Preemptive Move Toward Elimination of Lexical Subarray: Dynamic Economy[*]

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1. Introduction

In the Phase Theory of Cyclicity, Chomsky (2000:106ff.) has introduced a novel concept of *Lexical Subarray* (LSA), which determines a *phase*. Chomsky claims that LSA is "propositional," and hence can be selected straightforwardly from the initial lexical array (LA); LSA is determined by a single choice of C or of *v*.

In this paper, I show that the determination of LSA is not so straightforward that operative complexity can be reduced as Chomsky envisages. The question, which motivated the concept of LSA, why Merge of an expletive does not always preempt Move, can be answered by an economy principle of derivation that dynamically makes a locally deterministic choice between (external) Merge and Move (internal Merge) without recourse to how lexical items are made available for narrow syntactic computation, and propose a principle with such a dynamic effect.

In section 2 and 3, I first review the background problems of misgeneration that motivated the concept of LSA, and in section 4, I demonstrate the determination problem that the notion of LSA entails. I also review the non-deterministic problem of Collins' (1997) formulation of Local Economy in section 5, and the general problem of static economy that predetermines some operation over another, scrutinizing Shima's (2000) preference for Move over Merge in section 6.

In section 7, I propose a dynamic economy principle of *Minimum Feature Retention* (MFR) that makes a locally deterministic choice without a predetermined preference for one operation over another, which solves the misgeneration problem that motivated the concept of LSA. In section 8, I propose that the expletive *there* is selected as a kind of "External Argument" of v^0, which dissolves an apparent problem for MFR, and section 9 summarizes the main points with some concluding remarks.

2. The Over-Generation Problem

Since Chomsky (1995), it has widely been held that the operation Merge is "costless," whereas the operation Move is less economical than Merge, as he latter is composed of

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suboperations of Agree (or feature-checking in Chomsky 1995) + Merge (+ Generalized "Pied-Piping"). In this view, there was an over-generation problem when an expletive is involved.

In Chomsky's (1995:295ff.) account, superraising (1) cannot be generated.

(1) *John$_i$ seems (that) it was told t_i that TP

Presumably, (1) would have been through the following stages in its derivation:

(2) a. [$_{T'}$ T^0 was told John [$_{CP}$ that TP]]

b. [$_{TP}$ it [$_{T'}$ T^0 was told John [$_{CP}$ that TP]]] Merge (*it*)

c. [$_{CP}$ (that) [$_{TP}$ it [$_{T'}$ T^0 was told John [$_{CP}$ that TP]]]]

d. [$_{v/VP}$ seems [$_{CP}$ (that) [$_{TP}$ it [$_{T'}$ T^0 was told John [$_{CP}$ that TP]]]]]

e. [$_{T'}$ T^0 [$_{v/VP}$ seems [$_{CP}$ (that) [$_{TP}$ it [$_{T'}$ T^0 was told John [$_{CP}$ that TP]]]]]]

At the stage (2a), there was an option of either Merge (*it*) or Move (*John*). As Merge (*it*) is assumed to be more economical than Move (*John*), the former is chosen (2b). When the derivation reaches the stage (2e), there is no more relevant lexical item to fill the matrix Spec(TP). Thus, the only operation available at this stage is Move. As *it* is closer than *John* is to the matrix T^0, *it* moves to become the matrix Spec(TP), yielding the following.

(3) *[$_{TP}$ It$_i$ [$_{T'}$ T^0 [$_{v/VP}$ seems [$_{CP}$ (that) [$_{TP}$ t_i [$_{T'}$ T^0 was told John [$_{CP}$ that TP]]]]]]]

Chomsky (*ibid.*) reasoned that although the matrix T^0 satisfies its EPP requirement, its Case-feature cannot be checked, since the Case-feature of *it* has been checked and erased when *it* is Merged to the embedded Spec(TP) — hence the derivation crashes. Thus, superraising (1) is blocked by the crashing derivation (3).

As has been noticed, however, there is a serious oversight in this account; covert raising of *John*'s Case-feature in (3) should be able to check the Case-feature of the matrix T^0, as *John*'s Case-feature has not been checked. Thus, (3) should converge, contrary to Chomsky's (*ibid.*) claim. That is, although superraising (1) is correctly blocked, another ungrammatical derivation (3) is over-generated.

3. The Under-Generation Problem

In the Phase-Based Probe-Goal Theory, superraising (1) and the over-generation of (3) can both be blocked. When the derivation reaches the stage (2e), the probe T^0 in the matrix clause cannot access *it* in the embedded TP by *Phase-Impenetrability Condition* (4).

(4) ***Phase-Impenetrability Condition* (PIC)** (Chomsky 2000:108 (21))

In phase α with head H, the domain of H is not accessible to operations outside α, only H and its edge are accessible to such operations.

In (2e), the relevant phases are the matrix *v*P and the embedded CP, so the probe T^0 in the matrix clause cannot access *it* in the embedded TP.

Even if PIC does not hold, the superraising (1) cannot be derived from (2e) by *Defective Intervention Constraint* (5).

(5) ***Defective Intervention Constraint*** **(DIC)** (Chomsky 2000:123 (42))

$\alpha > \beta > \gamma$

where $>$ is c-command,

β and γ match the probe α,

β is inactive.

In (2e), repeated below as (6), the probe α is the matrix T^0, β is *it*, and γ is *John*. Even though *John* is still active and is a potential goal for the probe α, the matrix T^0, *it* is inactive and intervenes between them so that Agree between the matrix T^0 and *John* cannot be established.

(6) $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{CP}$ (that) $[_{TP}$ it $[_{T'}$ T^0 was told John $[_{CP}$ that TP]]]]]] (= 2e)

Thus, *John* is unable to move to the matrix Spec(TP), correctly blocking the superraising (1), repeated below as (7).

(7) *John$_i$ seems (that) it was told t_i that TP (= 1)

Yet, the grammatical sentence (8) cannot be derived either, insofar as Merge (*it*) preempts Move (*John*) at the stage (2a), repeated below as (9) — the under-generation problem.

(8) $[_{TP}$ It $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{CP}$ (that) $[_{TP}$ John$_i$ $[_{T'}$ T^0 was told t_i $[_{CP}$ that TP]]]]]]]

(9) $[_{T'}$ T^0 was told John $[_{CP}$ that TP]] (= 2a)

4. The Determination Problem of Lexical Subarray

Acknowledging these problems, Chomsky (2000:106ff.) introduces a novel concept of *Lexical Subarray* (LSA), in terms of which a phase is defined. At the start of a derivation, the initial lexical array (LA) is selected from the lexicon, and as the derivation proceeds, LSA, a subset of lexical items in LA, is extracted, placed in active memory (the "workspace"), and submitted to the computation. When LSA is exhausted, the computation may proceed, or it may return to LA, extracting another LSA, and proceed as before. Thus, at a given stage of derivation, Move may take place if LSA in active memory does not contain an expletive. Chomsky (*ibid.*) asserts that this cyclic access to LA reduces "operative" complexity.[1]

Chomsky (*ibid.*) then characterizes LSA as "propositional," and claims:

> LA$_i$ [= LSA: TT] can then be selected *straightforwardly*: LA$_i$ [= LSA: TT] contains an occurrence of C or *v*, determining clause or verb phrase …
>
> [emphasis added: TT]

Even if LSA can be selected straightforwardly as Chomsky (*ibid.*) claims, it cannot be a genuine solution; it merely replaces the problem of (narrow) syntactic computation with the problem of how LSA is extracted from LA. "Expletive insertion" is a matter of syntax

[1] It is not clear what "operative" complexity is. Chomsky often mentions "computational" complexity elsewhere, and as far as I can see, "operative" complexity is used interchangeably with "computational" complexity, where "computational" is understood as referring to the "computation" for human language C_{HL}. It is an open question whether this "operative" or "computational" complexity is the same as or related to the computational complexity in information science and discrete mathematics.

proper; it is the heart of the problem of EPP, a perennial troublemaker throughout the history of generative grammar. It should not be relegated to some “pre-syntactic” process of LSA formation, but should be resolved in narrow syntactic computation *per se*. In other words, it should be accounted for in terms of how lexical items are combined to build a structure, not in terms of how lexical items are made available for narrow syntactic computation.

Merely characterizing LSA as “propositional” cannot guarantee exclusion of an expletive from LSA either, since expletives are presumably “meaningless,” and hence it should not matter whether one is included in LSA or not; it neither contributes any meaning to or hampers the content of a “proposition.”

Neither will it suffice to determine LSA by containment of a single C or *v*. Selection of a relevant LSA is not so straightforward as Chomsky (2000) claims. In principle, there are $_nC_m$ possible ways to form LSA, extracting a subset of ***m*** lexical items from LA of ***n*** remaining lexical items. Take, for instance, the following sentence.

(10) it T_1 seems [that friends$_i$ T_2 were told t_i [CP]] (*cf. op. cit.*:129 (48b))

At the stage where the complement CP of *told* has somehow been constructed successfully, LA contains at least 8 remaining lexical items {T_1, *seem, that,* T_2, *were, told, friends, it*}, assuming for simplicity, *were* = *v* and there is no matrix C.[2]

The relevant LSA in question must contain at least 1 lexical item, either *that* (= C) or *were* (= *v*), but not both. Thus, there are 6 remaining lexical items {T_1, *seem,* T_2, *told, friends, it*}, from which none to all items can be extracted to form LSA, either with *that* or with *were*. That is, there are $_6C_0 + {_6C_1} + {_6C_2} + {_6C_3} + {_6C_4} + {_6C_5} + {_6C_6} = 64$ ways of extracting a subset to form LSA, either with *that* or with *were*. Therefore, there are $64 \times 2 = 128$ ways in total to form a possible LSA at the stage where the complement CP of *told* has been constructed.

If the expletive *it* is to be excluded at this same stage, potential combinations to be considered are among the 5 remaining lexical items {T_1, *seem,* T_2, *told, friends*}, from which none to all items can be extracted to form LSA, either with *that* or with *were*. There are $_5C_0 + {_5C_1} + {_5C_2} + {_5C_3} + {_5C_4} + {_5C_5} = 32$ ways of extracting a subset that can form LSA, either with *that* or with *were*. Therefore, there are $32 \times 2 = 64$ ways in total to form a possible LSA without the expletive *it* at the stage where the complement CP of *told* has been constructed. See APPENDIX.

In a nutshell, there are 128 possible LSA and 64 candidate LSA that do not contain the expletive *it* (underlined in APPENDIX), out of which there is only 1 correct LSA (marked ❖ in APPENDIX) to yield the desired derivation (10). Thus, extraction of the correct LSA is not a trivial matter, requiring a search among candidates *exponential* ($\mathbf{2^{n-m} \cdot m}$) to the number ***n*** of the remaining lexical items in LA that contains ***m*** phase-defining lexical items, *i.e.*, C or *v*. In sum, the “operative” complexity is reduced at the cost of the added “computational” complexity of an exponential order in the “pre-syntactic” process of extracting the correct LSA. This does not seem to me to be *kosher*.

5. The Problem of Non-Deterministic Economy: Collins (1997)

Underneath the problems we have reviewed lies the idea that Merge preempts Move (whenever possible). This view seems to be persisting even after Chomsky (2004:110) reinterprets Move as *internal* Merge (IM), which also comes “free,” just as the conventional

[2] In the structure (10), *were* is not raised to T_2 for the ease of discussion to follow. As far as I can see, there is no relevant effect even if *were* is not *v* but is directly generated as T_2. If a matrix C must always be present, the combinatorial problem to be discussed below will further be compounded.

Merge does, which is also refined as *external* Merge (EM). Thus, Chomsky (2004:114) still adverts, "Move = Agree + Pied-piping + Merge."

This seems to me to be on a par with saying that $x + y$ is more economical than $x - y$, as the latter can be decomposed into inversion and addition, *i.e.*, $x + (-y)$. Even though one function may be decomposable into others, it does not make sense to compare them for their efficiencies; they are simply different functions. Although IM and EM are both species of Merge, they are different operations, just as addition and subtraction are different functions.

Yet, mere reconception of Move (internal Merge) and (external) Merge as different or noncomparable does not solve the over-generation problem we reviewed in section 2. In fact, Collins (1997) argues that Move and Merge are not comparable, and makes a proposal which in effect renders Move and Merge equal in cost. He contends that economy conditions should be formulated in a local fashion as follows:

(11) ***Local Economy*** (*op. cit.*:4 (3))

> Given a set of syntactic objects Σ which is part of derivation D, the decision about whether an operation OP may apply to Σ (as part of optimal derivation) is made only on the basis of information available in Σ.

Collins (*op. cit.*:90ff.) regards Move as *Copy* + Merge, and the operation *Select* as a *Copy* operation out of the lexicon. Thus, both *Select* + Merge and Move are both instances of *Copy* + Merge operations, so that they both need to be triggered as last resort operations.[3] Then, he formulates *Last Resort* as an independent economy condition, rather than a defining property of an operation, as in the following:

(12) ***Last Resort*** (*op. cit.*:9 (12))

> An operation OP involving α may apply only if some property of α is satisfied.

For Move, Collins (*op. cit.*) adopts the contemporary Minimalist assumption that the relevant property to be satisfied is the checking of uninterpretable formal features. For Merge, he proposes the following principle which he calls *Integration*:

(13) ***Integration*** (*op. cit.*:66 (8))

> Every category (except the root) must be contained in another category.

Then, Collins (*op. cit.*) formulates *Minimality* as another independent economy condition.

(14) ***Minimality*** (*op. cit.*:9 (13))

> An operation OP (satisfying Last Resort) may apply only if there is no smaller operation OP′ (satisfying Last Resort).

Collins (*op. cit.*) adopts the standard Minimalist conception of the *Minimal Link Condition* as the metric for "smallness" of the operation Move. For Merge, the number of merged objects is counted, introducing a new formulation of Merge, which he calls *Unrestricted Merge* (*op. cit.*:75ff.).

[3] Note in passing that Merge is not necessarily of lexical items, *e.g.*, a complex subject DP with a transitive verb-complement structure (whether V′ or *v*′), so that it need not be preconditioned by Select (as Copy out of the lexicon). Thus, Merge of two complex structures already built in parallel, which is without Copy (= Select of a lexical item), may still be more economical than Move (= Copy + Merge).

Unrestricted Merge is a generalized grouping operation that applies to any number of constituents, but its vacuous application to no element does not satisfy *Last Resort*, so that it is not possible. The binary application is smaller than ternary, quadripartite, *etc.*, applications involving more than two elements. Given *Last Resort* and *Minimality*, unary application to a single element is the "smallest" application of *Unrestricted Merge*, but if such a unary application is allowed, it inevitably yields infinite recursion, so that it is stipulated to be impossible. Therefore, only the binary application involving two elements is chosen by *Minimality*.

Given these, Collins (1997) claims that Move and (*Unrestricted*) *Merge* are not comparable, and that they are equally economical insofar as they obey *Minimality*. Thus, neither one is favored over the other in his local economy. In effect, they are equal in cost.

This non-deterministic nature of Collins' (*op. cit.*) local economy faces the same over-generation problem as Chomsky (1995) we have seen in section 2. Since Merge (*it*) and Move (*John*) are not comparable and hence equal in cost at the stage (2a = 9), repeated below as (15), there are two possible continuations, (2b) repeated below as (16), and (17).

(15) $[_{T'}$ T^0 was told John $[_{CP}$ that TP]] (= 2a = 9)

(16) $[_{TP}$ it $[_{T'}$ T^0 was told John $[_{CP}$ that TP]]] Merge (*it*) (= 2b)

(17) $[_{TP}$ $John_i$ $[_{T'}$ T^0 was told t_i $[_{CP}$ that TP]]] Move (*John*)

As desired, continuation from (16 = 2b) cannot lead to superraising (1 = 7), repeated below as (18) as it violates *Minimality*, and the continuation from (17) may correctly yield the grammatical (8), repeated below as (19).

(18) *$[_{TP}$ $John_i$ $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{CP}$ (that) $[_{TP}$ it $[_{T'}$ T^0 was told t_i $[_{CP}$ that TP]]]]]]]

(19) $[_{TP}$ It $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{CP}$ (that) $[_{TP}$ $John_i$ $[_{T'}$ T^0 was told t_i $[_{CP}$ that TP]]]]]]]

Yet, another continuation from (16 = 2b) will lead to over-generation of the ungrammatical (3), repeated below as (20).

(20) *$[_{TP}$ It_i $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{CP}$ (that) $[_{TP}$ t_i $[_{T'}$ T^0 was told John $[_{CP}$ that TP]]]]]]]

6. The Problem of Static Economy: Move over Merge

As it is clear by now that Move (*John*) needs to preempt Merge (*it*) at the stage (15 = 2a = 9), in order to derive the grammatical (19 = 8) while blocking superraising (18 = 1 = 7) and over-generation of the ungrammatical (20 = 3). Yet, Move just cannot always take precedence over Merge. Consider the continuation (21) from (17).

(21) a. $[_{CP}$ (that) $[_{TP}$ $John_i$ $[_{T'}$ T^0 was told t_i $[_{CP}$ that TP]]]]

b. $[_{v/VP}$ seems $[_{CP}$ (that) $[_{TP}$ $John_i$ $[_{T'}$ T^0 was told t_i $[_{CP}$ that TP]]]]]

c. $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{CP}$ (that) $[_{TP}$ $John_i$ $[_{T'}$ T^0 was told t_i $[_{CP}$ that TP]]]]]]

At this stage, Move (*John*) over Merge (*it*) will yield the following, leaving *it* in LA.

(22) $[_{TP}$ $John_i$ $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{CP}$ (that) $[_{TP}$ t'_i $[_{T'}$ T^0 was told t_i $[_{CP}$ that TP]]]]]]]

Chomsky (1995:226) has claimed that if LA is not exhausted, "no derivation is generated and no questions of convergence or economy arise." In (22), LA still contains *it*, so that it is not a completed derivation from (21c). Thus, Merge (*it*) is the only choice, yielding the grammatical (19 = 8), repeated below as (23), as desired.

(23) $[_{TP}$ It $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{CP}$ (that) $[_{TP}$ $John_i$ $[_{T'}$ T^0 was told t_i $[_{CP}$ that TP]]]]]]]

Yet, a simple-minded appeal to the necessity of LA exhaustion does not solve the problem unequivocally. Suppose the derivation reached the stage (22), repeated below as (24a), and LA still contained not only *it*, but also another T^0, *is* (v^0), *likely*, and another *that* (C^0). Then, the derivation could have continued as (24b–e).

(24) a. $[_{TP}$ $John_i$ $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{CP}$ (that) $[_{TP}$ t'_i $[_{T'}$ T^0 was told t_i $[_{CP}$ that TP]]]]]]]

b. $[_{CP}$ that $[_{TP}$ $John_i$ $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{CP}$ (that) $[_{TP}$ t'_i $[_{T'}$ T^0 was told t_i $[_{CP}$ that TP]]]]]]]]

c. $[_{vP}$ is likely $[_{CP}$ that $[_{TP}$ $John_i$ $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{CP}$ (that) $[_{TP}$ t'_i $[_{T'}$ T^0 was told t_i $[_{CP}$ that TP]]]]]]]]]

d. $[_{T'}$ T^0 $[_{vP}$ is likely $[_{CP}$ that $[_{TP}$ $John_i$ $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{CP}$ (that) $[_{TP}$ t'_i $[_{T'}$ T^0 was told t_i $[_{CP}$ that TP]]]]]]]]]]

e. *$[_{TP}$ It $[_{T'}$ T^0 $[_{vP}$ is likely $[_{CP}$ that $[_{TP}$ $John_i$ $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{CP}$ (that) $[_{TP}$ t'_i $[_{T'}$ T^0 was told t_i $[_{CP}$ that TP]]]]]]]]]]]

At (24e), LA is exhausted, so that the derivation is complete, and yet it is ungrammatical. This is a classic case of a *Tensed-S Condition* violation (Chomsky 1973), and in the Phase-Based Probe-Goal Theory (Chomsky 2000, *et seq.*), it is attributed to the *Activity Condition*, which renders a goal inactive after its uniterpretable features being deleted/valued.[4] That is, the necessity of LA exhaustion cannot force Merge (*it*) at the stage (21c), repeated as (25) below.

(25) $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{CP}$ (that) $[_{TP}$ $John_i$ $[_{T'}$ T^0 was told t_i $[_{CP}$ that TP]]]]]] (= 21c)

Stipulating the following ancillary condition, Shima (2000) maintains that Move is preferred over Merge whenever possible.

(26) [Spec, TP] can be filled only by a DP with structural Case. (*op. cit.*:377 (10))

By (26), Move (*John*) is not an option at the stage (26 = 21c), since *John* has already checked its Case-feature in the embedded Spec(TP).

Therefore, *it* is merged as the matrix Spec(TP) as the only choice, yielding the grammatical (23 = 8 = 19). Thus, Shima's (*op. cit.*) proposal that Move is preferred over Merge, together with the condition (26), correctly generates (23 = 8 = 19). At the same time, both superraising (18 = 1 = 7) and the over-generated (20 = 3) are correctly blocked as desired, repeated as (27, 28) below, respectively.

(27) *$[_{TP}$ $John_i$ $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{CP}$ (that) $[_{TP}$ it $[_{T'}$ T^0 was told t_i $[_{CP}$ that TP]]]]]]]

(28) *$[_{TP}$ It_i $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{CP}$ (that) $[_{TP}$ t_i $[_{T'}$ T^0 was told John $[_{CP}$ that TP]]]]]]]

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[4] For problems of the Activity Condition, see Nevins (2004).

Nevertheless, this cannot be the entire story. For the contrast in existential constructions (29), Shima (2000:382ff.) offers a Case-based analysis on the assumptions (30), following Belleti (1988) and Lasnik (1995).

(29) a. There$_i$ seems [t_i to [be someone in the room]]

b. *There seems [someone$_i$ to [be t_i in the room]]

(30) a. The expletive *there* has a [structural: TT] Case feature, and a postcopular DP is **optionally** assigned [an inherent: TT] **partitive** Case by a copular.

b. The expletive *there* has **a formal feature** to be checked by that of a DP with **partitive** Case.

[emphases in bold added: TT]

The common intermediate stage (29a, b) is the following.

(31) [$_{T'}$ to [be someone in the room]]

If *someone* is assigned a partitive Case, it cannot fill Spec(TP) by the condition (26). Therefore, *there* will be merged as Spec(TP), and the derivation can continue as the following, yielding (32d = 29a).

(32) a. [$_{TP}$ there [$_{T'}$ to [be someone in the room]]]

b. [$_{v/VP}$ seems [$_{TP}$ there [$_{T'}$ to [be someone in the room]]]]

c. [$_{T'}$ T^0 [$_{v/VP}$ seems [$_{TP}$ there [$_{T'}$ to [be someone in the room]]]]]

d. [$_{TP}$ there$_i$ [$_{T'}$ T^0 [$_{v/VP}$ seems [$_{TP}$ t_i [$_{T'}$ to [be someone in the room]]]]]] (= 29a)

If *someone* is not assigned a partitive Case, say, nominative, it can fill Spec(TP). Then, the preference for Move over Merge dictates its movement over merger of *there* at the stage (31), and the derivation would continue as the following.

(33) a. [$_{TP}$ someone$_i$ [$_{T'}$ to [be t_i in the room]]]

b. [$_{v/VP}$ seems [$_{TP}$ someone$_i$ [$_{T'}$ to [be t_i in the room]]]]

c. [$_{T'}$ T^0 [$_{v/VP}$ seems [$_{TP}$ someone$_i$ [$_{T'}$ to [be t_i in the room]]]]]

At this point, there are two options: Move (*someone*) and Merge (*there*). As *someone* still has a structural Case and *there* is also assumed to have a structural Case, they both meet the condition (26). Then, the preference for Move over Merge demands *someone* to move to the matrix Spec(TP).

(34) [$_{TP}$ someone$_i$ [$_{T'}$ T^0 [$_{v/VP}$ seems [$_{TP}$ t_i' [$_{T'}$ to [be t_i in the room]]]]]] ***{there}***

But that leaves *there* in LA. Shima (*ibid.*) claims, "hence [it] does not produce a single syntactic object, which makes the derivation crash (Chomsky 1995: 226)."

However, this deduction is inaccurate; incomplete derivations neither converge nor crash. They fail to yield outputs at the interface levels. To quote Chomsky (1995:226) accurately:

> Note that no question arises about the motivation for application of Select or Merge in the course of application. If Select does not exhaust the numeration [≑ LA: TT], no derivation is generated and no questions of convergence or economy arise. …

In other words, if a choice made by an economy consideration does not yield a complete derivation, that economy consideration becomes irrelevant, and an alternative that completes the derivation needs to be sought. Thus, at the stage (33c), repeated below as (35), Move (*someone*) over Merge (*there*) is not really an option, and only the latter is the possible continuation leading to (29b), repeated below as (36).

(35) $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{TP}$ someone$_i$ $[_{T'}$ to [be t_i in the room]]]]] (= 33c)

(36) *$[_{TP}$ there $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{TP}$ someone$_i$ $[_{T'}$ to [be t_i in the room]]]]]] (= 29b)

This is ungrammatical, so it should be a crashing derivation. In Shima's (2000) analysis, what is wrong with (36 = 29b) must be the inability of *someone* to check some formal feature of *there*. By hypothesis, *someone* in (33–36) is not assigned a partitive Case, and hence by the assumption (30b), it cannot check whatever the formal feature of *there*.

Then, the question boils down to what is the feature of *there* that needs to be checked, and why it cannot be checked by other than that of DP with partitive Case. Thus, Shima's (*op. cit.*) account crucially relies on the stipulated condition (26) and the assumption (30) that *there* must in effect cooccur with a DP with partitive Case, which is morphophonologically undetectable.

7. Preemptive Move: Dynamic Economy

A desideratum that emerges from the observations so far is that Move needs to preempt Merge sometimes but not always. That is, an economy consideration that chooses between Merge and Move had better not be fixed statically. This view meshes well with Chomsky's (2000:110) reconception of Move as internal Merge, "an operation that is freely available," so that neither (external) Merge nor Move (internal Merge) is more economical than the other. This amounts to Collins' (1997) proposal, but he did not pursue the issue further, ending up with non-deterministic economy that did not solve the over-generation problem as we have seen in section 5.

Let us review the decisive points in the derivation for the "superraising" example. At the stage (15 = 2a = 9), repeated below as (37), we want Move (*John*) over Merge (*it*).

(37) $[_{T'}$ T^0 was told John $[_{CP}$ that TP]] (= 2a = 9 = 15)

At the stage (25 = 21c), repeated below as (38), Merge (*it*) needs to preempt Move (*John*).

(38) $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{CP}$ (that) $[_{TP}$ John$_i$ $[_{T'}$ T^0 was told t_i $[_{CP}$ that TP]]]]]] (= 25)

What could motivate these choices? At the stage (37 = 2a = 9 =15), the Case-feature of *John* and the ϕ-set of T^0 are unvalued, and the EPP-feature of T^0 needs to be deleted. Move (*John*) will delete the EPP-feature of T^0, valuing both the Case-feature of *John* and the ϕ-set of T^0. Merge (*it*) will also delete the EPP-feature of T^0, valuing its ϕ-set and the Case-feature of *it* itself, but will leave *John*' Case-feature unvalued.

At the stage (38 = 21c = 25), the ϕ-set of the matrix T^0 is unvalued, and its EPP-feature needs to be deleted as well. Move (*John*) will delete the EPP-feature of the matrix T^0, but cannot value its ϕ-set, as the Case-feature of *John* has already been valued in the embedded Spec(TP). Furthermore, *it* will be left in LA, generating no derivation. On the other hand, Merge (*it*) will delete the EPP-feature of the matrix T^0 and value its ϕ-set as well as the Case-feature of *it* itself.

Notice that the undesired choice of operations leaves unvalued (uninterpretable) features in the resulting stage of the derivation. Note also in passing that the number of features deleted/checked or valued/matched is the same whether Move (*John*) or Merge (*it*) at the stage (37 = 2a = 9 =15). Thus, neither Total Checking (Poole 1998) nor Maximum Matching (McGinnis 1998, Chomsky 2001:15 (14)) of the sort can make the right choice.

Exploiting these facts, I propose the following economy principle of derivation.

(39) ***Principle of Minimum Feature Retention*** **(MFR)**

> At every stage Σ_n of a derivation, choose an operation that leaves the fewest unvalued/uninterpretable features in the resulting stage Σ_{n+1} of the derivation.

The intuitive idea behind this principle is that unvalued/uninterpretable features must ultimately be valued or deleted, so that carrying more unvalued/uniterpretable features along the derivation is less economical than valuing/deleting them as soon as possible.

MFR dynamically makes a locally deterministic choice between (external) Merge and Move (internal Merge). MFR is dynamic in that it makes a choice whenever options arise, without any preference predetermined for one operation over another. MFR is deterministic in that it chooses one operation over another (unless a tie) at every point in the derivation where options arise, unlike Collins' (1997) non-deterministic economy that allows different operations to proliferate different continuations whenever options arise.

Furthermore, MFR is local in that it does not make a trans-derivationally global comparison of candidate derivations to determine which operation to choose at each point of the derivations. It crucially involves the so-called "look-ahead" of only one-step in the derivation $\Sigma_n \rightarrow \Sigma_{n+1}$, but it does not "look far ahead" in the derivation $\Sigma_n \rightarrow \Sigma_{n+m}$ ($\boldsymbol{m} > \mathbf{1}$). This transitional one-step "look-ahead" is essential for the notion of locality in the derivational economy, and it does not impose any significant computational load, as the choices are, at worst, bound in a linear function $f(\boldsymbol{n} + \boldsymbol{m} + \boldsymbol{l})$ of the number $\boldsymbol{n}$ of the remaining lexical items in LA + the number $\boldsymbol{m}$ of the complex structures already constructed in parallel + the number $\boldsymbol{l}$ candidate constituents that can be moved.[5]

The infamous "look-ahead" is the "look-far-ahead" in the derivation $\Sigma_n \rightarrow \Sigma_{n+m}$ ($\boldsymbol{m} > \mathbf{1}$) of the sort, which proliferates super-exponentially the candidates to be compared at every point in the derivation wherever options arise, just as in Collins' (1997) non-deterministic economy. In fact, if absolutely no "look-ahead" is allowed as in Collins' (*op. cit.*:4 (3)) local economy (11) repeated below as (40), the economy conditions will end up being equivalent to representational constraints (filters) on operations as argued in Johnson & Lappin (1999).

(40) ***Local Economy*** (= 11)

> Given a set of syntactic objects Σ which is part of derivation D, the decision about whether an operation OP may apply to Σ (as part of optimal derivation) is made only on the basis of information available in Σ.

[5] Given the Minimal Link Condition on Move and the fact that Move is contingent on uninterpretable features of the probe/target that have not been valued or deleted, the number $\boldsymbol{l}$ of candidate constituents that can be moved in most cases is usually limited to 1.

8. *There* as External Argument

An immediate question may arise with respect to the *there*-existential constructions we have reviewed for Shima's (2000) static economy of Move over Merge in section 6. MFR appears to face a problem with the contrast (29), repeated below as (41).

(41) a. There$_i$ seems [t_i to [be someone in the room]] (= 29a)

b. *There seems [someone$_i$ to [be t_i in the room]] (= 29b)

Presumably, both (41a, b = 29a, b) are derived from the common intermediate stage (31), repeated below as (42).

(42) [$_{T'}$ to [be someone in the room]] (= 31)

MFR does not seem to be able to decide between Move (*someone*) and Merge (*there*) at this stage because of a tie; Move (*someone*) will delete the EPP-feature of T^0 (*to*) but leave the Case-feature of *someone* unvalued. Merge (*there*) will also delete the EPP-feature of T^0 (*to*) and leave the Case-feature of *someone* unvalued. Assuming with Chomsky (1995, *et seq.*) but contra Shima (2000) that *there* does not have any Case-feature, either Move (*someone*) or Megre (*there*) will leave the same number of features unvalued, namely the Case-feature of *someone*.

We want Merge (*there*) for (41a, b = 29a, b), but we cannot exclude Move (*someone*) at the stage (42 = 31) for the ECM paradigm, such as the following:

(43) a. *Mary believes [to [be someone in the room]]

b. Mary believes [someone$_i$ to [be t_i in the room]]

Do we need to fall back on Shima's (2000) static economy of Move over Merge with the Case-theoretical assumptions inspired by Belletti (1988) and Lasnik (1995)?

Rather than a Case-based approach as Shima (*op. cit.*) takes, I would pursue another possibility hinted by Lasnik (*op. cit.*:624 ff., fn.14):

> … However, if it could be stipulated in some such fashion that *there* can be introduced only as the subject of unaccusative verbs and (certain instances of) *be*, several of the phenomena that have come up in the present discussion would reduce to this one property, as observed by the reviewer. For example, the following would all be excluded, along with (16):
>
> (i) *There seems/is likely [that John is tall]. (12)
>
> (ii) *There strikes John/someone that Mary is intelligent. (13)
>
> (iii) *I want [there someone here at 6:00]. (14b)
>
> (iv) *There seems /is likely [there to be a man here]. (from footnote 10)
>
> (16) *There is likely [someone$_i$ to be [t_i here]].
>
> [appended for reference: TT]

The selectional restriction possibility thus deserves further investigation, which I put aside for another occasion.

Kidwai (2002) independently argues that merger of the expletive *there* is restricted to Spec(*v**P), a specifier of v^0 with full argument structure: transitive v^0 or experiencer (Chomsky 2001:9, 43 n.8), surveying the observation by Levin & Rappaport-Hovav (1995) as follows (Kidwai 2002:4 (10)):

Verb type		***there**-existential*
inherently directed motion	(*arrive*)	*yes*
manner of motion	(*fall*)	*yes*
existence	(*live*)	*yes*
appearance	(*appear*)	*yes*
occurrence	(*ensue*)	*yes*
spatial configuration	(*lie*)	*yes*
disappearance	(*disappear*)	*no*
change of state	(*break verbs*)	*no*
change of state	(*bend verbs*)	*no*
change of state	(*cook verbs*)	*no*
change of color	(*-en*/*-ify verbs*)	*no*
change of state	(*deadjectivals*)	*no*

From Levin & Rappaport-Hovav's (1995) study, Kidwai (*op. cit.*) draws the generalization that the *there*-existential construction is possible only with unaccusatives that are incompatible with an interpretation of external causation and takes both a Locative and a Theme argument.

Remarking further that passives (44) and some ergatives (verbs of internally caused change of state (45a), verbs of sound/light emission (45b), as well as agentive manner of motion verbs (45c)) participate in the *there*-existential construction, Kidwai (*op. cit.*:14) proposes a configurational licensing condition of the EPP-specifier (46).

(44) There was a building demolished. (*ibid.* (41))

(45) a. There bloomed a rose in the garden. (*ibid.* (42))

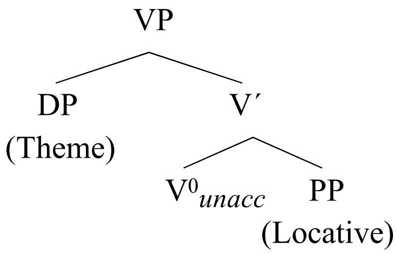
b. There boomed a cannon in the distance. (*ibid.* (43))

c. There ran a man into the room. (*ibid.* (44))

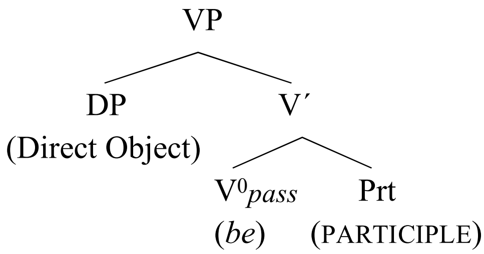
(46) $\underline{v}$* can be assigned an EPP-feature iff $\underline{v}$ is merged with $[_{VP}$ DP V X(P)]. (*ibid.* (40))

The configuration depicted as $[_{VP}$ DP V X(P)] in (46) is instantiated as follows: for unaccusatives (47a), passives (47b), and unergatives (47c).

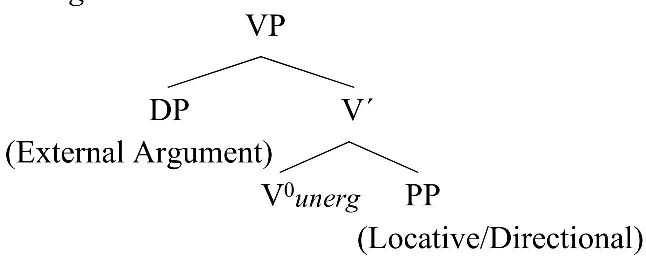
(47) a. *Unaccusatives*



b. *Passives*



c. *Unergatives*



Kidwai (2002) argues that External Argument is merged as Spec(*v*P) for externally caused predicates, that is, transitive and some unergative verbs, while (unergative) verbs of internally caused change of state, select "External Argument" as Spec(VP) as in (47c).

Abstracting away from Kidwai's proposal that the expletive *there* is merged due to the EPP-feature assigned to *v** in the above configurations, I would propose the following.

(48) The expletive *there* can **optionally** be **selected** as a kind of "External Argument" of v^0 that selects an intransitive VP that is **saturated**.

(49) An intransitive VP is saturated if its head verb V^0 is either:

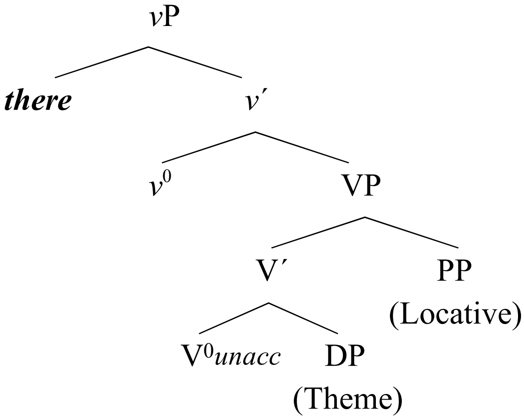
i) an unaccusative verb that is incompatible with an interpretation of external causation and selects a Locative and a Theme argument;

ii) an unergative verb that selects a Locative/Directional argument and an External Argument of internally caused change of state, of sound/light emission, or of manner of motion; or

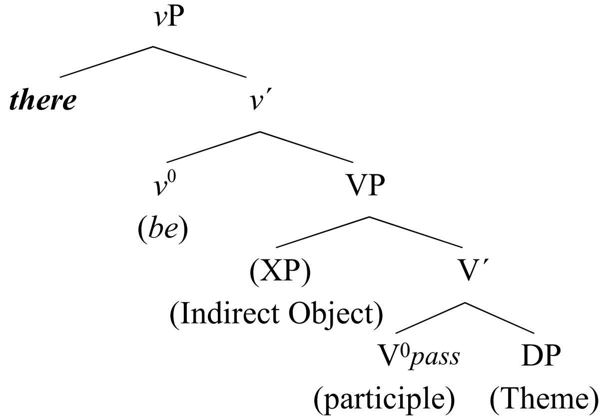
iii) passivized participle.

Then, I modify the intransitive structures as follows:

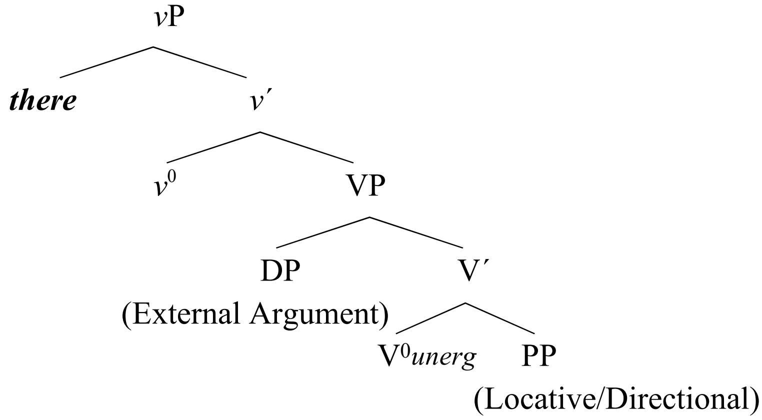
(50) a. *Unaccusatives*



b. *Passives*



c. *Unergatives*



I take the Theme argument, *i.e.*, direct object, is the complement of both unaccusative and passivized verbs,[6] and following Kidwai (2002), External Argument of internally caused change of state, of sound/light emission, of manner of motion, is located at Spec(VP).

The idea that the expletive *there* is an "External Argument" is not entirely plausible, as Chomsky (2004:126, n.37) acknowledges;

> … Note that nothing requires that EA [External Argument: TT] be an actual argument: it could be a *there*-type expletive with φ-features …

Given these, the contrast (29 = 41), repeated below as (51), ceases to be a problem for the *Principle of Minimum Feature Retention* (39), repeated below as (52).

(51) a. There$_i$ seems [t_i to [be someone in the room]] (= 29a = 41a)

b. *There seems [someone$_i$ to [be t_i in the room]] (= 29b = 41b)

(52) ***Principle of Minimum Feature Retention* (MFR)** (= 39)

At every stage Σ_n of a derivation, choose an operation that leaves the fewest unvalued/uninterpretable features in the resulting stage Σ_{n+1} of the derivation.

---

6 Although I do not exclude the possibility that the Locative PP in unaccusatives is a right-braching Spec(VP), I take it to an ajunct internal to VP. In passives, the External θ-role is suppressed, but an "External Argument" can still be optionally realized as *there* in Spec(*v*P), I assume.

The common intermediate stage for (51a, b = 29a, b = 41a, b) was not (31 = 42), repeated below as (53), but (54).

(53) $[_{T'}$ to [be someone in the room]] (= 31 = 42)

(54) $[_{T'}$ to [*there* be someone in the room]]

With the structure at the stage (54), the relevant options to be considered are: Move (*there*) and Merge of whatever DP available in LA or constructed already in parallel. MFR dictates Move (*there*) here; Move (*there*) will delete the EPP-feature of T^0 (*to*) and leaves the Case-feature of *someone* unvalued, whereas Merge (DP) can also delete the EPP-feature of T^0 (*to*) but will add the Case-feature of that DP itself unvalued, on top of leaving the unvalued Case-feature of *someone*.

That is, Move (*there*) leaves fewer unvalued/undeleted features at the next stage in the derivation than Merge (DP), which adds an uninterpretable Case-feature of itself that is left unvalued. Notice that the number of unvalued/undeleted uninterpretable features is the same in the structure at the stage (54), *i.e.*, the EPP-feature of T^0 (*to*) and the Case-feature of *someone*, and either Move (*there*) or Merge(DP) deletes only the EPP-feature of T^0 (*to*) and leaves *someone*'s Case-feature for the next stage of the derivation.

This is where the derivational notion of locality in MFR becomes crucial, taking a one-step "look-ahead"; Maximum Matching (McGinnis 1998, Chomsky 2001:15 (14)) of the sort cannot make the right choice, or Collins' (1997) type of local economy, which boils down to representational constraints (filters) on operations.

Accordingly, MFR chooses Move (*there*) and the derivation can proceed as follows:

(55) a. $[_{TP}$ *there*$_i$ $[_{T'}$ to [t_i be someone in the room]]]

b. $[_{v/VP}$ seems $[_{TP}$ *there*$_i$ $[_{T'}$ to [t_i be someone in the room]]]]

c. $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{TP}$ *there*$_i$ $[_{T'}$ to [t_i be someone in the room]]]]]

d. $[_{TP}$ *There*$_i$ $[_{T'}$ T^0 $[_{v/VP}$ seems $[_{TP}$ t_i $[_{T'}$ to [t_i be someone in the room]]]]]]

If *there* was in LA but not selected, no derivation is generated as the LA would not be exhausted.

(56) *Someone$_i$ seems [t_i′ to [be t_i in the room]] ***{there}***

If *there* was not in LA, the following will result:

(57) Someone$_i$ seems [t_i′ to [be t_i in the room]]

Again, Merge of some other DP, say another expletive *it*, even if available in LA, is not an option, either at the embedded Spec(TP) or at the matrix Spec(TP) by MFR. In the embedded clause, Merge (*it*) at Spec(TP) will delete the EPP-feature of T^0 (*to*) but leaves the Case-feature of *someone* unvalued, and further "adds" the Case-feature of *it* itself unvalued. Move (*someone*) to Spec(TP) will delete the EPP-feature of T^0 (*to*) and leaves the Case-feature of *someone* unvalued, but "adds" no further feature unvalued.

In the matrix clause, Merge (*it*) at Spec(TP) will delete the EPP-feature of T^0 and value the Case-feature of *it* itself, but leaves the Case-feature of *someone* unvalued. Move (*someone*) to Spec(TP) will delete the EPP-feature of T^0 and value the Case-feature of *someone*, and "adds" no further feature unvalued.

This entails that the expletive *it* can only be Merged at Spec(TP) when all the uninterpretable features have been deleted or valued in its domain, *i.e.*, *v*P. In other words, only *it* is the "pure EPP expletive" that is "meaningless," whereas *there* is a selected "External Argument" with an existential import.

Consequently, the followings are underivable by MFR.

(58) a. [$_{TP}$ *It*$_i$ [$_{T'}$ T^0 [$_{v/VP}$ seems [$_{TP}$ *t*$_i$ [$_{T'}$ to [be someone in the room]]]]]]

b. [$_{TP}$ *It* [$_{T'}$ T^0 [$_{v/VP}$ seems [$_{TP}$ someone$_i$ [$_{T'}$ to [be *t*$_i$ in the room]]]]]]

Furthermore, the following contrast that Shima's (2000:384, fn.8) Case-based approach has troubles in accounting for, will follow from MFR with the assumption that *there* is selected as an "External Argument" of v^0.

(59) a. It seems that there is someone in the room.

b. *There seems that it is someone in the room.

Shima (*ibid.*) admits:

> The preference for Move over Merge has nothing to do with the choice between *it*-insertion and *there*-insertion, and *it*, with no partitive Case, does not block association of *someone*, with partitive Case, to *there*. … I tentatively speculate that [Spec, T^0], which **selects** the copular *be* with partitive Case, must be filled by *there* rather than *it*, but otherwise I leave this problem open.
>
> [emphasis in bold added: TT]

That is, Shima (*op. cit.*) has to resort to "selection" of *there* after all, on top of his Case-theoretical assumptions (30), which was dubious since there was no independent evidence that is morphophonologically detectable.

Finally, for the ECM paradigm (43), repeated as (60) below, if *there* was in LA and selected, (61) would have been derived.

(60) a. *Mary believes [to [be someone in the room]] (= 43a)

b. Mary believes [someone$_i$ to [be *t*$_i$ in the room]] (= 43b)

(61) Mary believes [*there*$_i$ to [*t*$_i$ be someone in the room]]

If *there* was in LA but not selected, no derivation would be generated as the LA would not be exhausted.

(62) *Mary believes [someone$_i$ to [be *t*$_i$ in the room]] ***{there}***

If *there* was not in LA, (60b) would result.

9. Concluding Remarks

As I have shown, determination of *Lexical Subarray* (LSA) is not so straightforward that computational complexity can be reduced as Chomsky (2000) has envisaged, and therefore, it should be eliminated from the theory. The question, which motivated the concept of LSA, why Merge of an expletive does not always preempt Move, can be answered by MFR (39 = 52), repeated again as (64), that dynamically makes a locally deterministic choice between (external) Merge and Move (internal Merge) without recourse to how lexical items are made available for narrow syntactic computation.

(64) ***Principle of Minimum Feature Retention*** **(MFR)** (= 39 = 52)

> At every stage Σ_n of a derivation, choose an operation that leaves the fewest unvalued/uninterpretable features in the resulting stage Σ_{n+1} of the derivation.

MFR invokes one-step "look-ahead" $\Sigma_n \rightarrow \Sigma_{n+1}$, which is the crucial notion of "derivational locality," without which the notion of locality will end up being equivalent to representational constraints (filters) on operations.

For *there*-existential constructions, MFR appears to face a problem of indeterminacy because of a tie, but it is only apparent since *there* is a selected "External Argument" of an intransitive VP that is saturated.

(65) (= 48) The expletive *there* can **optionally** be **selected** as a kind of "External Argument" of v^0 that selects an intransitive VP that is **saturated**.

(66) (= 49) An intransitive VP is saturated if its head verb V^0 is either:

i) an unaccusative verb that is incompatible with an interpretation of external causation and selects a Locative and a Theme argument;

ii) an unergative verb that selects a Locative/Directional argument and an External Argument of internally caused change of state, of sound/light emission, or of manner of motion; or

iii) passivized participle.

Insofar as I can see, there is no genuine case of a tie with regard to MFR. This implies that there is no real syntactic optionality. Alleged optionality of word order, or constructional alternatives, must be due to lexical choices, distinct specifications of feature composition, not by the free choice of syntactic operations that economy conditions make available.

With regard to the notion of *phase*, I remain agnostic but open. Yet, I contend that a phase must be defined in some other fashion than through Lexical Subarray, determination of which imposes a significant computational load to "pre-syntactic" processes in an exponential order as I have shown.

My hunch is that a *strong* phase is to be defined, if it needs to be, in terms of completed formal licensing; that is, when XP has deleted/valued or moved away all the uninterpretable features, it is a strong phase. Otherwise, it is a weak phase, which I do not think needs to be defined. It remains to be seen whether or not *Phase-Impenetrability Condition* and *Defective Intervention Constraint* survive their functions after a new definition of phase is ever made.

APPENDIX: *Possible LSAs*

$_6C_0$ {***that***}

$_6C_1$
{T_1, ***that***}
{*seem*, ***that***}
{***that***, T_2}
{***that***, *told*}
{***that***, *friends*}
{***that***, *it*}

$_6C_2$
{T_1, *seem*, ***that***}
{T_1, ***that***, T_2}
{T_1, ***that***, *told*}
{T_1, ***that***, *friends*}
{T_1, ***that***, *it*}
{*seem*, ***that***, T_2}
{*seem*, ***that***, *told*}
{*seem*, ***that***, *friends*}
{*seem*, ***that***, *it*}
{***that***, T_2, *told*}
{***that***, T_2, *friends*}
{***that***, T_2, *it*}
{***that***, *told*, *friends*}
{***that***, *told*, *it*}
{***that***, *friends*, *it*}

$_6C_3$
{T_1, *seem*, ***that***, T_2}
{T_1, *seem*, ***that***, *told*}
{T_1, *seem*, ***that***, *friends*}
{T_1, *seem*, ***that***, *it*}
{T_1, ***that***, T_2, *told*}
{T_1, ***that***, T_2, *friends*}
{T_1, ***that***, T_2, *it*}
{T_1, ***that***, *told*, *friends*}
{T_1, ***that***, *told*, *it*}
{T_1, ***that***, *friends*, *it*}
{*seem*, ***that***, T_2, *told*}
{*seem*, ***that***, T_2, *friends*}
{*seem*, ***that***, T_2, *it*}
{*seem*, ***that***, *told*, *it*}
{*seem*, ***that***, *told*, *friends*}
{*seem*, ***that***, *friends*, *it*}
{***that***, T_2, *told*, *friends*}
{***that***, T_2, *told*, *it*}
{***that***, T_2, *friends*, *it*}
{***that***, *told*, *friends*, *it*}

$_6C_4$
{T_1, *seem*, ***that***, T_2, *told*}
{T_1, *seem*, ***that***, T_2, *friends*}
{T_1, *seem*, ***that***, *told*, *friends*}
{T_1, ***that***, T_2, *told*, *friends*}
{*seem*, ***that***, T_2, *told*, *friends*}
{T_1, *seem*, ***that***, T_2, *it*}
{T_1, *seem*, ***that***, *told*, *it*}
{T_1, ***that***, T_2, *told*, *it*}
{*seem*, ***that***, T_2, *told*, *it*}
{T_1, *seem*, ***that***, *friends*, *it*}
{T_1, ***that***, T_2, *friends*, *it*}
{*seem*, ***that***, T_2, *friends*, *it*}
{T_1, ***that***, *told*, *friends*, *it*}
{*seem*, ***that***, *told*, *friends*, *it*}
{***that***, T_2, *told*, *friends*, *it*}

$_6C_5$
{T_1, *seem*, ***that***, T_2, *told*, *friends*}
{T_1, *seem*, ***that***, T_2, *told*, *it*}
{T_1, *seem*, ***that***, T_2, *friends*, *it*}
{T_1, *seem*, ***that***, *told*, *friends*, *it*}
{T_1, ***that***, T_2, *told*, *friends*, *it*}
{*seem*, ***that***, T_2, *told*, *friends*, *it*}

$_6C_6$ {T_1, *seem*, ***that***, T_2, *told*, *friends*, *it*}

$_6C_0$ {***were***}

$_6C_1$
{T_1, ***were***}
{*seem*, ***were***}
{T_2, ***were***}
{***were***, *told*}
{***were***, *friends*}
{***were***, *it*}

$_6C_2$
{T_1, *seem*, ***were***}
{T_1, T_2, ***were***}
{T_1, ***were***, *told*}
{T_1, ***were***, *friends*}
{T_1, ***were***, *it*}
{*seem*, T_2, ***were***}
{*seem*, ***were***, *told*}
{*seem*, ***were***, *friends*}
{*seem*, ***were***, *it*}
{T_2, ***were***, *told*}
{T_2, ***were***, *friends*}
{T_2, ***were***, *it*}
{***were***, *told*, *friends*} ❖
{***were***, *told*, *it*}
{***were***, *friends*, *it*}

$_6C_3$
{T_1, *seem*, T_2, ***were***}
{T_1, *seem*, ***were***, *told*}
{T_1, *seem*, ***were***, *friends*}
{T_1, *seem*, ***were***, *it*}
{T_1, T_2, ***were***, *told*}
{T_1, T_2, ***were***, *friends*}
{T_1, T_2, ***were***, *it*}
{T_1, ***were***, *told*, *friends*}
{T_1, ***were***, *told*, *it*}
{T_1, ***were***, *friends*, *it*}
{*seem*, T_2, ***were***, *told*}
{*seem*, T_2, ***were***, *friends*}
{*seem*, T_2, ***were***, *it*}
{*seem*, ***were***, *told*, *it*}
{*seem*, ***were***, *told*, *friends*}
{*seem*, ***were***, *friends*, *it*}
{T_2, ***were***, *told*, *friends*}
{T_2, ***were***, *told*, *it*}
{T_2, ***were***, *friends*, *it*}
{***were***, *told*, *friends*, *it*}

$_6C_4$
{T_1, *seem*, T_2, ***were***, *told*}
{T_1, *seem*, T_2, ***were***, *friends*}
{T_1, *seem*, *told*, ***were***, *friends*}
{T_1, T_2, ***were***, *told*, *friends*}
{*seem*, T_2, ***were***, *told*, *friends*}
{T_1, *seem*, T_2, ***were***, *it*}
{T_1, *seem*, ***were***, *told*, *it*}
{T_1, T_2, ***were***, *told*, *it*}
{*seem*, T_2, ***were***, *told*, *it*}
{T_1, *seem*, ***were***, *friends*, *it*}
{T_1, T_2, ***were***, *friends*, *it*}
{*seem*, T_2, ***were***, *friends*, *it*}
{T_1, ***were***, *told*, *friends*, *it*}
{*seem*, ***were***, *told*, *friends*, *it*}
{T_2, ***were***, *told*, *friends*, *it*}

$_6C_5$
{T_1, *seem*, T_2, ***were***, *told*, *friends*}
{T_1, *seem*, T_2, ***were***, *told*, *it*}
{T_1, *seem*, T_2, ***were***, *friends*, *it*}
{T_1, *seem*, ***were***, *told*, *friends*, *it*}
{T_1, T_2, ***were***, *told*, *friends*, *it*}
{*seem*, T_2, ***were***, *told*, *friends*, *it*}

$_6C_6$ {T_1, *seem*, T_2, ***were***, *told*, *friends*, *it*}

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