PART I

Explaining Main Clause Phenomena: The bigger picture

Augmented structure preservation and the Tensed S Constraint

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Many grammatical phenomena occur only in "root clauses," i.e. main clauses and a limited type of embedded clauses called indirect discourse. Among these are certain transformational movements. Earlier generative studies stipulate that root transformational movements are simply exempt from constraints on movements defined on landing sites.

Two recent more restrictive theories remedy this. Rizzi (1997) restricts their landing sites to SPEC and head positions of specially labeled projections such as TopP and FocP. Emonds (2004) proposes rather that such root projections ("Discourse Shells") have *no labels*. This essay argues that root movements are then subject, like all others, to Structure Preservation, and that their landing sites are better conceived as SPECs and heads of "label-less" or a-categorial projections.

Keywords: discourse shell; dislocation; focus movement; German Verb-second; head movement; left periphery; rightward movement; root transformation; structure-preservation; tensed-S constraint; topicalization

1. Root phenomena and Discourse Shells

In Minimalist terms (Chomsky 1995), a basic question about root phenomena is why (external) *Merge* of the underlined clauses in (1), which can all occur in isolation, is allowed, while *Merge* of their internally rearranged counterparts in (2) is blocked.

(1) a. Mary used his airline since [she could avoid Boston].
b. The boss was so mad that [we would work only till five].
c. The idea that [the city might close the airport] didn't occur to us.
d. No experiment showed (that) [a metal reacts with such material].

(2) a. *Mary used his airline since [Boston she could avoid].
b. *The boss was so mad that [only till five would we work].
c. *The idea (that) [the airport the city might close] didn't occur to us.
d. *No experiment showed (that) [such material a metal reacts with].

It is difficult to see how some restriction on (external) Merge, say in terms of feature-checking, can explain *in the same terms* the restriction on *Move* (internal Merge) in (3c,d).

(3) a. [To fly to India in First Class!] What a luxury!
b. [Buying that old car for his holiday!] How foolish!
c. *[To India to fly in First Class!] What a luxury!
d. *[That old car buying for his holiday!] How foolish!

It is, however, the same restriction, as can be seen by inserting the clauses of (3) into the contexts in (1)–(2).

(4) a. The boss was so mad that I'll fly to India in First Class.
b. *The boss was so mad that [to India I'll fly in First Class].
c. The idea that he bought that old car for his holiday didn't occur to us.
d. *The idea (that) [that old car he bought for his holiday] didn't occur to us.

In the last decade, an influential approach has been to assume that phrasal frontings occur freely in all clauses, but are for some other reason restricted to root clauses like those bracketed in (1) and (3a,b); the explicandum then shifts to why the embeddings are ungrammatical in (2) and the main clauses in (3c,d). The idea behind this work is that usually embeddable subordinators, such as *since, that, Ø, to*, *-ing* in (2) and (3c,d), are blocked from Merging (and thereby embedding the clauses in question), because *the fronted phrases block their Moving* into their surface positions (from some deeper positions, where for some unstated reason, they cannot appear either). In these analyses, the fronted phrases in (2) and (3c,d) thus have "intervention effects" which force a derivation to terminate as a root clause or alternatively to "crash."

This line of research is exemplified in Haegeman (2009, 2011, this volume), who also cites and situates other work in this perspective. But crucially, these authors tend to select constructions with subordinators and complementizers like *when* and *if,* which may plausibly Move from clause-internal to clause-initial positions. Haegeman (2009) thus exploits the fact that subordinating conjunctions such as *when* and *before* arguably originate as embedded time adverbials inside verb phrases (Geis 1970) and are then subject to *Wh*-fronting in relative clauses, plus morphological deletions:

(5) Helen arrived back (at/before the time) (when) the sun sets.
→ Helen arrived back when/before the sun sets.

However, when examples as in (1) and (3a,b) use more neutral subordinators and complementizers, only circular reasoning can conclude that they "move" into their surface positions from some unstated more embedded source, and hence are subject to intervention effects.

The fact is, the exclusion of (non-*Wh*) phrases in front of subjects is just as robust in embedded clauses such as (2) and (3c,d) as in the relative and temporal subordinate clauses of (5). To account for this, I argue that only a few general principles – and no special categories – are needed to specify the structural "tops" of clausal projections. These notably include (i) the venerable if almost forgotten Tensed S Constraint of Chomsky (1973), which is fundamentally an intervention constraint, and (ii) a drastically simplified Structure Preserving Constraint ("SPC", Emonds 1970, 1976). These principles can account for the above and many other salient paradigms in unembedded ("root") clauses in, e.g. English and German, for which such paradigms have been extensively studied.

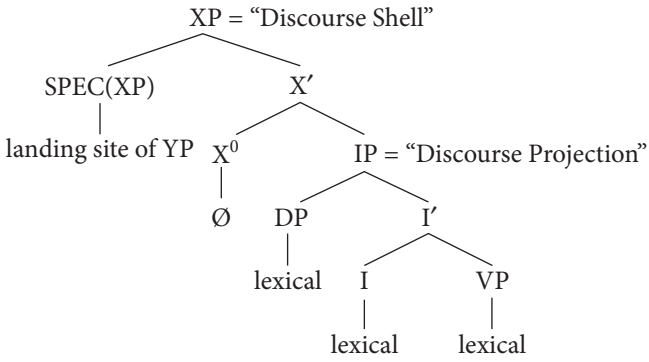
Perhaps the most important proposal here is that a construct of *unlabeled Discourse Shells* is the best way to analyze the "left periphery" of root clauses. I use these Shells in place of certain clausal categories of other authors, i.e. the TopP and FocP phrases of Rizzi (1997) and papers using his framework. Such labels, absent from previous grammatical tradition, strike me as ad hoc and unneeded accretions.

(6) **Discourse Projections.** Certain *unselected finite clauses IP* called Discourse Projections may be immediately dominated by *a series of categorically unspecified XPs*.

"Unselected" means a clause that is *not* an argument or adjunct of an underlying *lexical item* in X^0 (Emonds 1985: Chapter 3). I propose to refer to the category-less XPs that can dominate unselected Discourse Projections as "*Discourse Shells*." Only SPECs of Discourse Shells serve as categorically unrestricted landing sites for movements, the property that characterizes "root phenomena". The fronted phrases in (2) & (3c,d) are thus excluded because the bracketed IPs in the clauses in (1)–(3a,b) are *not Discourse Projections*. Therefore, they can't give rise to Discourse Shells.

At this point then, the class of Discourse Shells includes at least what Rizzi calls FocP, which I claim is an unnecessary category. In the tree below, VP contains a trace of a moved YP.

(7)



Some formal properties of the category-less empty head X^0 in (7) are welcome, though they then lead to a puzzle. First, in contrast to Rizzi's Foc^0, the lack of a label can explain why X^0 is empty, by virtue of an assumption in almost all grammatical analyses though rarely made explicit:

(8) **Category Membership**. Each overt morpheme has a category.

It follows from this that no items can be inserted from the lexicon (Externally Merged) *under the unlabeled X^0 in* (7).

Some languages of course do have particles for marking focus constituents; Rizzi (1997:287) cites *wè* from the language Gungbe, based on Aboh (2004). Perhaps the most studied focus particles are those (in complementary distribution) that follow focus XPs in Japanese, such as *dake* 'only', *mo* 'too' and *sae* 'even'. English *only* and *even*, which generally precede focus XPs, are further examples. Proponents of Rizzi's "cartographic" approach might analyze the Japanese particles as follows: $[_{SPEC(FocP)}$ XP] $[_{Foc'}$ $[_{Foc}$ *dake/mo/sae*] – IP].

However, this structure assigns the wrong constituency. Several criteria justify locating these particles, as well as English *only* and *even,* inside the focus XP; no analysis of them has ever motivated the view that they are not, i.e. no diagnostic suggests that they group with a following clause. Thus, these typical focus particles provide *no support* for the existence of a category Foc^0, exactly as the framework here predicts.

A second restriction on Discourse Shells seems entirely uncontroversial. The lack of a lexical head accounts for why these shells cannot be selected by higher predicates.

(9) **Lexical Selection.** Lexical heads X^0 of Specifier and Complement XP must satisfy *selection restrictions imposed by the lexical head* of the lowest phrasal domain containing XP.

Since Discourse Shell heads are empty, they cannot satisfy selection restrictions, i.e. Discourse Shells are not themselves selected.

Lexical Selection (9) has a third far-reaching consequence, namely it predicts the rather free category combinations *inside* Discourse Shells. In standard phrases with labeled heads, various restrictions govern what appears in Specifier and Complement positions. For example, Specifier phrases of lexical I must be DPs, those of lexical D must be possessives, those of lexical A are measure phrases, etc. But *the lack of head categories* inside Discourse Shells means that no restrictions are imposed on their SPECs, i.e. on "FocP" or (later in this essay) on "TopP". We see this freedom in the following examples, where neither English nor German Discourse Shells exhibit any categorical restrictions on their SPEC.[1]

1. By the definition of Discourse Projections (6), the Complement in a Discourse Shell is either another category-less shell or a finite clause.

(10) a. $[_{DP}$ What beautiful skirts$]_i$ $[_X$ Ø] that girl wears t_i !
b. $[_{AP}$ How long$]_i$ $[_X$ Ø] the professor droned on t_i!
c. $[_{NP}$ Good books$]_i$ $[_X$ Ø] we don't have {many/any} of t_i.
d. …, but $[_{VP}$ eaten that candy$]_i$ $[_X$ Ø] she couldn't have t_i.
e. $[_{PP}$ Down the street$]_i$ $[_X$ Ø] the baby carriage rolled t_i.
f. $[_{PP}$ Down the street$]_i$ $[_V$ rolled$]_j$ the baby carriage t_j t_i.
g. $[_{PP}$ To which child$]_i$ $[_I$ should] John give a book t_i ?
h. $[_{DP}$ Not one book$]_i$ $[_I$ did] John give t_i to this child.

(11) a. $[_{DP}$ *Den ersten Teil*$]_i$ $[_V$ *hat*] *Hans* t_i *verpasst.*
the first part has John skipped
b. $[_{NP}$ *Gute Bücher*$]_i$ $[_V$*fand*] *er nicht viele* t_i.
good books found he not many
c. $[_{VP}$ *Solche Bücher gekauft*$]_i$ $[_V$ *hat*] *Hans schon* t_i.
such books bought has John already
d. $[_{PP}$ *Ins Schwimmbad*$]_i$ $[_V$ *sprang*] *Marie* t_i.
into.the pool jumped Mary

Given these advantages, the empty heads in Discourse Shells lead to the question: if Discourse Projections are not selected by higher heads, how are the Shells above them with empty heads licensed in trees?

First, they can always appear at the top of trees, i.e. they are the principal locus of "root phenomena."

(12) **Roots.** *Unselected finite IP* are always Discourse Projections.

Moreover, many languages including English allow *Discourse Projections in the positions of certain types of embedded clauses*. Such structures often diverge in form from standard selected complements:

(13) a. John was thinking, <u>when could Mary get a holiday</u>?
b. Sue's reaction was that <u>never had she been so offended</u>.

Emonds (1970, 1976) observed that for many speakers, dependent clause contexts like *warn someone that*____ and *make a promise that*____ mimic the freedom of root structures (= Discourse Projections) in what traditional grammar calls *indirect discourse*.

(14) a. Topicalization:
Bill warned us that $[_{RIDE}$ <u>Boston</u> we should try to avoid].
b. Negative preposing and Auxiliary inversion:
I made a promise that $[_{RIDE}$ <u>only till five would</u> we work].

Subsequent studies of such "embedded root phenomena", beginning with Hooper and Thompson (1973), elaborate in various ways on this first rough characterisation,

employing rather vague discourse properties such as "assertion," "presupposition," "emphasis," "contrast," etc. In formal terms, however, these efforts do not seem to get much beyond the traditional label "indirect discourse", which I turn to in the next section.[2]

2. Root-like structures of indirect discourse

Although many seemingly embedded root structures may be spotted in print, heard on the fly, or pop into the minds of native English speakers, such "root-like indirect discourse embedding" (I use an acronym "RIDE") is nevertheless incompatible with most dependent clause positions. As shown in Emonds (2004), RIDEs in at least English and German:

1. are always finite;
2. substitute for complements rather than adjuncts of some predicate;
3. tend to be introduced by V or A rather than by lexical N or P. [3]
4. Some argument of the introductory predicate must be animate.

This higher animate argument specifies the mental locus of the indirectly reported discourse; in examples (13), these arguments are *John* and *Sue*.

Thus, what accounts for the ungrammaticality in (2)–(4) is that these clauses are not RIDEs, i.e. indirect discourse. Each of the bracketed clauses in them violates one or more of the above four criteria. Whenever embedded clauses do not

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2. Certain constructions set off by a comma and introduced by what traditional grammar calls subordinating conjunctions, such as "peripheral" *because*-clauses and *if*-clauses (Haegeman 2009), have some behavior of root clauses, but for a different reason. Very likely, these conjunctions are not present in trees prior to Spell Out, so these clauses are not complements of a lexical item before the derivation enters PF; hence they have some root properties with respect to LF. But as part of late insertion these conjunctions must *select* IPs, which restricts availability of left-periphery landing sites. Such a scenario accounts for why the usual meanings of their heads e.g. *because* are unavailable in LF.

3. The root-like complements of "light verb" expressions such as *make a promise* can alternatively be sisters of V rather than N, a result of the extraposition suggested in Ross (1967); cf. (i). Complements unmistakably *within NP* as in (ii) are *not* root-like:

(i) A promise was made by John that [$_{\text{RIDE}}$ any defect the firm will fix].
(ii) *A promise that [$_{\text{IP}}$ any defect the firm will fix] was made by John.

satisfy *all four* of these conditions on RIDE positions, root transformations produce clear unacceptability. Further characteristic examples showing these points are in Emonds (2004).

Additionally, RIDE is unavailable even in many finite complements of V or A with animate arguments. For example, Hooper and Thompson (1973) observe that complements to verbs in their taxonomy's "C class" and "D class" exclude root frontings, giving examples such as **Sally plans for Gary to marry her and it's possible that marry her he will,* and **He was surprised that never in my life had I seen a hippopotamus.* From all these considerations, it is clear that RIDE is the exception rather than the rule for dependent clauses.

German freely allows embedded Discourse Projections to report indirect as well as direct quotation, giving rise to the much studied second type of Indirect Discourse, in which the finite verb is in second position and there is no embedding complementizer *dass* 'that' (Grebe et al. 1973). Both types of German indirect discourse are therefore expressed in RIDEs.

This essay does not try to exactly specify the sentence-internal positions in which Discourse Projections (RIDEs) appear, though English and German appear similar in this respect. (One difference is that RIDE can appear after English *that* but not after German *dass*; Emonds 2004 has extensive discussion and analysis.) Generally speaking, I maintain my earliest view that they are not simply "embedded clauses like any others." Along such lines, a reviewer observes that Meinunger (2004) analyzes (German) RIDEs as "almost paratactic" clauses, while Krifka (2001) treats them as separate speech acts. The crux of this issue is how to specify the distribution of indirect discourse, a puzzle for which an elegant syntactic solution has eluded grammarians for centuries. Resolution of this problem will perhaps more likely be found in terms of formal semantic representations; thus, RIDEs may indeed be Krifka's embedded speech acts. In any case, one thing is certain: these RIDE projections are not simply a subcase of selected clausal complements, so their characterization as "unselected" in the definition of Discourse Projection (6) seems secure.

3. Predictions of Chomsky's Tensed S Constraint

Section 1 showed that the free choice of category types in root fronting is due to the fact that Discourse Shells have no categories and hence no lexical heads (= they are not subject to External Merge) that could impose restrictions on categories in their SPEC. This freedom is nonetheless balanced by a severe restriction (in English and German) on how many such phrases can precede the subject phrase: Discourse Shells binding

more than one trace, one for each YP in SPEC(XP), cannot iterate; that is, *only one phrase can move to the front of each root or root-like clause.*[4]

Since one can distinguish eight distinct subcases of root fronting in English, fully demonstrating the incompatibility of each with all others would require some 30 different sets of examples. A few examples have to suffice; for more examples making this point see Emonds (1976: Chapter II).

(15) Exclamative fronting + topicalisation:
a. *[What a stupid campaign]$_i$ [that whole weekend]$_j$ Mary spent t_j on t_i.
b. *[That whole weekend]$_j$ [what a stupid campaign]$_i$ Mary spent t_j on t_i.

Topicalization + question fronting:
c. *[That house]$_i$ [which cousin]$_j$ did Mary buy t_i for t_j?
d. *[Which cousin]$_j$ [that house]$_i$ did Mary buy t_i for t_j?

Double topicalisation:
e. *[Bill]$_i$ [that house]$_j$ she took t_i to t_j for the weekend.
f. *[That house]$_j$ [Bill]$_i$ she took t_i to t_j for the weekend.

Topicalization + directional PP preposing:
g. *That big toy into the pool Mary jumped with!
h. *Into the pool that big toy Mary jumped with!

Negative preposing + question fronting:
i. *Only in the suburbs which banners did they confiscate?
j. *Which banners only in the suburbs did they confiscate?

VP preposing + topicalization:
k. *and [$_{VP}$ double in price]$_i$ [$_{DP}$ that house]$_j$ I'm sure t_j will t_i.
l. *and [$_{DP}$ that house]$_j$ [$_{VP}$ double in price]$_i$ I'm sure t_j will t_i.

The *uniqueness of the landing site* for these English preposings is exactly the same phenomenon as the unique "first position" (*Vorfeld*) of the phrase that precedes a main clause verb in German and Dutch traditional grammar. The fact that the same overriding pattern occurs in both declarative and interrogative Discourse Projections in German and Dutch (with verb fronting), and with or without subject inversion in English, suggests that universal grammar itself is responsible for *restricting root phrasal movements to a single landing site in each clause.*

4. Some discussions of fronting seem confused by the fact that adverbials of space, time etc. prototypically PPs, can freely precede subjects in embedded clauses and modify more deeply embedded verbs: *Statistics show that in the next decade we cannot now hope for pollution to subside.* Such examples simply show that adjunct PPs can precede subjects, and can Merge both externally ("deep insertion") and internally (by movement).

Although this didn't seem to be his focus, Chomsky's Tensed S Constraint in *Conditions on Transformations* (1973) predicts this impossi-bility of movement over a fronted phrase, i.e. an intervention effect.

(16) **Tensed S Constraint, or "Unique Traces Constraint."**
A trace inside a finite IP sister of Z^0 must be bound within ZP.[5]

In the examples of (15), one of two traces in the finite clause must be bound outside the lowest Discourse Shell (ZP); such violations of (16) then all lead to ungrammatical examples.

Chomsky introduced (16) as a way to force long distance *Wh*-movement to be successive cyclic, and indeed it has this effect. When Z = [C, +Wh], then the closest binder of any trace within an IP sister of C cannot be outside CP. Note that this account works *only if* CPs, like Discourse Shells, have unique specifier positions; this property is thus equally crucial in both Chomsky's original use of (16) and my use of it.

Digressing from the main line of argument, the Tensed S Constraint was not used to exclude movements to argument positions (in today's terms, to higher DP positions) which "skip" intervening subjects, but I believe it could be. With a proviso about where in derivations (16) takes effect, it can subsume Chomsky's separate Specified Subject Condition.

(17) **Generalized Tensed S Constraint.**
A trace inside an IP sister of Z^0 must be bound within a maximally extended projection of Z^0.

I assume that the Generalized Constraint (17) applies only in the derivational phase for the ZP domain and cannot "look back" into properly contained domains of previous phases.[6]

If the Z^0 is a V, then a trace inside its IP sister must be bound within ZP, i.e. by the subject in SPEC(ZP), which is the Specified Subject Condition of Chomsky (1973). In this phasal domain IP, there is not yet any trace of a phrase that eventually

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5. French and Italian allow left dislocated phrases that bind clitics to the right of focused phrases; see Haegeman (2006). For such systems, statement (16) of the Tensed S Constraint may be too restrictive; cf. Section 5.2. Brame's (1981) similar formal restriction of Operator Binding focuses on the uniqueness of bound variables in a clausal domain.

6. A maximally extended projection of an IP includes an immediately dominating CP, i.e. a PP whose head Ps are not lexicalized prior to PF (Emonds 1985: Chapter 7). The formulation (17) thus allows traces inside "bare IPs" to be bound by the SPEC(CP) of the next IP above them: *Who$_j$ did John seem* [$_{bare\ IP}$ *to despise* t_j]*?* where Z = *seem.*

The possible implications of this proviso need critical examination. The material in this digression is not used in the rest of this essay.

moves into a containing CP, so (17) cannot at this point block such a later operation. A later *Wh*-movement during a CP phase from within a bare IP embedded in VP could violate the the Generalized Constraint, but at this point, it is too late to take ZP as anything but the highest IP.

4. Simplifying/generalizing the Structure Preserving Constraint

4.1 Phrasal movements under Augmented Structure Preservation

Using Discourse Shells, the original SPC (Emonds 1976: Chapter I) can be generalized so as to make unnecessary any special "root transformations" or any other "typology" of transformational operations.

(18) **Augmented Structure Preserving (ASP) Constraint**.
Movements are always *substitutions of α for β*, where β is not specified for a feature differently than α.

With respect to phrasal movements, all the diverse *root fronting* operations of YP in (10)–(11) conform to the ASP Constraint, because targets of these phrasal movements to the unique SPEC(XP) position in (7) are not required to have any particular category features selected by X^0.

Let me relate this explanation to structure preservation more generally.[7] The idea behind the original SPC, arrived at in discussions with N. Chomsky, was always that transformations are "substitutions" for types of constituents which can be generated at the landing site *independently of this movement.* In fact, Minimalist movements to Specifier positions which "check features" of adjacent heads are structure-preserving in just this sense: a certain head X^0 licenses adjacent phrases with some feature(s) F_i which can be in SPEC(XP) independent of movement (via External Merge) or concomitant with movement (via Internal Merge).

For reasons I do not understand, Chomsky's later publications and those of closer collaborators have favored more or less unconstrained adjunction instead of restricted structure-preserving substitutions: the "branching COMPs" of early Government and Binding, topicalization as adjunction to IP/S, covert Quantifier Raising in LF, the

7. The changed use of the term "structure-preservation" in Barriers (1986) concerns only levels in the bar notation and says nothing about categories. According to *Barriers,* any type of category can substitute for or adjoin to any other (APs could become subjects, post-verbal Cs could move to V and hence I, etc.) This needlessly distorts, weakens and de facto eliminates the original Structure Preserving Constraint, namely that categories Y^k substitute for β only in positions *where a* Y^k *can appear independently.*

never visible adjunction of any phrase to VP in *Barriers*, etc.[8] The above discussed parsimonious and explanatory system of Discourse Shells, the ASP Constraint and the Tensed S Constraint show the superiority of a substitution-based view of at least phrasal movement.[9]

4.2 Head movements under Augmented Structure Preservation

Subsuming Head Movements under the (Augmented) SPC is conceptually less simple, primarily because, in light of their use in Baker's (1988) classic *Incorporation,* there seem to be three quite different types of this process. As will be seen in Section 4.2.3, the adjunction version of head movement is in fact not movement at all, but something else.

4.2.1 *Head movements limited to root clauses*

Certain head movements in English (10) and German (11) are operations in root clauses, i.e. the "root inversions" called I to C and (residual) V to C in English and the general V to C in German and Dutch ("Verb-second").

According to Augmented Structure Preservation (18), these movements cannot actually target a landing site of category C, since C is a different category from V and I. The finite elements indeed move to a higher head which is a sister of IP, but *only in IPs that are main clauses and RIDEs*. This target of movement is therefore not C, but rather a category-less X^0 head of a Discourse Shell.[10]

Consequently, root I and V inversions/frontings move highest heads in Discourse Projection IPs to X^0 heads of Discourse Shells, which are unspecified for features and hence can be the target of ASP movement. As a result of this Internal Merge, these X^0 acquire category labels, even though Category Membership (8) prevents External Merge under X^0, i.e. insertion directly from the lexicon.

There still remains the issue of why in German and Dutch finite head verbs move to second position (the head of a Discourse Shell) in *every* main clause, while in English fronting from the Tense/Modal position is limited to only a few constructions. Emonds (2004: Section 4) provides a detailed analysis linked to the obligatory vs. optional presence of subordinating complementizers in the two languages, but any particular analysis of this difference is independent of the ASP claim about the nature of the landing site of moved finite verbs.

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8. Lightfoot and Weinberg (1988), in an otherwise entirely favorable review of *Barriers,* strongly critique VP-adjunction as its (unconstrained) "wild card."

9. The ASPC seems to obviate any special mechanism of feature-checking at landing sites. The original SPC applied to SPEC-head configurations is in fact feature-checking in a constrained form; I know of no argument that the SPC is "too strong" a restriction on it.

10. The ASPC correctly predicts that root inversions cannot iterate in one clause.

4.2.2 *Head movements not limited to roots: Substitutions*

Two widely attested substitution movements are V to I (e.g. French) and N to D (e.g. in Bantu; cf. Ndayiragije 1999). These processes are not in any way restricted to root domains. Some minimal differences must of course distinguish V from I and N from D. Are these movements then still compatible with the ASPC (18)?

Van Riemsdijk (1998, Note 5) argues that I and D are related to V and N respectively in being *less specified categorial variants of V and N*: "…the resulting node after substitution will contain a feature matrix which is an amalgam of the feature matrices of I and V, or, to put it differently, an I with some of the features of V added to it." For example, items of category V seem to receive an unmarked interpretation in Logical Form of "activity" (stative verbs are the marked subclass of V which don't). But category I, while doubtlessly sharing features with V, excludes this inter-pretation; so when *do* appears as an inverted I in questions, before *n't,* etc. it lacks its otherwise uniform interpretation as activity. (Its irregular mor-phology shows that it is nonetheless the same lexical item as the verb *do.*)

Under this view then, V-to-I and N-to-D are movements whose (empty) landing sites have *fewer* categorial features than the elements moving into them, but no features different from theirs. Hence, such movements of V and N fully conform to the ASP Constraint.

4.2.3 *Head adjunctions*

The original SPC exempted a formally restricted class of "local transformations" from its scope. Many of Baker's (1988) incorporations of Y^0 into a next highest governing X^0 fell into this class of rules. But the ASP Constraint makes no provision for them, so *such transformational head adjunction is not consistent with ASP.*

In my view, closer analyses of such local rules and incorporations have shown that they are not actually transformational in nature. The key to understanding them comes from *a non-transformational operation "Merger*" motivated in the framework of Distributed Morphology. Merger "*generally joins a head with the head of its complement XP*" (Halle & Marantz 1993: 116). For example, they use Merger as an alternative to Chomsky's classic affix movement transformation of English, which eliminates both (i) the unwanted transformational "lowering" of morphemes in I to V (Halle & Marantz 1993: 134) as well as (ii) the rule's stipulative restriction to –MODAL values of I.

If Merger is not itself just an ad hoc device to avoid lowering subcases of movement, there must be other instances of it, and some general characterization of all possible Mergers that is independent of Movement. My proposal for this more general syntactic device is (19).[11]

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11. Mergers in this sense are thus instances of External Merge (from the lexicon) and not of Internal Merge (movement). Emonds (1985) uses *Alternative Realization* for such

(19) **Generalized Merger/Alternative Realization** ("AR").
A syntactic feature F canonically positioned in LF on category β can be alternatively realized *in a closed class morpheme* under γ, provided that some projections of β and γ are sisters.

Emonds (2000: Chapter 4) argues that AR covers many familiar syntactic and morphological processes. For example, it is the best mechanism for assigning case to DPs, and more generally covers almost all of what traditional grammar calls "inflection".

As defined above, AR/Merger is not transformational, but rather a principle that sanctions a certain range of *lexical entries of grammatical items.* A second good example of AR/Merger relevant to this essay concerns what has often been taken to be "Verb-Raising" of English finite copulas and *do*. Such a transformation would be limited to just a few items (*be*, *do, have*), which each act differently under the purported movement and even change their morphological form (*be* → *is/are/am*). An elegant alternative is to treat these English finite "auxiliaries" as Alternative Realizations under Tense of (i) V itself for the item *do,* and (ii) the feature +STATIVE for the verbs *be/have*; see Emonds (2000: Section 4.5).

Consequently, when head movement is properly circumscribed and supplemented with lexical AR, it conforms to the ASP Constraint (18). For detailed arguments that justify the restrictions on head movement in (20) and sharply differentiate it from lexical AR, see Emonds (2004).

(20)

Alternative Realizations	**Transformational Head Movements**
AR is possible only for *least marked members* of a category.	Head Movement affects *all members* of *a category* such as I, V or N.
AR realizes features *lower or higher* than their canonical (LF) positions, even in other phrases.	Head Movement always involves raising a node *within single properly defined extended projections.*
AR is never sensitive to a root vs. embedded clause dichotomy.	The ASPC (18) determines if a head movement is limited to root clauses.
Lexical entries specify types of PF positions under X^0, such as *adjoined prefixes and suffixes*, and can specify fission or fusion.	Head Movements (V to I; I to C; N to D) are always *substitutions*. Later adjunction to moved stems can be effected by PF-insertion under AR.
AR is defined only for *closed class items.*	Head Movement affects *open classes*, as in French V to I or Bantu/N to D.

configurations, where Marantz's work uses *Merger*. The difference between the two is that AR is limited neither to "lowering" nor to bound morphemes (affixation).

Because of these several differences between AR and head movement, the first one being an unambiguous indicator of which of the two non-overlapping mechanisms is at play, I do not hesitate and in fact am forced to let *lexical AR and transformational Head Movement co-exist in syntactic theory*. As a result, most processes treated in earlier analyses as local transformations or as incorporations are not actually movements, and are orthogonal to the validity of the Augments Structure Preserving Constraint.

There are also some main clause and RIDE phenomena unrelated to the ASPC. Since Structure Preservation constrains only *movement,* it cannot in principle restrict root phenomena such as speaker-oriented adverbials and parentheticals (Banfield 1982: Chapters 1–3), discourse particles (Coniglio & Zegrean this volume), main clause deletions (Haegeman 1999 and subsequent articles), or honorific marking, e.g. the Japanese suffixal politeness verb *-masu* as described in Miyagawa (this volume).

A particularly relevant phenomenon of this type, which bears on how to refine this paper's basic approach, concerns the range of root phenomena in Peripheral Adverbial Clauses (Haegeman 2009), mentioned above in Note 2. Frey (this volume), using German data, distinguishes such clauses from both Central and "Non-integrated" Adverbial Clauses. The former are standard dependent clauses, selected by subordinating conjunc-tions of category P, while the latter are essentially unembedded Roots, as defined in (12). Standing between these two types, the Peripheral Adverbial Clauses are indeed selected, e.g. by *da* 'because' and *obwohl* 'although', but as observed in Note 2, these conjunctions are perhaps inserted only in PF, which may explain why they are "root-like" for example in allowing Discourse/Modal Particles.

Studies such as these have brought to light and analyzed many properties exhibited in these root constructions; the present essay does not discuss these non-movement phenomena, except perhaps to suggest the concept of Discourse Projections as a locus for where they may occur.

5. Left dislocation constructions

5.1 Left dislocation and Discourse Shells

A full treatment of initial constituents in root contexts, i.e. main clauses and RIDEs, must account for left dislocations set off by commas. These often occur with co-referential resumptive pronouns, as in (21)–(23).

(21) a. $[_{XP}\ [_{DP}\ \textbf{Mary}]_i, [_{XP}$ why $[_X$ must$]\ [_{IP}\ [\underline{\text{she}}]_i$ always be late$]]]$?
b. John thinks $[_{CP}$ that $[_{XP}\ [_{DP}\ \textbf{such a car,}]_i\ [_{IP}$ you shouldn't buy $\underline{\text{it}}_i]]]$.
c. $[_{XP}\ [_{PP}\ \textbf{Because he phoned his wife}], [_{XP}$ [the first part of the movie$]$ $_X$ Ø$]\ [_{IP}$ Jim missed$]]]$.

(22) a. *On croit* [$_{CP}$ *que* [$_{XP}$ [$_{DP}$ ***ce type-là***]$_i$, [$_{IP}$ le patron
one thinks that that guy-there the boss
va *le*$_i$ ***mettre à la porte***]]].[12] (French)
goes him put to the door
'We think that that fellow, the boss is going to fire him.'

b. [$_{XP}$ [$_{AP}$ ***Contente d' avoir réussi***], [$_{IP}$ *Marie est partie*]].
happy to have succeeded Mary is left
'Happy to have succeeded, Mary has left.'

(23) [$_{XP}$ [$_{CP}$ ***Dass du gekommen bist***]$_i$, [$_{XP}$ *das*$_i$ [$_V$ *ärgert*] [$_{IP}$
that you come are that bothers
hier alles]]]. (German, adapted from Vikner 1995, 239)
here everyone
'That you have come, that is bothering everyone here.'

As with the fronted phrases binding traces in Sections 1 and 3, is it better to analyze left dislocations using Discourse Shells, or do they realize some specifically topic-based structure such as the TopP of Rizzi (1997)?

1. As with Foc^0, his putative category Top^0 is never lexicalized.
2. A range of different phrasal types of YP can be left dislocated.
3. Left Dislocation is a root phenomenon in English (Ross 1967).

(24) **Left Dislocation.**
These three properties of follow from (6), (8) and (9), if Left Dislocation is analyzed with *category-less Discourse Shells*.

Conclusion (24) suggests that the *iterated* Discourse Shell Specifiers provided for in (6) are a natural device for multiple left dislocated constituents as in (25). They have the following characteristics:

1. When such SPEC(XP) are DP arguments in a following clause, they are paired with resumptive pronouns.
2. When they are adverbial PP adjuncts, they are not.

(25) [$_{ZP}$ That guy$_i$, [$_Z$ Ø] [$_{YP}$ after the play, [$_Y$ Ø] [$_{XP}$ according to Sue, [$_X$ Ø]
he$_i$ wept]]].

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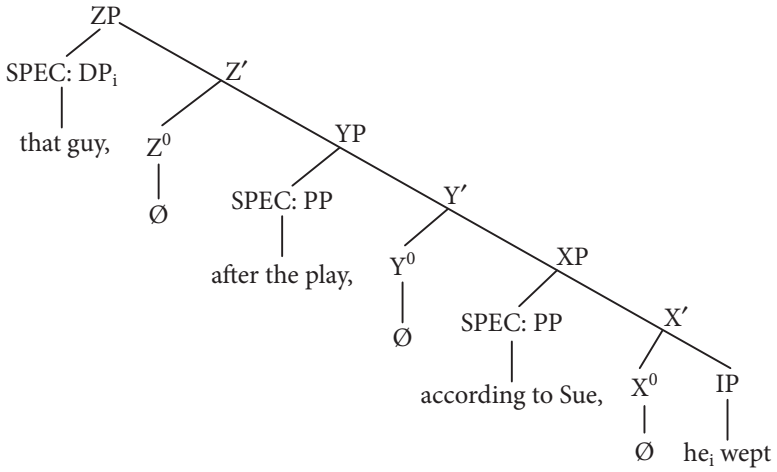
12. De Cat (2002, Chapter 3) refutes a frequent claim that French left dislocated subject DPs with resumptive clitics are in SPEC(IP). She shows they are located outside IP. For hypotheses about whether French dislocations are root phenomena, see Ronat (1973) and Haegeman (2006).

(26)



5.2 Predicting the order Topics – Focus

The Tensed S Constraint also has revealing consequences for Left Dislocation. Section 3 showed that any trace of a root fronting in a Discourse Projection IP has its closest binder in the *first Discourse Shell XP just above IP,* as in the examples (27).

(27) a. $[_{ZP}$ My boss$]_k$, $[_{XP}$ $[_{SPEC(XP),\ \mathbf{YP}}$ a man like that$]_{\mathbf{i}}$ $[_X$ Ø$]$ $[_{IP}$ she$_k$ would never hire t$_i$ $]]$.

b. $[_{ZP}$ Suzanne$]_j$, $[_{XP}$ $[_{SPEC(XP),\ YP}$ what else$]_i$ $[_V$ does$]$ [she$_j$ do t$_i$ to relax]]?

c. $[_{ZP}$ Due to Bill$]$, $[_{XP}$ $[_{SPEC(XP),\ YP}$ Mary$]_j$ $[_X$ Ø$]$ $[_{IP}$ I can't go to movies with t$_j$ anymore]].

Any trace-binding YP that *precedes a left dislocated ZP* is then "too high," as shown in (28). The trace violates the Tensed S Constraint, which thus accounts for the contrast. Antecedent-trace pairs are underlined.

(28) a. *[A man like that]$_i$, [my boss]$_k$, $[_{IP}$ I don't think she$_k$ would hire t$_i$].

b. *[What else]$_i$, [Suzanne]$_j$, does $[_{IP}$ she$_j$ do t$_i$ to relax]?

c. *[Mary]$_j$, $[_{XP}[_{SPEC(XP)}$ due to Bill$]$ $[_X$ Ø$]$ $[_{IP}$ I can't go to movies with t$_j$ anymore]].

The Tensed S Constraint (16) thus explains automatically why dislocations, at least in English and German, must be *exterior to landing sites for movements.* For Italian, however, Rizzi (1997) claims that topics sometimes follow trace-binding focus YPs. At issue is the status of (28) and (30), which are less acceptable in English than (27) and (29):

(29) a. Topic–Focus–IP:
I said that John$_i$, this we should tell him$_i$ tomorrow.

b. Topic–Topic–Focus–IP:
? I said that John$_i$, tomorrow, this we should tell him$_i$.

(30) a. Focus–Topic–IP:
?? I said that this, John$_i$, we should tell him$_i$ tomorrow.

b. Focus–Topic–Topic–IP:
*I said that this, John$_i$, tomorrow, we should tell him$_i$.

These are translations of Rizzi's examples, except I replace *credo* 'I believe' with *I said*. He gives all four Italian examples as acceptable. However, my English judgments suggest that the movements over dislocated topics in (30) incur a cost by derivational steps whose motivation is not syntactic, but rather pragmatic (indirect discourse). That is, the examples in (30) may derive from those in (29) by movement of the focused constituent [$_{DP}$ *this*] from the SPEC of the lowest Discourse Shell to the SPEC of a higher shell. That is, the Tensed S Constraint may be parameterized in different languages, with the consequence that movement over certain left dislocated phrases needn't invariably violate it.[13]

In English and German then, Discourse Shells whose Specifiers bind traces always seem interior (at least when fully acceptable) to clauses exemplifying Left Dislocations. But even if Italian dislocations are less strictly ordered, Rizzi still concludes, using Italian, that his FocP, whose phrasal Specifiers bind traces, immediately dominates IP and is hence lower than his TopP.[14] With no stipulation as to this order, *the joint effect of the Tensed S Constraint and Discourse Shells predicts Rizzi's syntactic structure of the left periphery.*

Thus, the categories TopP and FocP and the order between them turn out to be simply labels for two syntactic configurations that differ in any case. "FocP" redundantly labels the configuration with a trace (7), while TopP similarly redundantly labels any other a-categorial Discourse Shell.

This leaves purely semantic properties as the only possible justi-fications for according these labels some formal status. Yet Neeleman and van de Koot (2008: esp. 2.1) carefully show that such functional projec-tions at clausal left peripheries cannot accurately express or fully account for the concepts of Topic and Focus

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13. If Italian counterparts to (30) are fully acceptable, perhaps "Finite IP" in (16) in Italian is taken to *include* certain Discourse Shells above IP, unlike in English. French paradigms suggest that topic phrases in such Shells can bind resumptive clitics; on these constructions, see Haegeman (2006).

14. The generalization of Rizzi (1997:291) is: "Focus is quantificational, Topic is not". By stipulating that FocP, whose Specifiers bind traces (= are "quantificational") is lower than TopP, whose Specifiers do not, he ensures that trace-binders are interior to non-binding dislocations.

as they need to be defined for the "discourse templates" of information structure. At best, Rizzi's TopP and FocP can be the basis for some one-way implications involving seman-tically defined Topics and Foci, but such one-way implications can as well take as their input the more parsimonious a-categorial representations of Discourse Shells, either binding a trace (his FocP) or not (his TopP).

5.3 The comma intonation in Left Dislocation

Category Membership (8) forbids External Merge under X^0. Yet, any non-lexical X^0 must be licensed by some theoretical mechanism:

(31) **Licensed Empty Categories.** All categories must be phonologically realized unless (i) licensed by UG theories of binding and alternative realization, or (ii) lexically specified as grammatical null allomorphs.

For example, one type of empty head X^0 licensed by movement theory appears to be *certain intermediate heads*, including Cs and the X^0 in Discourse Shells, between fronted (focused) YPs as in (10) and their c-commanded bound traces. That is, all the intermediate X^0 "links" *through or to whose Specifiers the YP move* can apparently be empty by virtue of some part of binding theory. For a theory of these links and some relevant differences in English and German, see Emonds (2004: Section 4).[15]

Now in contrast to the Moved YP in (10) and (11), suppose some phrase of a Discourse Shell is *externally Merged* in SPEC(XP), or in older terms "base-generated" outside a Discourse Projection. The null head X^0 cannot be due to (31i) since no movement or AR is involved, but it can't be a null lexical morpheme either (31ii), because of Category Membership (8). These considerations at first seem to exclude "base-generated" Left Dislocations entirely.

Nonetheless, a different "last resort" (less economic) way to phonologically realize X^0 can satisfy (31). It appears that an item can be phonologically realized without speaking:

(32) **Pause Prosody.** An otherwise unlicensed, category-less head X^0 can be *phonologically realised as a (potential) pause*, i.e. an orthographically represented "comma intonation."

It is therefore a general condition on empty categories (31) that explains why base-generated, "dislocated" constituents are set off by phonologically pauses, while moved constituents, which bind a trace, are not. The commas are there not because

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15. This essay doesn't treat any phonologically null lexical items as in (31ii). Emonds (2005) discusses how such items are related to other empty nodes permitted by Alternative Realisation.

speakers need to breathe, but so as to circumvent violations of Licensed Empty Categories (31).

6. Rightward movements of phrases

6.1 Structure-preserving instances of Move

This study has subsumed the root constructions of English, German, French and Dutch under an "Augmented" version (18) of the Structure Preserving Constraint, though French and/or Italian dislocations may call for additional refinement along the lines of Haegeman (2006). As in most syntactic research, the main concern here has been leftward movements. However, as argued in Emonds (1970, 1976), movements of constituents rightward also preserve structure, in the sense that the landing sites of X^j moved rightward are exactly where a language's canonical structures independently specify categories that are of the type X^j and no other. Among rightward structure-preserving movements are clausal extra-position (Rosenbaum 1967), extraposition of PP from within DPs (Ross 1967), and Dutch and German "PP over V" (Koster 1974).

Less straightforwardly, a "structure-preserving effect" often accompanies rightward movements of subjects such as French Stylistic Inversion. Based on patterns first explicitly brought out in Kayne (1972), Emonds (1976) observes that postposed subjects appear to "compete" with direct objects for the same surface position:

(33) a. *C'est après le dîner que parlera* [$_{DP}$ *le patron*].
it's after the dinner that speak-will the chief
'It's after the dinner that the chief will speak.'

b. **C'est après le dîner que parlera* [$_{DP}$ *le patron*] [$_{DP}$ *sa propre langue*].
it's after the dinner that speak-will the chief his own language

c. **C'est après le dîner que parlera* [$_{DP}$ *sa propre langue*] [$_{DP}$ *le patron*].
it's after the dinner that speak-will his own language the chief

The structure of the French VP allows for only one (preposition-less) DP. Example (33) thus shows that a subject DP can "stylistically invert" only when V has no other overt DP sister; movement cannot violate the canonical restriction to one DP.

As we see, several English constructions exhibit the same effect. This cross-linguistic incompatibility of direct objects and post-posed subjects strongly suggests

that its source lies in Universal Grammar. In (34a–b), post-verbal subjects accompany root frontings of certain APs and PPs to the SPEC(XP) of Discourse Shells. These frontings clearly illustrate ASP, and in fact so also does the restriction on the clause-final positioning of the subjects. In a similar construction without fronting in (34h–k), post-verbal subjects also occur with the expletive *there* in SPEC(IP).

(34) Preposing of AP over *be*:
a. More relevant would be (considered) a talk on DNA.
b. *More relevant would consider our group a talk on DNA.
c. *More relevant would consider a talk on DNA our group.

Directional PP fronting and preposing over locative PPs:
d. Into the harbour sailed a new warship (*the old admiral).
e. *Into the harbour sailed the old admiral a new warship.

There-insertion with clause-final subjects:
h. There sailed into the harbour a new warship (*the old admiral).
i. *There sailed into the harbour the old admiral a new warship.

These paradigms are prima facie evidence for structure-preserving movement from subject to object position. After a long period in which such transformational lowering has been more or less "unthinkable", I now see no objection to optional lowering *in the PF component*, *subsequent to Spell Out.* Such an operation does not then contribute to LF. That is, LF is oblivious to a PF lowering rule leaving an unbound trace, and in addition substituting for and thereby deleting a trace of a previously moved object at a landing site.[16]

All the (acceptable) sentence patterns in (34) have a distinct feel of high style, suggesting that Kayne named the French variant well. Elegant phrasing might be attributed to a kind of "Stylistic Obligatory Contour Condition" which could reproduce base constituent orders without regard for logic (i.e. independently of LF). The paradigms in (34) then show that such stylistic lowering, like other movement, obeys Structure Preservation. More generally, "stylistic rules" were *placed on the PF branch* of Chomsky and Lasnik's (1977) T-model, so in fact my proposal that they operate in PF with no regard for the traces of LF is not actually novel. An a priori objection to this analysis simply amounts to not taking Chomsky and Lasnik's (1977) T-model of grammar seriously.

There is of course a limit as to how far a constituent may lower. None of the processes in (34) could ever move constituents into a lower finite IP or into a DP from the outside. This can be attributed to derivations proceeding in cycles or phases. At

16. Relativizing or Cliticizing a direct object in French "frees" the post-verbal position for rightward movement of a subject DP; the lost traces play no role: C'*est le danois que parle le patron.* ('It is Danish that speaks the chief.')

a point when an XP can move, all previous phases are plausibly closed off to further modification by movement; this is the "strict cycle" effect. Hence, any stylistic lowering "on the PF branch" from say subject to object position must be limited to positions in the same phase (= cyclic domain IP or DP).

6.2 Free word order phenomena disguised as movement

Rightward movements classically also include Heavy NP Shift (Ross 1967), which has always been a problematic paradigm for the original SPC. This Shift neither preserves structure, nor is local, nor is restricted to main clauses and RIDEs. In English, "heavy" complement phrases (DPs or APs) as in (35a,b) apparently move in (35c,d) into a region where the language's canonical structures accept only PPs and CPs.

(35) a. Sue brought $[_{DP}$ a tray of drinks] to us so we could relax.
b. The ads sounded $[_{AP}$ as stupid as the previews] to us.
c. Sue brought t_i to us $[_{DP}$ a tray of drinks$]_i$ so we could relax.
d. The ads sounded t_i to us $[_{AP}$ as stupid as the previews$]_i$.

Such Heavy NP Shift may well be a subcase of a more general phenomenon, usually termed Scrambling in languages with freer word order. As committed as I am to defending some kind of structure-preserving constraint on movement, the alternation (35) and more generally the scrambling phenomenon has always resisted treatment in such a framework.

6.3 Exempting genuine subcases of Merge from Move

It is therefore of interest that Saito and Fukui (1998) find independent justification for separating these two black sheep of structure preservation from the herd of transformational processes conforming to it.[17] They argue that a significant cluster of properties (36) distinguishes certain "genuine subcases of Merge," *namely Heavy NP Shift and Scrambling,* from what we can contrastively call "genuine subcases of Move," of which WH-movement and passives NP-movement are typical.

(36) **Genuine Subcases of Merge.** Unlike instances of Move, Heavy NP Shift and Scrambling:
a. Participate in *no agreement* at their landing site.
b. Are always *optional*.

17. Their transformational theory formulates properties of WH-movement and NP-movement in terms of feature-checking. With these assumptions, their investigation concludes "…that English heavy NP shift is not movement to a feature-checking position and that it is to be treated on a par with scrambling." (Saito & Fukui 1998: 445).

c. Displace constituents in a direction *away from a language's head position*, i.e. Japanese Scrambling is leftward and English Heavy NP Shift is rightward.
d. Can apply to *multiple constituents* in the same domain.[18]
e. Place constituents outside of domains where they appear at LF, requiring so-called "*radical reconstruction*."

While I do not use a number of Saito and Fukui's formulations, they have undeniably identified a central difference among operations traditionally been grouped together simply as "Move α." They conclude in particular that Heavy NP Shift and Scrambling are "genuine subcases of Merge" are more akin to optional alternative ways of satisfying head – complement relations than to movements of constituents into higher domains. From this conception, however, it is made precise, at least the properties (36a–d) appear to follow.[19] A further implication, which coincides with the thrust of this essay, is that all other familiar cases of movement are *not* Merges, but genuine Moves, subject to the ASPC (18).

I conclude that Augmented Structure Preservation is a fully general condition on all "genuine case of Move," i.e. on every movement except the "apparent movements" but actually Merges of (36).

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18. Saito and Fukui (1998: 445) imply that lack of agreement (36a) and optionality (36b) both follow from lack of feature checking at a landing site (443), citing Webelhuth (1989) for material on multiple applications of Heavy NP Shift. In the scrambling language Japanese, they relate (36d) to the possibility of double subjects. Note also, (36) does not claim that Scrambling *towards* a head, if it exists, is Merge rather than Move.

19. Saito and Fukui (1998) also develop the idea that a certain formal operation that they term "substitution" should be used for "genuine subcases of Merge," and that a different formal operation with segmented categories called adjunction should be used for movement. Section 4.1 above critiqued this bias toward adjunction as an operation. I also disagree with their redefinition of "substitution," and so for the dichotomy they have uncovered I retain the more widespread understanding of Merge vs. Move.

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