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## ON COVERT MOVEMENT AND LF\*

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### 1. Introduction

This paper sets out to re-examine the justification for assuming a derivational level of LF in the current 'minimalist' model of syntax. Section 2 highlights how data-based arguments used to motivate LF in the GB period lose their validity in the Minimalist Program (MP) as the conception of covert movement progressively undergoes a series of changes and leads to the suggestion that LF in the MP is essentially supported only by a 'uniformity hypothesis', requiring that certain types of elements be universally licensed in a parallel way. Section 3 then investigates a particular syntactic patterning found in the *wh*-questions and negative sentences of a number of languages and argues that the data examined provide a serious challenge to the uniformity hypothesis and allow one to suggest that LF should be dispensed with from the minimalist model. Finally, we consider how certain data previously accounted for via covert movement may be handled in a model without any level of LF.

### 2. A changing conception of covert movement and LF

#### 2.1 LF in the GB model

In GB the theoretical possibility of the existence of covert movement operations resulting in a level of syntactic representation beyond that of S-structure was largely justified by the simple reasoning that such an extension of the theory would immediately allow for a neat explanation of an array of linguistic phenomena by means of syntactic constraints already assumed in the theory. For example, if *wh*-phrases occurring in situ at S-structure are taken to undergo raising to a [+Q] Comp at LF, the patterning of multiple *wh*-phrase Superiority violations may be explained via simply invoking the ECP as a constraint applying to LF representations, the ECP being otherwise already justified as a constraint on overtly formed dependencies. Similarly, the impossibility of coreference

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between an in situ *wh*-phrase and a c-commanding NP (e.g., \**When did John<sub>i</sub> help who<sub>i</sub>?*) can be ruled out as a Principle C violation if LF *wh*-movement is assumed to leave behind a trace subject to the Binding Theory, i.e., an explanation entirely parallel to that given for Strong Crossover cases involving *overt* movement of *wh*-phrases.

Locality restrictions on the occurrence of *wh*-adjuncts in situ in island configurations examined by Huang (1982) have also been argued to be directly amenable to an ECP account if covert movement is taken to apply to *wh*-phrases in situ.

In addition to *wh*-phrases as candidates for LF-raising, Kayne (1984) and Longobardi (1991) provide LF-movement ECP and CED/Subjacency accounts for patterns observed with Neg(ation)-words in French and Italian, and May (1977, 1985) suggests that scopal ambiguities among quantificational elements are (at least partially) resolved via *syntactic* LF-movement, indicating further how various restrictions on the interpretation of potentially ambiguous structures can be seen as a direct result of the application of the ECP to operations of QR. Finally, Reconstruction is posited as a syntactic operation taking place at LF, providing direct input to the Binding Theory.

Generally then, covert movement in the GB period is taken to be fully equivalent to observable overt occurrences of movement, and is motivated by showing how constraints on overt syntactic processes would also seem to apply to similar dependencies hypothetically formed at LF.

## 2.2 LF in Chomsky (1993)

In an early version of the Minimalist Program (see Chomsky 1993, henceforth MP93) a fully uniform derivation is proclaimed from the point of lexical insertion through to LF. The sole essential difference posited between overt and covert movement is simply assumed to be that the former carries with it a phonetic matrix. Importantly, operations of movement *throughout* the derivation are taken to be subject to a single and uniform set of locality constraints, thus eradicating an earlier GB asymmetry that (for many) Subjacency was only taken to constrain the derivation to S-structure and not LF.

A significant uniformity is also proposed for the structural licensing of maximal projections — both subject and object DPs and indeed all XPs with ‘features’ to be licensed are suggested to effect this ‘checking’ only in the specifier of an associated functional head. Furthermore, movement may only ever take place if *forced* by F(eature)-checking requirements (the principle of Last Resort). One immediate consequence of this last condition is that QR operations along the lines assumed in GB may no longer be posited, as such adjunction operations do

not appear to be driven by any clear morphological features.<sup>1</sup>

In addition to this latter type of evidence for LF being ‘lost’ in MP93, many other key arguments motivating the level of LF and covert movement can no longer be invoked in the new minimalist model. Departing from standard GB views, Chomsky (1993) suggests that *wh*-phrases occurring in situ at Spell-Out do *not* in fact undergo any raising at LF, i.e., that there is no LF *wh*-movement. A result of this is that earlier arguments for LF relating to Superiority effects, Locality constraints on *wh*-adjuncts in situ and Crossover phenomena no longer have any validity in MP93, as they critically refer to *wh*-movement at LF. To a large extent then, when scrutinized carefully, LF in MP93 can in fact mostly be said to be motivated by considerations of ‘uniformity’ and ‘analogy’, e.g., DPs are taken to require licensing in a *uniform* way (in the Spec of a functional head). If this licensing configuration is not created prior to Spell-Out, it must be assumed to be met at some post-Spell-Out point, and so via covert movement. Similarly, if an element of a certain type shows evidence of raising to be licensed in one language, then *by analogy* it is assumed that elements of the same type will require parallel licensing in other languages. If in these other languages raising does not occur overtly, it will again be taken to (have to) occur in some covert continuation of the derivation.

## 2.3 LF in Chomsky (1995)

Chomsky (1995, henceforth MP95) proposes that what undergoes movement in the post-Spell-Out portion of the derivation is actually only the formal features associated with a lexical element, where this may include (for example) Case, Agreement and categorial features, but not semantic features. Such covert F(eature)-movement contrasts with overt movement in that the latter is suggested to require the pied-piping of additional material for PF-relevant reasons, resulting in the movement of entire phrases together with their semantic features. In terms of Economy, F-movement invariably involves movement of less material (only the features) which makes it ‘cheaper’ and hence selected wherever possible.

A consequence of a further distinction made in MP95 between “+” and “-” *Interpretable* features and the suggestion that +*Interpretable* features such as

<sup>1</sup> Hornstein (1995) and Kitahara (1992), however, suggest that the scopal interaction of QPs may instead be captured via the LF-raising of DPs to check Case and Agreement combined with the Copy Theory of traces proposed in Chomsky (1993). To the extent that such suggestions are successful, they may be taken to provide support for LF DP-movement. Beghelli (1993) also does attempt to propose a F-based theory of QR. However, neither of these treatments provides the kind of evidence for LF found in May’s work, where scopal ambiguity amongst quantificational elements is directly constrained by syntactic principles, also shown to constrain *overt* applications of movement (e.g., the ECP).

[wh] will only ever require checking when strong on a functional head has for effect that all *wh*-movement must take place overtly — the *wh*-feature on  $C^0$  will either be strong and trigger pre-Spell-Out raising of a *wh*-phrase, or the *wh*-feature will be weak and not require checking at any level due to being +*Interpretable*. A formal reason is therefore provided for earlier 1993 proposals that *wh*-phrases do not undergo LF-movement. Such reasoning is also expected to carry over to 'QR' — as quantificational features of QPs are +*Interpretable* in a natural sense, it is predicted that either strong [quant] features will trigger overt QR or all QPs will remain in situ throughout the derivation. Alternative accounts of QR developed in Hornstein and Kitahara (see fn. 1) may not be invoked in the MP95 system, as semantic features are taken to be stranded in situ when [case] and [ $\phi$ ] of DPs raise at LF. Consequently, while constituting the major motivating evidence for the existence of LF in the GB model, neither *wh*-dependencies nor QR provide positive support for LF in MP95.

If one asks what justification, empirical or otherwise, remains in MP95 for assuming an abstract level of LF formed by covert movement, the answer would again seem to be that, as in MP93, LF and F-movement are principally motivated by the arguments from analogy and uniformity already referred to in section 2.1. Concerning the uniformity argument, one can note that it is not in fact as obviously strong in MP95 as it was in MP93. In MP93 it was suggested that the licensing of subject and object DPs should be effected uniformly in a Spec-head relation. However, with the switch to F-movement in MP95, this uniform Spec-head licensing of XPs ultimately disappears as the formal features of an XP instead raise to adjoin to the checking head at LF (i.e., pre- and post-Spell-Out licensing of XPs is *not* effected in identical structural configurations).

Essentially then, it can be argued that the status and existence of LF in the MP is ultimately far less well established than in the GB model of syntax. The numerous empirical arguments produced during the GB period are found to lose their validity, once one adopts the set of assumptions laid out in the MP, and whether there is indeed an abstract level of LF derived by operations of 'F-movement' seems to depend somewhat precariously on arguments from uniformity alone. In section 3 we now present a set of data which strongly challenges the uniformity hypothesis and thereby questions even this support for assuming LF within the current framework.

### 3. The paradigm

This section sets forth the primary data to be analyzed. The Iraqi Arabic comes from Wahba (1991) and represents a patterning found in the speech of the Marsh Arabs and inhabitants of Baghdad. The Hindi data is taken from Mahajan (1990) and the Japanese from Nishiyama, Whitman & Yi (1996). It will be shown

that all these languages display a parallel tense-related paradigm in either their *wh*-questions or negative sentences, one which is also reported to occur in dialects of Persian (*wh*-questions), in Korean (negative sentences) and in rather similar ways in Western Apache (*wh*-questions, Potter 1997).

*Wh*-phrases in Iraqi Arabic (IA) and Hindi are free to occur in situ, as indicated in (1) and (2). Example (3) shows that Neg-words in Japanese are similarly not forced to undergo any special movement (i.e., they may remain fully in situ in positions otherwise occupied by non-Neg-words):

- (1) *Mona raadat [tjibir Su'ad [tisa'ad mieno ] ]?*  
Mona wanted to-force Su'ad to-help who  
"Who did Mona want to force Su'ad to help?"
- (2) *Raam-ne [Mohan-ko kise dekhne ke liye] kahaa?*  
Ram-ERG Mohan-ERG whom to see for told  
"Who did Ram tell Mohan to look at?"
- (3) *Taroo-ga kyoo nanimo tabenakatta*  
Taroo-NOM today nothing eat-NEG.PAST  
"Taroo didn't eat anything today."

However, it is not possible for a *wh*-phrase to occur in situ in a finite clause when the [+Q] Comp is in a higher clause, as in (4) and (5). A similar pattern is found in Japanese — Neg-words are ill-formed in embedded tensed clauses if the potentially licensing Negation is located in a higher clause, as in (6):

- (4) \**Mona tsawwarat [CP Ali istara sheno ]?*  
Mona thought Ali bought what
- (5) \**Raam-ne kahaa [CP ki kOn aayaa hE]?*  
Ram-ERG said that who has come
- (6) \**Taroo-ga [Hanako-ga nanimo taberu to] iwanakatta*  
Taroo-NOM Hanako-NOM nothing eat C say-NEG.PAST

Such sentences nevertheless become fully acceptable if the *wh*-phrase or Neg-word is raised into the tensed clause containing the [+Q] Comp/Neg(ation):

- (7) *sheno<sub>i</sub> tsawwarit Mona [ Ali istara t<sub>i</sub> ]*  
what thought Mona Ali bought  
"What did Mona think Ali bought?"
- (8) *kOn<sub>i</sub> Raam-ne kahaa [ki t<sub>i</sub> aayaa hE]*  
who Ram-ERG said that has come  
"Who did Ram say has come?"
- (9) *nanimo<sub>i</sub> Taroo-ga [ Hanako-ga t<sub>i</sub> taberu to ] iwanakatta*  
nothing Taroo-NOM Hanako-NOM eat C say-NEG.PAST  
"Taroo didn't say that Hanako eats anything."

Essentially then, the basic generalization is that *wh*-phrases in IA/Hindi and Neg-words in Japanese may not occur in a tensed clause that does not contain their licensing [+Q] Comp/Neg, and movement of a *wh*-phrase/Neg-word from a lower tensed clause to a higher tensed clause is not only possible but will also result in a grammatical form if this movement lands the *wh*-phrase/Neg-word in a clause containing a [+Q] Comp/Neg.

### 3.1 A GB analysis

For a GB-style approach the main problem posed by the paradigm above is explaining why movement of the *wh*-phrase/Neg-word located in the embedded tensed clause would seem to have to take place *overtly* rather than at LF. Comparing (4)–(6) with (7)–(9), it is clear that overt movement of the *wh*-phrase/Neg-word to the matrix clause results in an acceptable sentence, hence, that the *wh*-phrase/Neg-word is licensed by this raising. Given the availability of covert LF-movement in the GB model and the general possibility for *wh*-phrases/Neg-words in these languages to remain in situ at S-structure, the question then is why this movement may not instead apply at LF, i.e., why (4)–(6) are ungrammatical — it should be possible for the *wh*-phrase/Neg-word to raise covertly out of the tensed CP and be consequently licensed at LF.

A possible ‘solution’ might be to suggest that the tensed CP is a barrier for LF-movement but not for movement taking place prior to S-structure — hence, that if the movement of the *wh*-phrase/Neg-word is delayed until LF, the barrierhood of the tensed CP will block extraction (resulting in the ungrammaticality of (6)–(8)). However, while GB did indeed permit this type of analyses, allowing such parametrization of constraints according to the point of application in the derivation was arguably one of the least attractive theoretical aspects of the GB model, and there is clearly no explanation for *why* a principle of locality should constrain one set of movements but not another. The ‘solution’ is therefore less than satisfactory.

### 3.2 An analysis in terms of Chomsky (1993)

The problem outlined above becomes severely more acute for MP93, to a significant degree because of the explicit announcement in this work that the derivation should be conceived of as being fully uniform, hence subject to a unique set of locality constraints. Because of this assumption, it is clearly not possible to propose the type of analysis technically permitted within the GB model that covert movement of the *wh*-phrases/Neg-words might be constrained in a way different from overt raising (and thereby ‘account for’ the patterning observed). A treatment of the data must therefore make use of other means and may not appeal to a distinction in locality constraints applying to the overt and covert portions of the derivation.

A possibility which immediately suggests itself and also seems forced by certain new assumptions in MP93 is to appeal to the minimalist F-checking analysis of movement which suggests that movement may be required to take place in the overt syntax in order to satisfy the checking of strong morphological features. Movement is indeed argued to take place *only* for such F-checking reasons in MP93 (the principle of Greed). Considering (7)–(9) then, the movement of the *wh*-phrases and Neg-word can be taken to result in the checking of [wh] and [neg] features carried by the *wh*-phrases and Neg-word.<sup>2</sup> The fact that this movement must be overt may be explained in terms of feature ‘strength’: the relevant [wh]/[neg] are strong and so must be checked by Spell-Out. Conversely, if the features to be checked are weak, the Economy principle of Procrastinate forces movement to be delayed until LF. That it is indeed the *wh*-phrases/Neg-words themselves which have a F-checking requirement can be seen from sentences where more than one *wh*-phrase/Neg-word occurs. Providing just representative data from Hindi in (10) and (11) below, one can see that *all wh*-phrases originating in the embedded tensed CP must raise to the matrix containing the [+Q] Comp for the sentence to be acceptable — (10) is ungrammatical because, although one of the *wh*-phrases has been raised from the lower tensed CP, a second remains behind in the lower clause. When this second *wh*-phrase is also raised *overtly*, the example becomes fully acceptable, as seen in (11):

(10) \**kOn<sub>i</sub>* *Raam-ne kahaa ki t<sub>i</sub> kis-ko maaregaa*  
 who Ram-ERG say that whom hit-FUT

(11) *kOn<sub>i</sub>* *kis-ko<sub>j</sub> Raam-ne kahaa ki t<sub>i</sub> t<sub>j</sub> maaregaa*  
 who whom Ram-ERG say that hit-FUT  
 “Who did Ram say will hit who?”

One therefore arrives at the conclusion that *all wh*-phrases carry features to be checked by Spell-Out, resulting in multiple overt raising as in (11), and otherwise causing the derivation to crash if left unchecked at Spell-Out (10).

Such a conclusion, arguably forced by the interaction of the principles of Greed and Procrastinate in MP93, has serious consequences when one returns to consider examples such as (1)–(3). If there is evidence that all *wh*-phrases/Neg-words in IA, Hindi and Japanese have features to be checked prior to Spell-Out, then the *wh*-phrases and Neg-words in these examples must also require checking in the overt syntax. As these elements are however clearly still in situ at Spell-Out, it has to be concluded that they are F-checked in their in situ positions and, hence, not in a strict Spec-head checking configuration with the associated licensing head. The paradigm

<sup>2</sup> Stressing again that such movement is critical to the well-formedness of these sentences, i.e., it is not the apparently ‘optional’ scrambling found in Japanese, German, etc.

observed thus strongly militates against the uniformity analysis that all F-checking relations must be effected within the same notion of locality, i.e., in the specifier of the checking head for maximal projections according to Chomsky (1993) — here it seems to be the case that a *wh*-phrase/Neg-word just needs to be in the same tensed clause/domain as the licensing head in order to be F-checked and if this is satisfied in the base-generated position of the *wh*-phrase/Neg-word, then no further movement to the specifier of the checking head is actually necessary.<sup>3</sup>

### 3.3 Chomsky (1995)

One may wonder whether the re-introduction of an asymmetry between overt and covert movement in Chomsky (1995) (i.e., the distinction between overt CAT(egory)-movement and covert F-movement) — might provide a means for avoiding the above conclusions.<sup>4</sup> It could be suggested that, being rather different in basic nature, CAT-movement and F-movement really may be subject to differing locality constraints, with Tensed CPs in IA, Hindi and Japanese constituting barriers for F-movement of [wh]/[neg], but not for CAT-movement. One could then hypothesize that movement of the latter type becomes necessary to pied-pipe and carry the relevant features out of the tense island to the checking [+Q] Comp/Neg (i.e., where F-movement is blocked from tensed CPs (4)–(6),

<sup>3</sup> An empty operator analysis of (1)–(3) should also be discounted. Suppose that a phonetically empty operator raises overtly from the *wh*-phrases/Neg-word to the specifier of the checking head in (1)–(3) in order to maintain that F-checking requires a uniform Spec-head locality. If so, it should be equally possible for an empty operator to raise to SpecCP/NegP in (4)–(6), given that extraction from a tensed CP is seen to be quite licit in (7)–(9), yet (4)–(6) are fully unacceptable. Compare further, e.g., movement of null relative pronouns in English with that of their phonetically overt equivalents, or null *wh*-operator movement and movement of full *wh*-phrases in Japanese, as in Simpson (1995). One may note here that where it is possible to compare empty operator movement with movement of a full (i.e., phonetically overt) phrase in the same construction type, there is no evidence that movement of the former is more restricted than that of the latter. Hence, there are no grounds for assuming that null operator movement in IA/Hindi/Japanese should be more restricted than movement of full *wh*-phrases/Neg-words.

<sup>4</sup> Note that two other revisions in Chomsky (1995) might seem to be questioned by the data under consideration here. First of all, Chomsky (1995) proposes that features and categories are *attracted by functional heads* to satisfy their F-checking requirements (i.e., Chap. 4 Last Resort as Attract). This contrasts with the 1993 view that *categories raise* to satisfy exclusively their *own* needs (i.e., the principle of Greed). The paradigm here suggests, however, that *wh*-phrases and Neg-words in IA, Hindi and Japanese do indeed raise to check their own [wh]/[neg], rather than any on the [+Q] Comp/Neg, hence, that the movement observed is not strictly 'attraction'. This is so because if the raising were to be triggered by strong [wh]/[neg] present on the [+Q] Comp/Neg one would clearly expect to find *wh*/Neg-word raising in *all* sentences containing such a [+Q] Comp/Neg, yet there are many instances where no raising takes place, e.g., (1)–(3). Secondly, suggesting a significant split between "+" and "-" *Interpretable* features, Chomsky proposes that the former type will *only* ever require checking when strong and on a functional head. Here it is seen though that +*Interpretable* [wh] present on the *wh*-phrases themselves, rather than those on the associated functional head, would seem to be strong and in need of checking.

raising of the entire category containing the formal features is employed to rescue these sentences (7)–(9). When a *wh*-phrase/Neg-word is found legitimately in situ, as in (1)–(3), its features will raise unobstructed to the [+Q] Comp/Neg and F-checking will in all cases be effected within the universal strict locality suggested in Chomsky (1995).

Despite a certain initial plausibility, however, the above analysis would ultimately seem to be untenable for the following reasons. If it is assumed that examples such as (1)–(3) involve LF F-movement to the [+Q] Comp, this must indicate that the *wh*-/Neg-features are weak and need not be checked prior to Spell-Out. If this is so, it is not clear why the 'rescuing' CAT-movement of an XP containing [wh]/[neg] is forced to take place overtly (7)–(9) and may not be delayed until LF. If one were to raise the *entire category* containing [wh]/[neg] at LF, this should indeed overcome the locality problem/barrierhood of the tensed CP (hypothesized to be a barrier only for F-movement), and by Procrastinate, movement should indeed be delayed until LF if possible. Chomsky (1995) essentially suggests that movement at LF is F-movement for reasons of Economy: at LF it becomes possible to raise just (formal) features and this is cheaper than movement of a larger containing constituent, hence the option that is automatically selected. However, principles of Economy are standardly taken to constitute preferences which may be overridden for reasons of convergence. Consequently, to rescue structures where [wh]/[neg] occur in an embedded tensed CP, it should be possible to select LF-movement of the entire category containing these features (and so avoid the barrierhood problem), yet the unacceptability of (4)–(6) indicates that this cannot be so.<sup>5</sup> As there seems to be no principled way to rule out the theoretical possibility that categories should be able to undergo movement at LF if this were to be necessary for convergence, it appears that the potential solution outlined above may not be maintained.<sup>6</sup>

<sup>5</sup> It should not make any difference to the imputed barrierhood of the tensed CP whether the category containing the *wh*/Neg-features also has a phonetic matrix or not, i.e., LF CAT-movement should parallel overt CAT-movement with regards to locality. Also, if both overt and LF CAT-movement are available, one might imagine that the latter should always be selected, as it is 'lighter', not having to carry phonetic features with it.

<sup>6</sup> There is one other rather radical possibility that might be entertained instead here, namely, that F-movement takes place alongside CAT-movement in the *overt* syntax. This might allow for an explanation of why CAT-movement in (7)–(9) would critically seem to have to be overt: *all* movement operations, whether CAT- or F-movement, would always be overt. The more costly option of CAT-movement would be selected when necessary, wherever a *wh*-phrase/Neg-word occurs in an embedded tensed CP.

Ironically, such a proposal, if accepted, has the effect of resulting in the same general conclusion the paper is attempting to establish from a rather different angle, namely, that a discrete derivational level of LF has no real place or justification in the present minimalist model of syntax. If F-movement does in fact occur overtly and prior to Spell-Out, there will clearly be no reason to

### 3.4 Conclusions: a simplified model

So, arguing that all of the possible alternative analyses of the paradigm based on covert movement of one type or another would either seem to be flawed or unsatisfactory, one is left with the rather strong conclusions suggested at the end of section 3.2. Observing the parallel interactions of tense and movement in *wh* and Neg-word constructions in IA, Hindi and Japanese and combining these with certain key assumptions shared by MP93 and MP95 one is able to argue that the relation of F-checking may indeed be effected 'non-locally' in certain cases. In the languages considered, evidence was provided that *wh*- and Neg-features carried by all *wh*-phrases and Neg-words critically require checking *prior* to Spell-Out, yet those *wh*-phrases and Neg-words base-generated in the 'tense domain' of a [+Q] Comp/Neg are unexpectedly able to remain in situ at Spell-Out. If the [wh] and [neg] of these elements must also be checked by Spell-Out, and a null operator/F-movement possibility is discounted for the reasons given, the conclusion has to be that these elements are F-checked in their base positions and not in any Spec-head/ $X^0$ -adjoined relation with the relevant checking head.

The paradigm thus interpreted then constitutes a powerful argument against the 'uniformity hypothesis' that feature-type dependencies must always be licensed in a highly *local* and *universal* structural relation. In sections 2.1–2.3 we suggested that if one takes objective stock of the important changes occurring in the evolution of the Minimalist Program from the GB framework, such a uniformity hypothesis is essentially the main and possibly only remaining argument for assuming a derivational level of LF within the minimalist model. If this assumption can now itself be shown to be highly questionable/falsified, one is left with little compelling evidence or reason to continue to posit the existence of a level of LF formed by covert movement operations. We therefore wish to suggest that at this point in the development of a truly 'minimalist' model a further, natural and positive step to make in the direction of streamlining the model is to assume that syntactic derivations do indeed terminate at the point of Spell-Out and that the structures formed by this point are in fact the essential *syntactic* input forms to interpretation, i.e., 'LF'.

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assume any continuation of the derivation (via F-movement) after the point of Spell-Out, hence no syntactically distinct level of LF. The paradigm examined here might then even be taken as empirical support for overt F-movement. However, we believe a solution crucially depending on overt F-movement to be rather unsatisfactory for the general theoretical reason that, as argued earlier, one is left unconvinced that the posited relation/dependency is indeed one of *movement*, rather than other imaginable alternatives, e.g., coindexation or percolation. Essentially, there would seem to be little resemblance between 'F-movement' and other observable types of movement. There may also be serious problems in the technical implementation of overt F-movement, particularly with regard to expletive structures, which cannot be discussed in view of space constraints.

### 3.5 Extensions

The primary goal and focus of attention of the paper has been to clearly indicate the decline/increasing lack of any real and forceful support for LF in the transition from GB through to MP95 and to propose that LF has accordingly no strong justification in the present minimalist model. However, suggesting that the model should dispense with LF simultaneously requires an indication of how a model without LF might handle cross-linguistic variation previously captured by covert (LF) movement. A number of possibilities might actually be entertained here; for reasons of space we only hint at two, others being explored in greater depth elsewhere (see, e.g., Simpson 1995, Lappin & Johnson 1997, Koopman 1997, class lectures).

Critically, what needs to be accounted for in some way is the assumption that features apparently unchecked in the overt syntax must be checked at some later point (i.e., LF) via raising to the appropriate checking domain. In other words, one has to explain how *weak* features might be licensed in a model where there is no continuation of the derivation after Spell-Out. A first possibility here is to simply suggest that it is in fact only 'strong' features that actually require any checking. In Chomsky (1995) it is already suggested that certain types of *+Interpretable* features might not require checking or licensing if weak, so (for example) weak tense features in  $T^0$  would not (in themselves) require a verb to raise to  $T^0$  at any point in the derivation. One therefore might propose that other so-called '*-Interpretable*' feature-types such as Agreement and Case may similarly not require licensing if weak. An obvious immediate objection to such a move might be that the occurrence of *-Interpretable* features at 'LF' could be expected to violate the principle of Full Interpretation (FI). However, one can possibly suggest that [ $\phi$ ] and [case] in languages such as English may really be so decayed and weak as to be in effect invisible and so not trigger any violation of FI.<sup>7</sup> Alternatively, one might suggest that weak *-Interpretable* features may simply be deleted in situ parallel to other elements which possibly do not contribute (directly) to interpretation.

A second possibility is suggested by the IA/Hindi/Japanese paradigm considered in this section. The deletion/invisibility approach immediately above hints that whenever an element with weak features occurs in situ at Spell-Out, its weak features are either simply deleted or invisible to processes of interpretation, hence, that elements with features occurring in situ at Spell-Out generally do not require any special F-checking. The data from IA/Hindi/Japanese indicate, how-

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<sup>7</sup> Note that Chomsky (1993) makes a similar kind of suggestion concerning PF: weak features are argued to be invisible at the PF interface, and so, not in need of checking by this point.

ever, that this is ultimately not true for all cases of in situ feature-bearing elements — the patterning examined earlier was argued to show that *wh*-phrases and Neg-words in these languages *do* require F-checking prior to Spell-Out but that when an element of this type is base-generated in the tense domain containing the checking head it may simply be checked in its in situ position — hence, these are cases where an element occurring in situ *is* being actively F-checked (or so it is argued). Given that the *wh*-phrase/Neg-word is not in the Spec-head local relation standardly assumed to be necessary for F-checking, the basic conclusion drawn was that the locality/local domain relevant for [wh]/[neg]-checking in these cases is enlarged and corresponds to the tense domain containing the relevant checking head. One therefore arrives at a view that the checking domain for certain feature types may be subject to degrees of (parametric) variation. In IA and Hindi the *wh*-checking domain will correspond to the tense domain of  $C^0$ , causing raising of any *wh*-phrase base-generated outside this critical locality. However, in other languages it may take on a somewhat different value. Considering multiple *wh*-raising languages such as Romanian and Bulgarian, the obligatory overt raising of all *wh*-phrases to Comp might seem to indicate that the *wh*-checking domain in these languages is indeed limited to SpecCP. If generalized to other F-checking dependencies, such an approach would mean that where an element assumed to carry weak features occurs in situ at Spell-Out, it may be the case that it is actually being licensed within a wider checking domain than in languages where the same type of element is forced to undergo (overt) movement. Although an account of this kind clearly needs further investigation (see Simpson 1995 for a treatment in greater detail), the rather unusual paradigm from IA, Hindi and Japanese considered here certainly provides evidence pointing in such a direction.

#### 4. Closing remarks

This paper has been an examination of the changing status of covert movement and LF in the transition from GB to a minimalist model of syntax. In sections 2.0–2.3 we noted that the many empirical arguments put forward in the GB period as justification for assuming the existence of an abstract but syntactic level of LF can no longer be considered valid support for the continued existence of LF within the MP due to a number of conceptual changes proposed in the latter. We then suggested that the primary motivation for LF within the MP reduces to the ‘uniformity hypothesis’ that certain types of elements must be universally licensed in a parallel way, if not overtly, then by theoretical necessity in some covert continuation of the derivation. In sections 3.0–3.3 a paradigm occurring in IA, Hindi and Japanese was examined and shown to be highly problematic for both GB and (both versions of) the MP. Significantly with regard to

the latter, the patterning observed was suggested to provide a strong empirical argument against the uniformity hypothesis and its validity as support for LF, and consequently led to the suggestion that a natural step forward for the Minimalist Program should now be to dispense with the notion of LF as a syntactically distinct level of derivation formed via covert movement and assume instead that Spell-Out is the syntactic endpoint to the derivation. Finally, we briefly considered how the licensing of elements with weak features might be treated in such a model without a level of LF.

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### SECTION III

#### *Case, Topic, Focus, Interrogativity*