movement to the middle field correlates with the possibility of V-to-T raising in a given structure (e.g. finite clause, Control infinitive, etc.) in the languages concerned. In the dialect(s) of Icelandic she surveys, Raising/ECM infinitives allow V-to-T raising⁴⁸, and they correspondingly allow middle field nominatives; they also allow OS.

Jonas also notes the existence of Icelandic speakers who do not have V-to-T raising in Raising/ECM infinitives, but does not discuss them. Jónsson (1996), who gives an extensive description of his dialect, notes that he does not have V-to-T raising in these clauses (61)a). As Jonas predicts, he does not allow middle field nominatives. Interestingly, he also does not allow OS (61)b):

61)⁴⁹ a) Jón virðist [<aldrei> hitta  <*aldrei> Maríu] John-N seems <never> to.meet <*never> Mary-A
   (Jónsson 1996:84, ex. 100a, b)
   b) *Jón virðist [Maríu (aldrei) hitta] John seems Mary-A (never) to.meet
   (Jónsson 1996:84, ex. 101)

Jonas's work demonstrates that in the Scandinavian languages there is a correlation between verb raising to T₀ and nominative movement to the middle field. Evidence from Jónsson's dialect allows us to extend this to a broader correlation between verb raising to T₀ and NP-movement in general, including OS. This is exactly what the theory developed here predicts: If nominative movement to the middle field is not available, then T₀ does not license an EPPₘ feature, and thus OS cannot take place either⁵⁰. In the next section, we will investigate the nature of EPPₘ from a different perspective, and look into what it might mean to 'optionally' provide specifiers.

4 The semantics of MSCs and the nature of EPPₘ

4.0 Movement and information structure

Most of the literature on the semantics of NP-movement in Icelandic argues that Diesing's (1992) Mapping Hypothesis correctly predicts the effect of NP-movement to the middle field: for OS see for example Diesing (1996), for intermediate subject movement of nominatives Bobaljik and Jonas (1996), Jonas (1996a). This approach to the semantics of NP-movement argues that what differentiates high and low positions is a distinction between a 'weak' existential reading, and a 'strong' quantificational reading

⁴⁸ It is obligatory for all other constructions.
⁴⁹ Jónsson (1996:84, ft. 36) insures that the adverb has embedded scope in these judgments.
which involves existential presupposition, referentiality, a partitive reading, D-linking, etc., and that this difference is encoded in the syntax of NPs (Diesing 1992, de Hoop 1992). Diesing (1992) for example, assumes Heim's (1982) tripartite clausal structure consisting of an operator (e.g. an unselective adverb like always, a generic operator, etc.), its restriction, and its nuclear scope. The VP is mapped into the nuclear scope, and material outside it due to QR (hence all quantificational NPs), NP-movement, etc. is mapped into the restriction. The nuclear scope undergoes existential closure. Indefinites are lexically ambiguous between quantified NPs, which must QR to the restriction, and existential NPs which get bound by existential closure if they stay in-situ and map into the restriction if moved. All indefinites in the restrictions are interpreted as 'strong' (for Diesing specifically presuppositional). Definites must leave the VP in order to not be bound by existential closure.

Reinhart (1995, 1997a), Neeleman and Reinhart (1998), and Ruys (2001) criticize the Mapping Hypothesis on both theoretical and empirical grounds. On the empirical side, they show that there is no absolute strong/weak correlation under NP-movement; Ruys (2001) shows that some of these apparent effects arise from scopal interaction with intervening adverbs, while the work of Reinhart and Neeleman shows other are due to focus.

Behind the latter lies the older observation that (in some languages) focus is predictable from the Nuclear Stress Rule (NSR) and the constraint that focus may project only from and up through right branches. NSR assigns focus accent to the most deeply embedded constituent of the sentence (in transitive sentences, the object as [V', NP]). Focus projection of this allows (one of) [V', NP], V', VP, I', IP to be the semantic focus, but no left branches such as transitive verbs and subjects in [Spec, IP]. If these need stress, the unmarked focus stress given by NSR can be supplanted by a marked Stress Shift operation which locates the main stress on other items (narrow focus); but focus cannot project on them, and a focus accent on the verb (say) does not allow any other constituent to be in the focus set of potential semantic foci. However, Stress Shift only assigns focus accent; to prevent NSR from assigning a second focus accent to the most deeply embedded constituent anyway, some other operation must apply. In English this is only anaphoric destressing; in Dutch, Reinhart (1997a) and related work argue, also 'scrambling'. The function of the latter is more transparent than that of the former, in that it simply removes the object from the domain of the NSR51. This approach correctly accounts for the (weaker) correlation of scrambling and 'presuppositionality', etc. Scrambling removes the object from the domain of NSR and thus from the focus set, which means it is accessible in the discourse. Thus, it will most commonly apply to discourse-anaphoric (typically definite) NPs, where the existence of an NP or of a set containing the NP is presupposed (existential presupposition and partitive reading), etc.

4.1 The semantics of NP-movement in Icelandic

As was noted in previous section, previous work on NP-movement in Icelandic

51 This is a drastic summary, for reasons of space, of much work on this topic. Cinque (1993) revived the NSR as the default focus-marking operation in English; the NSR algorithm together with optional movement (actually a PF switch rather than scrambling) to escape it is extensively deployed by Zubizarreta (1998). Anaphoric destressing is found in Ladd (1980) and subsequent work.
applies the Mapping Hypothesis to it. Thus, in-situ NPs should have a weak reading, and moved NPs (nominatives in the middle field or objects under OS) should have a strong reading. However, Svenonius (2001) shows that there is in fact no correlation between high/low subject positions and strong/weak readings. A low subject position (below the adverb ennþá 'still', obligatorily below sennilega 'probably') does not in fact force the weak reading of an indefinite, and a very high position (above vonandi 'hopefully') allows a weak reading (contrast (59) above):

62a) Þess vegna ögra ennþá mörg leikrit áhordendum núttímans
this account provoke still many plays audiences today's
For this reason, many plays still provoke today's audiences.

b) Pá ætla margir málvísindamenn vonandi að koma
then intend many linguistics hopefully to come
Then many linguists hopefully plan to come.

The first sentence can be read as Many plays are such that they still provoke today's audiences. (strong), and the second I hope that many linguists will come (but I don't care which ones). (weak). Consequently, there is no direct correlation between subject positions and strong/weak readings.

A similar point is made by Thráinsson (2001:193, ex. 96b), who shows that a strong reading is available for an in-situ indefinite:

63) Þau sýna alltaf viðtöl við Clinton klukkan ellefu.
they show always interviews with Clinton clock eleven
Existential: 'It is always the case that they show interviews with Clinton at 11 o'clock.'
Generic: 'Whenever there are interviews with Clinton, they are always shown at 11 o'clock.'

Here, OS of viðtöl við Clinton 'interviews with Clinton' is available and yields the 'strong' generic reading; but this reading is also available in-situ, along with the existential one. This is a problem for the Mapping Hypothesis, which would force movement here. Similar issues are noted in Diesing (1996): OS of definite NPs is apparently optional; and while (as expected) OS of pronouns is obligatory, they may remain in-situ under focus, a fact not (easily) accommodated by the Mapping Hypothesis.

The alternative approach to high/low NP positions predicts that NP-movement will remove the NP from the focus set produced by NSR, which makes somewhat different predictions from the Mapping Hypothesis and explains some previously anomalous data in the literature. Under both approaches, NP-movement is not 'optional'. On the Reinhart and Neeleman approach, an in-situ NP is in the focus set, a displaced NP

52 The degradation of definites following sentential adverbs in (59) is addressed in Svenonius (2001) using a mechanism fully compatible with the conclusions reached in this paper. Definites can in fact appear in such a position, but only with focus stress, which suggests that an alternative mechanism which relies on the theory described in the preceding section and the mechanisms of PF-movement in Zubizarreta (1998) could also provide an account. This however requires an independent study of the prosodic properties of the middle field, and is beyond the scope of the present paper.
is not. This seems to make the correct prediction for two problems with OS noted above. While pronouns are typically discourse-anaphoric and should undergo OS, if they are focused they stay in-situ. OS of definite NPs is not forced by their definiteness, as under the Mapping Hypothesis; rather, in-situ definites should be in the focus-set and shifted definites outside it. This is confirmed by Bobaljik (1995:127), who observes that under OS, the shifted NPs must be old information:

64a) Hann les Barriers alltaf  
  \textit{he reads Barriers always}

b) Hann les alltaf Barriers  
  \textit{he reads always Barriers}

The OS construction forces an old information reading for Barriers, and is a good answer to \textit{Does he know Barriers?} The in-situ construction, on the other hand, has a new information reading, and is a good answer to \textit{Does he know Chomsky's work?} The question-answer pairs are deviant the other way around. Jonas (1996a:63) notes the same effect for the nominative associate in expletive constructions:\footnote{In expletive constructions the Definiteness Effect applies (see Maling 1988:170, ft. 1, for Icelandic, where it applies to argument closest to the expletive, even if external). Jónsson (1991) shows that when a category moved by Stylistic Fronting 'replaces' the expletive, DE disappears, showing it is due to the expletive rather than the in-situ position of the associate.}

65a) …en það hafa <margar af þessum bókum> verið lesnar <?*> áður  
  …but there have <many of these books> been read <?*> before

b) …en það höfðu <?*> verið lesnar <ísenskar bækur> í fyrra  
  …but there had <?*> been read Icelandic books last year

(65)a) is a continuation of the context \textit{We put all the books for the seminar in the reading room...} which establishes books as old information, and as the judgments indicate, in that context requires OS. On the other hand, (65)b) continues \textit{We put Faroese books for the seminar in the reading room...}, and thus íslenskar bækur 'Icelandic books' is the focus; this makes OS ungrammatical.

These observations suggest that Reinhart and Neeleman's (and Ruys's) approach to the semantic effects of high/low NP positions will prove fruitful for Icelandic, though the work remains to be done. It does not run into the same problems as the Mapping Hypothesis, which does not seem tenable in view of the data surveyed in this section, and it makes correct predictions in domains to which the Mapping Hypothesis did not apply. An interesting result is that NP-movement in Icelandic is never optional; even in the case of OS of definite NPs, there is an effect on the focus structure. In the following section we will explore the implications of this given a particular approach to optional operations.

4.2 Optional 'marked' operations and the nature of EPP\textsubscript{M}

The work of Fox (1995) and Reinhart (1995, 1997b) investigates a class of
syntactic operations that does not fit into the scheme of the Minimalist Program: they seem to apply only if necessary to produce a particular LF representation (they are 'marked'). Fox's (1995) analysis of the interaction of quantifier raising (QR) and ellipsis (Williams 1977) will serve to illustrate the point:

(66)a) A doctor will examine every patient.  \( \forall \gg \exists, \exists \gg \forall \)

b) A doctor will examine every patient, and Lucie will too.  \( \star \forall \gg \exists, \exists \gg \forall \)

(66)b) allows only the surface scope reading of the quantifiers, while (66)a) also allows inverse scope derived by QR. The analysis turns on taking QR as an optional operation that will apply if it is the only way to derive a particular LF representation (hence its 'marked' character); I will abbreviate the concept of an OPTIONAL MARKED OPERATION as MOP. In (66)a) it is necessary to produce the inverse scope interpretation. In the first clause of (66)b) we have the same situation, but in the second clause QR cannot derive an otherwise unavailable interpretation because referential NPs like Lucie do not interact with scope-bearing elements. Consequently, QR is blocked from applying in the second clause. Now the parallelism requirement on ellipsis entails that if QR does not apply in the second conjunct, it will not apply in the first either, ruling out the inverse scope reading there as well.

To be more precise, in Reinhart’s approach MOPs like QR applies if and only if it can produce an interpretation \( I \) and there is no derivation \( \delta \) in a certain reference set of derivations that will yield \( I \). A typical way of fixing the reference set would be to compare only derivations with the same Numeration. Reinhart discusses examples where such reference-set computation seems constrain both syntax and interpretive procedures at LF; QR is an example of the former.

However, Reinhart does not discuss the actual implementation of QR. It is an 'uneconomical' operation (in the global sense of reference-set economy) that the computational system allows only if it can derive an interface representation not otherwise derivable from the same Numeration; but just how does it do that? The mechanism of the Minimalist Program does not provide for movements where triggering features are present only under these conditions.

The behavior of the EPPM feature in Icelandic MSCs can, I believe, shed some tentative light on this (or at least localize the problem). The NP-movements which produce the MSC of TP in Icelandic are driven by an independently available syntactic mechanism, namely the Case/Agreement system. However, as we have just seen, NP-movements are not truly optional: they are licensed just in case they will have an effect on the focus-set\(^{54}\). The fact that the trigger (\( \phi \)-features) is independently available suggests that the mechanism allowing MOPs should not be localized there. The difference between Icelandic and say English is in the difference between the EPP and EPPM features, the latter both subsuming the EPP and optionally licensing further specifiers of TP. Following the logic of Reinhart's approach to such operations then, the possibility of applying a marked operation in this case is a non-obligatory part of the EPPM feature. We can state it this way: In Icelandic (but not English) EPP features can be added to \( \tau^0 \) in the derivation if adding them yields an LF that cannot otherwise be

\(^{54}\) Or NP/adverb scope; see Ruys (2001).
derived from the same Numeration.

Other MSCs seem to confirm such a conclusion. In the case of Bulgarian \textit{wh}-movements in section 3.1, multiple \textit{wh}-movement is obligatory, but this falls into place if the interpretation of \textit{wh}-words requires them to take scope\textsuperscript{55}. In that case, not adding as many EPP features to C\textsuperscript{0} as there are \textit{wh}-words in the Numeration will not yield a convergent derivation, and thus the addition of EPPs is licensed. More interesting is the case of Arabic broad subject MSCs which we also considered in section 3.1. Recall that this MSC is formed by base Merge of the broad subject (in predicative relation with the rest of the clause) to [Spec, TP], and movement of the NP which gets nominative Case and agrees with the verb to form the lower [Spec, TP]:

\begin{align*}
&\text{(67) } \text{TP} \text{hind-un} \ [\text{TP} \text{?aT-Tulla:b-u} \ [T^0 \text{yuqa:bilu-una-ha} \ [VP^{\max} \ldots t_i \ldots] ] ] ] \\
&\quad \text{The students are meeting Hind.} \\
&\quad \text{Literally: Hind, the students are meeting her.}
\end{align*}

The movement of the 'narrow' subject \textit{?aT-Tulla:b-u} 'the students' fits the bill of optional marked operations driven by independent syntactic mechanisms all the way. The nominative in Arabic can show up either post-verbally without number agreement on the verb or preverbally with number agreement. This holds of the narrow subject in MSCs; so beside (67) we have (68):

\begin{align*}
&\text{(68) hind-un} \ \text{yuqa:bilu-ha} \ \text{?aT-Tulla:b-u} \\
&\quad \text{Hind.F-N meet.3M-her students.M-N} \\
&\quad \text{(Abdel-Khalig Ali, p.c.)}
\end{align*}

Ali (1997) shows that this positional and number agreement difference correlates with an interpretive difference: a preverbal XP is interpreted as focused. The correlation with number agreement suggests that the movement is driven by the number φ-feature on T\textsuperscript{0}. The movement is optional, taking place iff the subject is to be placed in focus. Since the φ-feature agreement mechanism is (by hypothesis) universal, the optionality of movement must again be localized in the availability of an optional EPP feature on T\textsuperscript{0} which gets added just in case it will derive an otherwise unattainable LF (one with the subject in the focus-set).

These conclusions allow us to at least localize the problem: MOPs are implemented syntactically by the addition of unforced EPP features to the derivation just in case their addition creates an interpretation not otherwise available in the same reference set (from the same Numeration). The target-goal relationship which drives the movement is provided by independent syntactic mechanisms (φ-features in Icelandic and Arabic MSCs, Q-features in multiple \textit{wh}-movement)\textsuperscript{57}. We have not answered how the

\textsuperscript{55} Thus Bulgarian would have to lack a mechanism for interpreting in-situ \textit{wh}-words, unlike English (e.g. a lexical unselective quantifier for question formation). This predicts the existence of languages like Italian where C\textsuperscript{0} does not license optional EPP features (cp. the difference between English and Icelandic T\textsuperscript{0}), and which also lacks the in-situ interpretive mechanism, leading to a limitation of one \textit{wh}-word per CP.

\textsuperscript{56} Irrelevant structural details omitted.

\textsuperscript{57} So what about QR? In the Chomsky (2000) framework, we need at least an uninterpretable Ā-feature on
syntax implements this addition. Reinhart (1995, 1999) discusses evidence from acquisition that MOPs are computationally taxing, and attributes this to the necessity of computing all the non-optimal derivations in a reference-set, and then checking that a given non-optimal derivation gives an LF not attainable by an optimal derivation. The reference set is partially fixed by the Numeration; what she does not elaborate on, however, is how are potential non-optimal derivations determined, since it is clearly not the case that anything goes. The above discussion offers the hypothesis that non-optimal derivations from a particular Numeration are those given by adding EPP features to a category, with the potential to host EPP features parametrized for each language and category.\textsuperscript{58,59}

5 Conclusion

In this paper a theory of NP-movement in Icelandic has been developed that is a departure from most previous suggestions: separate 'types' of NP-movements do not target different functional projections, but all target the TP to create a Multiple Specifier Construction. This hypothesis accounts for the interaction of NP-movement with sentential adverb placement, and requires no additional assumptions beyond standard Locality theory to correctly predict the possible configurations of NP-movements in combination with each other and expletive insertion. To enable NP-movement of the object to target [Spec, TP] and still capture the idea that it is driven by features on \( v^0 \), a theory of cyclicity has been defined which allows for this via head movement, but in such a way that the basic insights of cyclicity are fully captured. Finally, the property of \( T^0 \) which allows the formation of multiple specifier constructions, the EPP\textsubscript{M} feature of Chomsky (1995), has been clarified by using Reinhart's (1995) approach to optional syntactic operation.

I would like to conclude with a (progressively more) speculative discussion of two issues: (a) why English doesn't allow TECs, (b) why Icelandic doesn't allow broad subjects. The first case falls into place quite straightforwardly in the present theory. The Subject-in-Situ Generalization dictates that one of the NPs in a transitive construction the target, an interpretable feature on the goal that matches the target's \( \overline{A} \)-feature, and an EPP feature on the target to provide a position for movement. Chomsky (2000:109-110) suggests that successive-cyclic \( wh \)-movement targets CPs that do not have features relating to the moving \( wh \)-word because they contain a generalized \( \overline{A} \)-feature (a 'P-feature') that matches the \( wh \)-feature of the \( wh \)-word but cannot render it inactive. He makes the analogy between the uninterpretable [person-] feature of \( T^0 \) in Raising/ECM infinitivals, which matches the interpretable \( \phi \)-set of an NP and moves it to [Spec, TP], but cannot assign Case; consequently the NP remains able to undergo further movement. We could take such a generalized \( \overline{A} \)-feature to drive QR as well, and the quantificational nature of the goal to be the matching interpretable \( \overline{A} \)-feature.\textsuperscript{58,59}

58 The correlation Jonas (1996a) finds between the possibility of EPP\textsubscript{M} (in our terms) on \( T^0 \) and V-to-\( T^0 \) movement suggests that a deeper explanation of this 'parametrization' should be sought.

59 It is here that the difference between the alternative formulations of cyclicity in ft. 27 comes in. Under that formulation, nothing more needs to be said. Under (34), we must provide a mechanism to ensure that the \( \phi \)-features of \( v^0 \) are not checked at the \( vP \) level but wait until HM to \( T^0 \), since their checking there will have the necessary effect on outcome. Since we postulate in any case a comparison of derivations to allow optional marked operations, it is not implausible that "as fully as possible" simply means "fully" unless computing a non-optimal derivation.
must displace. I have argued that Icelandic $T^6$ allows for multiple specifiers; English $T^0$ obviously does not, a very plausible case of lexical parametrization. In the constructions at hand, then, [Spec, TP] is filled by an expletive in English, and movement to the TP is denied to both subjects (intermediate subject movement) and objects (OS). For the SSG to be satisfied, then, we require another movement that dislocates one of the arguments. The choice of such movements in English is highly restricted; there is no scrambling, clitic right-dislocation, indefinite extraposition (cp. ft. 35), but there is Heavy NP Shift. Its application to a subject is marginal but possible, in familiar constructions such as the following examples (application to the subject/object of an unaccusative is seen in presentational there insertion constructions such as *There walked into the room a new student*):

69)a) Yesterday there hit the stands of Reykjavík a new journal: The Christmas Troll.

b) Suddenly there entered the room a student with butter in her pockets.

The setting of the parameter that disallows multiple specifiers for the English TP also correctly predicts that there is no intermediate subject movement.$^{60}$

For (b) also I think we need a parameter, but its nature is less clear. I would like to draw a comparison between languages that allow copy-raising (Perlmutter and Soames 1979:154-171 for Greek; Moore 1998 for a recent discussion of Turkish) and those that do not. Copy-raising languages allow the base-generation of non-selected A-positions in the matrix clauses of raising and ECM verbs, while the down-stairs clause has verbal agreement and an optional pronoun in the downstairs clause (these are null subject languages):

70)a) Afisa ton yani na kerdisi aftos o idios to pegnidi
*let-1.sg. the John-A SUBJ win-3.SG himself-N the game*
I let John himself win the game

b) Olos o kozmos theori ti Maria pos mono afti ine eksipni
*everybody considers the Maria-A COMP only she-N is.smart-3.SG*
Everyone considers only Maria to be smart

(Greek; Perlmutter and Soames 1979:162, exx. 28, 29)

A more tentative example in English are constructions belong to the transformation called 'Richard', such as *John seems as if he is about to leave the room* (cp. Rogers 1974 and much other work). One thing that has been clearly demonstrated for these constructions is that there is the upstairs NP both is non-selected and yet heads an A-chain with the downstairs agreement or pronoun (cp. Moore 1998 for an analysis as a case of resumption in an A-chain whose head and tail are both base-generated). Here it seems that we must allow certain languages (or verbs, if Copy Raising is the proper analysis for

$^{60}$ As discussed above, the reasons for the SSG are somewhat mysterious. Suppose we were to reformulate it to prevent an external subject from remaining in [Spec, vP]. Then, it seems, we would also have an account of why it is the subject that must undergo HNPS in English TECs (cp. *There entered a mouse the room in which the Christmas trolls were hoarding pudding*), and an account of the unaccusativity restriction on there-constructions in English.
the English examples) the power to base-generated non-selected positions with A-properties; again possibly encoded as a parameter on a functional head or (a class of) lexical items. This is certainly two simple a: an additional factor that is almost at play in broad subject constructions is the predication relation which allows the broad subject to be interpreted. The two might be an instance of the same thing - non-selected A-positions require a property $P$ (say a predication operator available in the lexicon), and multiple specifiers are licensed by a property $M$. Interaction gives us broad subject languages ([+P, +M]), copy-raising ([+P, -M]), Icelandic ([P, +M]) and (mostly) English ([P, +M]). This no more that suggests a course of investigation, however; and here I will let the matter rest.
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