EXTENDING AND REDUCING THE MLC[1]

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1. Introduction

According to a widely shared set of assumptions, the economy metric determining the structure of (overt[2]) syntactic tree representations consists of two components, each of which regulates competition in a different domain. On the one hand, various conditions on movement have been postulated in the literature which minimize the length[3] of movement paths. The MINIMAL LINK CONDITION (MLC) probably represents the most prominent exponent of this family of constraints, but similar intuitions have also been expressed in terms of principles such as Shortest Move, Shortest Attract, Shortest, Stay!, etc... (see e.g. Chomsky 1993, 1995, 2000, 2001). On the other hand, it has been hypothesized that contexts in which movement competes with Merge at the root node - and not with another instance of movement - need to satisfy the MERGE OVER MOVE condition, which dictates that insertion from the numeration is preferred over dislocation in the tree (see e.g. Chomsky 1995; Wilder and Gärtner 1996).

The present study specifies two methods for simplifying parts of this economy metric. The first objective consists in laying out a strategy for eliminating Merge over Move. It will be argued that a redefinition of the MLC *extends* its operative scope in such a way that it can also capture the effects of Merge over Move. In addition, the reformulation of the MLC generates a new analysis of Case Freezing. Second, the paper explores prospects and consequences of *reducing* certain core properties of the MLC to facets of an independent condition on tree representations, the Linear Correspondence Axiom (LCA; Kayne 1994). In particular, I will propose a new analysis of local MLC phenomena - in particular a proper subset of Superiority - which rests on the assumption of a derivational, phase-based implementation of the antisymmetry condition encoded in the LCA.

The two objectives of extending the MLC to Merge over Move and deriving parts of the MLC from aspects of the LCA do not only serve the narrow goal of reducing the complexity of the system. In addition, they can also be seen as contributing to the larger enterprise of assessing to which extent the properties which are generally held to be characteristic of Move and Merge are discrete in nature, i.e. mutually exclusive, and to which degree they overlap. More specifically, the extension and reduction of the MLC to be defended below also encapsulate the heterodox claim that the properties of Move and Merge intersect more extensively than is

commonly believed (for discussion of similarities between Move and Merge see Bobaljik 1995; Gärtner 1999, 2002; Starke 2001). Such an overlap, it is maintained, materializes in two areas. First, the discussion of Merge over Move in section 2 indicates that the domain of the Merge relation (the numeration), and the domain of the Attract relation (usually believed to contain only syntactic objects in the tree) need not necessarily be construed as two disjunct sets. Second, section 3 presents support for the idea that the LCA, a condition which is widely held to be responsible for the way in which symbols are *merged* at the root, also has an impact on how *movement* relations are organized during the derivation.

2. Extending the MLC

Chomsky (1995: 334ff) suggests that it is possible to detect in the English expletive construction a local economy condition that favors (root) Merge over movement. It is, according to Chomsky, this inherent imbalance between Move and Merge which underlies the contrast in (1):

(1) a. ***There***$_i$ *seems [$_{TP}$* ***t***$_i$ *T° to be someone in the room]* (Merge expletive in SpecTP)
b. **There seems [$_{TP}$* ***someone***$_i$ *T° to be [$_{vP}$* ***t***$_i$ *in the room]]* (Move subject into SpecTP)

In particular, Merge over Move posits that it is more economical to merge an expletive in the embedded SpecTP in (1)a, than it is to move the lower subject *someone* to SpecTP, as in (1)b. Intuitively, the assumption that Merge wins in direct competition with Move should follow from a member of the same family of economy constraints which prefer shorter movement paths over longer ones. In (1)a, insertion of the expletive in the lower SpecTP yields the trivially local relation between an attractor (or Probe) and an attractee (or Goal or target), one in which checking takes place in the base position, whereas attraction of the subject in (1)b results in movement across at least one maximal projection (vP). The intuition that direct insertion from the numeration constitutes the most economic mode of attraction can however not be captured by standard versions of conditions on chains such as the MLC, a definition of which is provided in (2) (Chomsky 1995; top-down/bottom-up distinction adopted from van de Koot 1996):[4]

(2) MINIMAL LINK CONDITION
K attracts α iff
a. there is no β, β closer to K than α, such that K attracts β and (Top-down)
b. there is no L, L a target for α, such that α is closer to L than to K (Bottom-up)

(3) CLOSENESS[5]
β is closer to K than α is to K iff
a. K c-commands β and
b. β c-commands α

The MLC does not apply to (1)b for two reasons. First, the Attract relation does not range over symbols in the numeration, and (2) therefore only regulates competition among different instances of movement. Second, (2)a defines closeness in such a way that a category blocks attraction only if the attractor/Probe c-commands the intervener. Thus, even if the expletive were accessible to the Attract relation, it would fail to qualify as an intervener, because the attractor T° in (1)a does not c-command the expletive in SpecTP.

Adopting the assumption that a unified analysis of Merge over Move effects and standard MLC phenomena is both conceptually desirable and not empirically counterindicated[6], I would like to suggest the modified version of the MLC and the relevant locality constraints provided by (4) and (5), respectively. This Generalized MLC incorporates two crucial changes. It entails (i) a widening of the domain of Attract and (ii) a liberalization of the definition of closeness:[7]

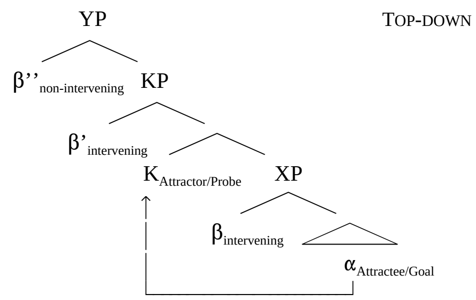
(4) **GENERALIZED MINIMAL LINK CONDITION**
For any α, $\beta \in D_{Tree} \cup$Numeration and for any heads K, L

K ATTRACTS$_{Def}$ α iff
a. K potentially checks α and
b. there is no β such that K potentially checks β and β can be merged later than α, and (Top-down)
c. there is no L such that L potentially checks α and L can be merged earlier than K (Bottom-up)

(5) K POTENTIALLY CHECKS$_{Def}$ α iff
a. K and α share (a relevant subset of) features and
b. If α is merged, K and α satisfy the structural requirements for feature checking (c-command or Spec-head relation)

More specifically, the definition in (4) allows Attract to select symbols directly from the numeration, to the effect that expletive insertion now competes with subject raising in (1). In addition, the closeness relation is now expressed in terms of a version of derivational c-command (see Epstein et al. 1998). On this conception, a symbol c-commands all and only those nodes in a tree whose root it has been merged with (see Epstein et al. 1998 for details). As schematically illustrated by (6), the definitions in (4) and (5) in turn match these two cases to two different types of interveners: A head K can attract α neither across a traditional intervener β of the right feature composition, nor in contexts where K can be merged with a suitably specified β' in SpecKP. In the former case, the traditional intervener β can be merged later than α, i.e. derivationally c-commands α, vetoing movement from the position occupied by α. In the latter case, the definition (5)b establishes that K potentially checks β' because if β' is merged in SpecKP, β' and K satisfy the structural requirements for feature checking. Moreover, given that β' can be merged later than α - i.e. β' derivationally c-commands α - β' qualifies as an intervening category:

(6) TOP-DOWN

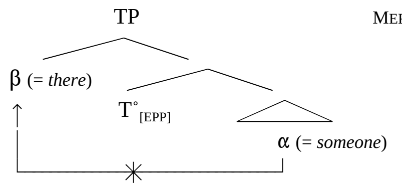


All higher categories, such as β'' in (6), do not meet the structural requirements for feature checking with K, and therefore also fail to qualify as interveners.

The generalized version of the MLC naturally accounts for the contrast in (1). Following standard practice, the analysis includes the axiom that T° bears an EPP-feature which probes for an target with appropriate features, as illustrated in (7). Expletive insertion is now preferred over subject raising from a lower subject position because (i) the widening of the domain of Attract allows expletive insertion to compete with subject raising, (ii) *there* can check the EPP feature of T°, rendering it a suitable target for attraction by T°, and (iii) the expletive can be merged at a later point in the derivation than the lower subject *someone.*

(7) a. *There seems someone to be in the room (= (1)b)

b. MERGE OVER MOVE

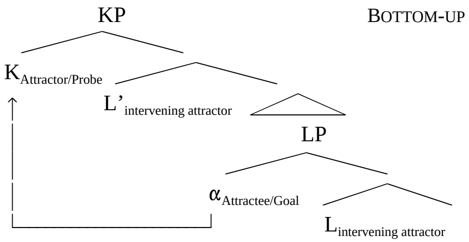


The system also entails as a desirable consequence that the set of symbols which can be attracted directly from the numeration is restricted to simple expressions such as expletives. Internally complex categories have to be composed in the syntactic working space, and are no longer part of the numeration.[8] Together with the Theta Criterion, which blocks insertion of arguments in functional projections, this ensures that movement never competes with insertion of anything else but expletives.

The Generalized MLC (4) maintains the bipartition of the original version (2) into a top-down and a bottom-up clause. And just as in (2), the two clauses (4)b and (4)c are symmetric in that the structural relations which underlie the characterizations of potential interveners are kept constant. Moreover, the definition of intervention in (4)b has been liberalized. It is now sufficient for a potential intervener β to (derivationally) c-command the target α, it no longer needs to be (derivationally) c-commanded by the attracting head. Given the symmetry of the b- and c-clauses of (4), one is now led to expect that this loosed structural requirements for interveners also carries over to the bottom-up clause (4)c. In what follows, I will comment on some corollaries of this prediction.

The tree in (8) depicts possible intervention configurations which fall under the bottom-up clause (4)c of the modified version of the MLC:

(8)



This second part of the MLC determines the actual scope of movement in contexts which contain more than one attractor/probe and accordingly supply more than one possible landing site (most prominently represented by Relativized Minimality and Superraising). For these cases, the new, looser definition of closeness generates the prediction that movement[9] should not only be excluded if it proceeds across a c-commanding intervener (L' in (8)), but should be equally impossible if the target is located in the specifier position of a head L with the appropriate feature specification. L blocks movement of α to K because L can be - and in fact has been - merged earlier in the derivation with the root node than K, and also observes the structural requirements for entering a potential checking relation with α.

Can traces of such 'lower blocking effects' also be detected empirically? There is good reason to believe that this is indeed the case, at least given plausible assumptions about feature checking. I will briefly expand on two consequences of this idea below.

First, the fact that the new version of the MLC predicts lower blocking effects as in (8) makes it necessary to fine-tune the definition of potential checking in order to maintain the analysis of the contrast in (1). If a potential checking relation obtained between the expletive and T_1° in (9)a, the embedded T_1° would serve as the closest attractor for the expletive, and the analysis would incorrectly predict that the expletive should not be eligible for further raising to the matrix SpecTP in (9)c:

(9) a. *[$_{TP1}$ there T_1°$_{[\cancel{EPP}]}$ [to be someone in the room]]* (EPP is checked)
b. *[$_{TP1}$ there T_1° [to be someone in the room]]* (EPP is erased)
c. *[$_{TP2}$ **There$_i$** T_2° seems [$_{TP1}$ **t$_i$** T_1° [to be someone in the room]]]* (Raising of expletive)

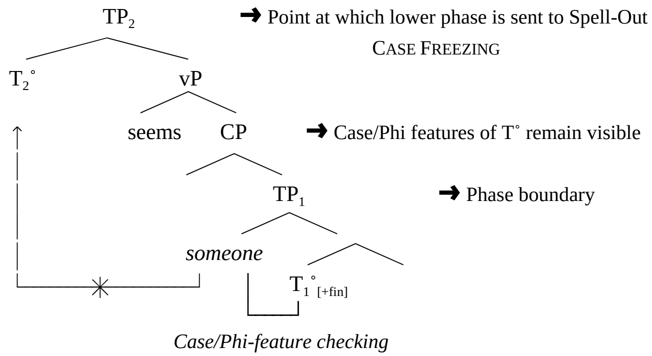
Suppose therefore that the EPP-feature on T_1° is erased and rendered invisible after expletive insertion in (9)a (for details see discussion below (11)). In (9)b, T_1° accordingly no longer

supports a potential checking relation with its specifier. Hence, T_1° does not function as an intervening head in (9)c, facilitating raising of *there* to the specifier of T_2°.

There is another set of configurations which needs to be considered in this context, though. In (9), the expletive was inserted into the specifier of a non-finite T° ((9)a). If, on the other hand, T° is finite, and checks other features in addition to EPP, such as Case and/or Phi-features, further movement of a term from SpecTP is generally prohibited. Case freezing restrictions of this type are for instance widely held to be responsible for the ill-formedness of raising out of finite clauses, as in (10) (Chomsky 2000, 2001; Frampton 1996):

(10) **Someone$_i$ seems [$_{CP}$ that [$_{TP}$ t$_i$ T°$_{[+fin]}$ is in the room]]*

(11)



So far, Case Freezing has resisted a satisfactory explanation. The definition of the MLC adopted here makes it possible, though, to embed the phenomenon into the theory of locality. The tree in (11) exposes the relevant components of the analysis. Assume, following Pesetsky and Torrego (2001), that feature checking does not entirely obliterate Case and/or Phi-features of a finite T°, but that these features on T°$_{[+fin]}$ and the DP in SpecTP remain - in contrast to EPP on infinitival T° - visible at least as long as the derivation reaches the edge of the CP phase.[10] Intuitively, this imbalance between EPP and Case/Phi-features might be thought to correlate with the fact that a residue of Case and/or Phi-feature checking remains visible in overt morphology at later stages of the derivation, whereas the EPP merely serves the strictly derivational requirement to fill certain nodes in the tree, whose effects cannot be recovered later on. Now, assume that the edge of the phase is accessible to operations in the minimally containing phase (Chomsky 2000), the matrix T° in (10)/(11) has access to the information that the embedded, finite T° is in a potential checking relation with the category in its specifier, even though the Case/Phi-features on both T°$_{[+fin]}$ and SpecTP$_{[+fin]}$ have been checked.[11] It follows that the MLC prohibits the matrix T° to attract the subject in the lower SpecTP, because the lower T°$_{[+fin]}$ qualifies as the closest potential attractor.[12] On this analysis, Case Freezing instantiates a violation of the bottom-up clause of the Generalized MLC, and can accordingly be subsumed under the theory of locality.

The preceding discussion considered implications which result from applying the two clauses of the Generalized MLC ((4)b and (4)c) in isolation. On the one side, it was argued that the revised top-down clause (4)b results in a common analysis of Merge over Move and locality effects. The bottom-up clause was on the other side seen to offer a new and potentially promising perspective on Case freezing. Interestingly, it is also possible to find contexts in which the top-down and the bottom-up clause are operative simultaneously, confirming the internal consistency of the definition in (4).

To begin with, the unavailability of Superraising constructions such as (12)b demonstrates that the Merge over Move generalization is not absolute, and can in certain environments even be reversed. Raising of the subject to the intermediate SpecTP in (12)a is preferred over insertion of the expletive, followed by long raising, as in (12)b:

(12) a. *It seems that [$_{TP}$ **someone**$_i$ T$^{\circ}_{[+fin]}$ [is likely **t**$_i$ to win]]* (Move subject into SpecTP)
b. **Someone$_i$ seems that [$_{TP}$ **it** T$^{\circ}_{[+fin]}$ [is likely t$_i$ to win]]* (Merge expletive in SpecTP)

That is, given a numeration for (12) which includes one expletive and one DP, the only way to satisfy locality and the Theta Criterion simultaneously is to proceed as in (12)a, where expletive insertion is delayed in favor of subject raising.

The current analysis attributes the ill-formedness of (12)b to violations of both clauses of the MLC. Assume first that Merge over Move applies, resulting in the derivational step (13)a which locates the base position of *it* in the intermediate SpecT_1P. In this scenario, the bottom-up part (4)c prohibits further raising of *it* to the superordinate T_2° as in (13)b, because the finite intermediate T_1° constitutes a closer potentially checking head (Case Freezing):

(13) a. *[$_{TP2}$ T$_2$$^{\circ}_{[+fin]}$ seems that [$_{TP1}$ **it** T$_1$$^{\circ}_{[+fin]}$ [$_{VP}$ someone is likely to win]]]*
b. **[$_{TP2}$ **It**$_i$ T$_2$$^{\circ}_{[+fin]}$ seems that [$_{TP1}$ **t**$_i$ T$_1$$^{\circ}_{[+fin]}$ [$_{VP}$ someone is likely to win]]]*
c. **[$_{TP2}$ **Someone**$_i$ T$_2$$^{\circ}_{[+fin]}$ seems that [$_{TP}$ it T$_1$$^{\circ}_{[+fin]}$ [**t**$_i$ is likely to win]]*

Moreover, the closest target for the matrix T_2° is the expletive. Thus, the top-down clause (4)b fails to sanction long subject raising of *someone* as in (13)c. To resolve this conflict, the order between Merge of the expletive and subject raising must be reversed, so that raising to SpecT_1P precedes expletive insertion, as in (12)a. Crucially, this reversal of Merge over Move falls out from the Generalized MLC without further additions.[13]

To summarize, the generalized revision of the MLC in (4) and (5) represents an attempt at contributing to a more inclusive characterization of syntactic intervention effects. In particular, it was argued that generalizations from three different empirical domains (Merge over Move, Case Freezing and Superraising) attest to the higher descriptive adequacy of the Generalized MLC. The specific account advocated in section 1 also generates potentially significant theoretical consequences. More precisely, it entails that the domains of Merge and Move

intersect more extensively than standardly assumed. Symbols can now be attracted from the syntactic tree (or subarray or working space) as well as from the numeration, removing the stipulation that the Attract relation may only target contexts which have already been manipulated by the syntactic system.[14] This in turn indicates that the properties defining these two structure building operations are not discrete, i.e. mutually exclusive, but might be partially unified, leading to a reduction of redundancies.

3. An LCA-reduction of the MLC

In the previous section, it was claimed that a reformulation of the MLC which subsumes Merge over Move effects furnishes support for the conjecture that the properties of Move and Merge partially overlap. The second part of this study discusses a further argument to this end. More precisely, it will be argued that certain restrictions on movement - minimally local violations of the MLC - can be interpreted as a reflex of aspects of the Linear Correspondence Axiom (LCA; Kayne 1994), a principle which regulates possible ordering relations among terminals, and thereby serves as a restriction on Merge. I will henceforth refer to the hypothesis that a *proper subset* of the effects generally attributed to MLC can be linked to a *specific component* of the LCA as the LCA-REDUCTION of the MLC. (The qualifications in italics above are instrumental in order to avoid a potential confound. It is neither my intention to reduce the entire MLC to the LCA, nor will I attempt to relate the MLC to the LCA as a whole).

Section 3.1 introduces some definitions, and outlines the LCA-reduction of the MLC, while §3.2 presents an implementation based on Superiority effects in English. The last subsection addresses various challenges for the analysis.

3.1. The LCA, copies and cyclic Spell-Out

The LCA represents a filter on tree representations which limits possible precedence relations among terminals. It can be decomposed into two parts: First, a set is construed which collects pairs of terminals. In particular, these terminals need to fulfill the condition that they are dominated by non-terminals in an asymmetric c-command relation. (15) provides the definition of a relation T which generates such a set (Stabler 1997):

(14) DOMAINS: N = set of nodes
N_T = set of terminal nodes
N_{NT} = set of non-terminal nodes

(15) **RELATION T** ($N_{NT} \rightarrow N_T$)

For any a, b $\in N_{T,}$

$aTb =_{Def} (\exists x,y \in N_{NT})(x \triangleright^* a \wedge y \triangleright^* b \wedge xAy)$

(where $\triangleright^*$ denotes the dominance relation and A denotes asymmetric c-command)

Second, the LCA demands that the T-relation minimally meet the formal requirements listed under (16). In essence, (16) has the effect of excluding sets which contain symmetric pairs, and sets which do not exhaust the domain of terminals. The first case yields conflicting word order, whereas the second case results in configurations in which one or more terminals cannot be ordered at all.

(16) **LINEAR CORRESPONDENCE AXIOM**

For any x,y,z $\in N_T$, the following conditions hold:

a. $x \neq y \rightarrow xTy \vee yTx$ (TOTALITY/LINEARITY)

b. $xTy \wedge yTz \rightarrow xTz$ (TRANSITIVITY)

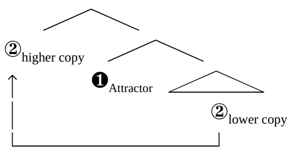
c. $xTy \wedge yTx \rightarrow x=y$ (ANTISYMMETRY)

("d(A) [i.e. T] is a linear order of the terminals of the tree"; see Kayne 1994)

It has been observed at various points in the literature that the LCA as formulated in (16) has the consequence that members of a movement chain cannot be associated with copies at the level at which the LCA is operative (Kayne 1994; Nunes 1996; Richards 2001, among others).

If movement were allowed to leave copies, the T-set, which lists the extension of the T-relation, would also include symmetric pairs. The schematic derivation in (17)[15] exemplifies that the combination of the asymmetric c-command configurations between attracting head and attractee/target prior and subsequent to movement introduces a symmetric pair into the T-set. Prior to movement, the attractor ❶ in (17) is dominated by a non-terminal which asymmetrically c-commands the lower copy of the attractee ② prior to movement; subsequent to raising of ② to the left of ❶, the higher occurrence of ② is dominated by a non-terminal asymmetrically c-commanding ❶. Since the T-set now contains <②,❶> as well as <❶,②>, the terminals embedded inside the movement copies cannot be ordered, inducing an LCA violation.

(17) T = {<②,❶>, <❶,②>, ...} ✘LCA



If the LCA is regarded as a Spell-Out condition, which regulates the distribution of overt symbols in the tree, it derives the requirement that only one movement copy can be pronounced (Epstein 1998; Nunes 1996; Richards 2001). On a more conservative interpretation (Kayne 1994), according to which the LCA serves as a general restriction on structure building to be observed at least throughout the overt part of the derivation, movement may not even be

associated with unpronounced LF-copies. There is also a third position, though, which embodies the claim that the LCA applies to overt as well as to covert categories, but which is at the same time directly compatible with the well-supported tenets of the copy theory of movement. This alternative approach, which will be adopted here, will moreover be seen to have the additional virtue of offering a new account of some 'core effects' of the MLC.

More specifically, suppose that apart from regulating licit base-generated configurations (Kayne 1994), the LCA also applies to movement chains in accordance with the two hypotheses in (18):

(18) H1. The LCA evaluates copies in movement chains relative to a given movement-inducing feature (e.g. [wh]).

H2. The computation of the LCA proceeds cyclically. Each phase boundary induces the formation of a new T-set, triggering the LCA to 'start over'.[16]

The main consequence of this apparatus consists in prohibiting phase-internal movement across symbols with identical[17] feature specification. Crucially for present purposes, such a prohibition also subsumes important aspects of the MLC. In what follows, I will supply the details of two sample derivations first, proceeding from there to a transposition of the analysis to Superiority phenomena in English.

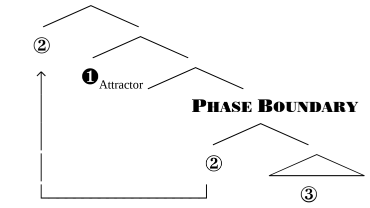
The two schematic derivations in (19) exemplify the implementation of the phase-based, feature-relativized version of the LCA. The trees in (19) contain one attractor (❶) and two potential attractees (② and ③) each, differing minimally in that (19)a tracks movement of the higher attractee, while (19)b documents attraction of a category across a phase boundary. Since the derivational LCA algorithm only applies to symbols with identical features (H1 in (18)), other symbols in the tree such as non-attracting heads or phrasal interveners can be ignored.

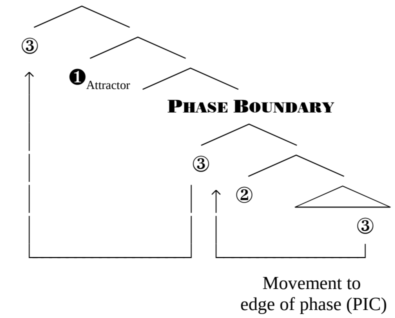
In (19)a, the T-set, which contains all pairs of the T-relation, satisfies the feature-based LCA at the lower phase level, because the two attractees ② and ③ are parsed into an asymmetric c-command relation. When the derivation reaches the phase boundary, information about c-command relations inside the lower phase is eradicated, and a new T-set is established (alternatively, T is reset). Moreover, since movement of ② to the specifier of ❶ introduces only a single pair into the new T-set, the derivation proceeds in conformity with the LCA.

In contrast to (19)a, the derivation in (19)b includes an additional, phase-internal movement step which turns out to be fatal from the perspective of the LCA. Assume that extraction out of phases needs to proceed via phase-peripheral intermediate landing sites. This requirement can for instance be derived from the Phase Impenetrability Condition (PIC; Chomsky 2000, 2001), and a principle which generates an attracting (EPP) feature at the edge of the phase for each overt movement operation (for a possible motivation behind this principle see Heck and Müller 2000). Then, movement of the lower attractee ③ has to strand a copy to the left of ②. But this additional short movement induces now an LCA-violation inside the lower phase.[18]

(19) a. LICIT MOVEMENT b. MLC VIOLATION

$T_{\text{lower Phase}}$ = {⟨②,③⟩}	✔LCA	$T_{\text{lower Phase}}$ = {⟨②,③⟩, ⟨③,②⟩}	✘LCA
$T_{\text{higherPhase}}$ = {⟨②,❶⟩}	✔LCA	$T_{\text{higher Phase}}$ = {⟨③,❶⟩}	✔LCA





Thus, the phase-based, feature relativized LCA ensures that a phase-external head can only attract the highest suitable category in the subordinate phase (② in (19)). But this prohibition on non-local dependency formation constitutes nothing else but the core of (the top-down clause of) the MLC, which equally demands attraction of the closest feature-compatible candidate. On this view, the core of the MLC represents an epiphenomenal generalization that can be reduced to a derivational implementation of the antisymmetry condition included in the LCA. Since the LCA is widely thought to regulate the ordering of terminals in base-generated structures,[19] this result also implies that the properties characterizing Merge and Move cannot be discrete, but need to overlap partially.

Before proceeding to empirical ramifications of the LCA-reduction of the MLC in the next subsection, notice that the approach delineated above shares certain aspects with Richards (2001). Richards (2001) designs an LCA-based algorithm which limits each category type (NP, PP, ...) to a single occurrence inside each phase. As a commonality, both analyses achieve a liberalization of the effects of an LCA-related condition by relativizing the LCA to phases. That is, the phase boundaries mark the domains within which a certain well-formedness condition remains operative. But there are also significant disparities. First, for Richards (2001), the LCA serves as a well-formedness condition on base-generated structures, while the present account assumes that the LCA operate on movement chains. Second, LCA-violations can be repaired by moving the offending category out of the local phase in Richards (2001). In contrast, on the present conception, LCA violations cannot be avoided by extraction out of the local phase. This difference follows from the fact that movement copies are visible to the LCA only in the present account. Finally, phase boundaries serve here the purpose of permitting movement across an attractor in the first place, while in Richards (2001), the movement component is entirely disassociated from the LCA. Thus, the two approaches generate substantially distinct - although hopefully not incompatible - sets of predictions.

3.2. Superiority in English

The LCA-reduction of the MLC entails as a corollary a new analysis of Superiority phenomena, which will be expanded on in the present subsection (for cross-linguistic differences see e.g. Haider, this volume and Müller, this volume).

To begin with, the partial derivation in (20) demonstrates that licit subject questions comply with the LCA. Subsequent to merging the vP in Step 1 and Step 2, the subject can be fronted to SpecTP in Step 3 without crossing another wh-phrase.

(20) *Who bought what*

Step 1:	*[$_{VP}$ buy what]*		
Step 2:	*[$_{vP}$ who [$_{VP}$ buy what]]*		
	$T_{vP} = \{\langle \textit{who}, \text{what}\rangle\}$	⇨	✔LCA
Step 3:	*[$_{TP}$ **who$_i$** ....[$_{vP}$ **who$_i$** [$_{VP}$ buy what]]]*		(Move subject to SpecTP)

Note in passing that the LCA account demands that wh-subjects surface in SpecTP[20] and do not move on to SpecCP, as in (21).

(21)	Step 4:	*[$_{CP}$ **who$_i$** C°$_{[wh]}$ [$_{TP}$ **who$_i$** .....]]*		(Move subject to SpecCP)
		$T_{CP} = \{\langle C°_{[wh]}, \textit{who}\rangle, \langle \textit{who}, C°_{[wh]}\rangle\}$	⇨	✘LCA

(21) is not sanctioned by the LCA due to the presence of a [wh]-feature on C° and the two occurrences of the subject. It follows that the [wh]-features on the wh-subject and on C° in (20) cannot be eliminated in a specifier-head configuration in CP, but are checked by the licensing relation Agree (Chomsky 2000, 2001).

If the wh-object occupies the initial position, as in (22), the PIC dictates that the object needs to land in an intermediate position at the edge of the vP-phase to the left of the wh-subject before leaving the vP (Step 1). As a result, the higher and the lower occurrence of the object enter a symmetric c-command relation with the wh-subject, in violation of the LCA (Step 2).[21]

(22) **What did who buy*

Step 1:	*[$_{vP}$ who [$_{VP}$ buy what]]*		(Merge vP)
Step 2:	*[$_{vP}$ **what$_i$** [$_{vP}$ who [$_{VP}$ buy **what$_i$**]]]*		(Move object to edge of vP)
	$T_{vP} = \{\langle \text{who}, \textit{what}\rangle, \langle \textit{what}, \text{who}\rangle\}$	⇨	✘LCA

At first sight, this specific implementation of the LCA appears to conflict with the conjecture that movement to the edge of the phase is triggered by an EPP feature (Chomsky 2000, 2001, Heck and Müller 2000). Since object extraction creates an intermediate copy at the edge of vP, even formation of simple object questions as in (23) should conflict with the LCA:

(23) *What did you buy*

*[$_{vP}$ **what$_i$** you v° [$_{VP}$ buy **what$_i$**]]*		(Move object to edge of vP)
$T_{vP} = \{\langle v°, \textit{what}\rangle, \langle \textit{what}, v°\rangle\}$	⇨	✘LCA

However, this result only obtains if the EPP-feature is taken to be present both on the attracting head (v˚) and on the target. If the feature on the attracting head and the target are on the other side not identical, the LCA, which by definition only regulates movement dependencies based on feature *identity*, will not apply. There is now indeed good reason to believe that EPP driven movement is not encoded by one and the same feature on the attracting head and on the target. First, while Case/Phi-feature checking is a symmetric operation, in that the relevant features potentially surface morphologically on the head as well as on the DP, EPP-checking is asymmetric insofar as the moved category satisfies a purely derivational requirement of the head bearing the EPP-feature, but not vice versa. In addition, on an influential view, the EPP-requirement can also be satisfied by other categories, such as verbs, aside from DPs (Alexiadou and Anagnostopoulou 1998). Again, this indicates that the features of the attracting head and the target are not strictly identical. If identity were indeed the relevant notion, the EPP should manifest itself as an N-feature in some contexts, but as a V-feature in others. Rather, the EPP-feature appears to be underspecified for category (and possibly other properties). As a result, EPP driven movement is exempt from the LCA, resolving the apparent complication posed by successive cyclic movement to the edge (on this issue, see also discussion below (36)).

Returning to Superiority, it is a well-known fact that multiple questions involving locative or temporal wh-adjuncts display a certain degree of immunity to the MLC, as witnessed by the absence of a contrast in (24) (Oka 1993; Williams 1994; Hornstein 1995; Huang 1995):

(24) a. *Where/when did you buy what*
b. *What did you buy when/where*

(25) details why, on the present analysis, the wh-object in (24)a may remain *in-situ*. Given that temporal and locative modifiers originate above the object, the adjunct does not have to pass the object on it its way to SpecCP, yielding an LCA conform derivation.

(25) *Where did you buy what*

Step 1:	*[$_{VP}$ [$_{VP}$ buy what] where]*	(Merge VP and adjunct)
Step 2:	*[$_{vP}$ **where$_i$** you [$_{VP}$ [$_{VP}$ buy what] **where$_i$**]*	(Move adjunct to edge of vP)
	T_{vP} = {<*where*, what>}	⇨ ✔LCA

As for the integration of modifiers into the syntactic tree, I assume that locative and temporal adjuncts are right-adjoined to VP, and that objects obtain scope over these adjuncts by covert, Case-driven movement to SpecvP (Chomsky 1995; Lechner 2003). This approach is fully consistent with the derivational LCA-based algorithm advocated above. It is at odds, though, with the traditional formulation of the LCA (Kayne 1994), which generates all adjuncts as left-branch specifiers. However, in light of the considerable body of evidence in support of the existence of right-adjoined adjuncts, this consequence constitutes an asset rather than a shortcoming of the present analysis (Lechner 1999; Nissenbaum 2001; Sauerland 1998). I will

accordingly adopt a slightly weaker hypothesis on the syntax of modification, one which adds the assumption that adjuncts are exempted from the LCA (in its original form; on the exceptional phrase structural status of adjuncts see e.g. Bobaljik 1995). On this view, adjuncts do not partake in the computation of the well-formedness of base-generated strings of terminals, but are nonetheless visible to the phase-based, feature relativized metric which derives core aspects of the MLC.

Above, it was seen that the adjunct-first variant of multiple interrogatives (24)a can be directly derived from the LCA-reduction of the MLC. However, if it is the object which occupies the topmost position, as in (26), the analysis at first sight seems to deliver the wrong results. In particular, the PIC demands that a second occurrence of the object copy has to be stranded at the left edge of the vP, above the VP-adjunct (Step 2), in offense of the LCA:

(26) *What did you buy where*

Step 1:	*[$_{VP}$ [$_{VP}$ buy what] where]*	(Merge VP and adjunct)
Step 2:	*[$_{vP}$ **what$_i$** [$_{VP}$ [$_{VP}$ buy **what$_i$**] where]]*	(Move object to edge of vP)
	T_{vP} = {<where, *what*>, <*what*, where>}	⇨ ✘LCA in vP

There is a natural strategy to avoid this complication, though, which rests on the hypothesis that adjuncts can be inserted counter-cyclically (Lebeaux 1988, 1990; see Nissenbaum 2001 on late adjunct merger in a phase-based model). (27) details the relevant steps in the alternative derivation for (24)b. In Step 1 to 3, the object successive cyclically moves to SpecCP, this time in line with the LCA. Then, in Step 4, the adjunct is inserted counter-cyclically. But since the T-set of the lower phase vP has at this point already been re-set - each phase level triggers the LCA-computation to start over - late adjunct merger does not introduce a symmetric pair of terminals in the lower T-set. Symmetric relations cannot be established retroactively, once a phase has been completed. As a consequence, the derivation in (27) converges:

(27) *What did you buy where*

Step 1:	*[$_{VP}$ buy what]*	(Merge VP)
Step 2:	*[$_{vP}$ **what$_i$** [$_{VP}$ buy **what$_i$**]]*	(Move object to edge of vP)
	T_{vP} = {}	⇨ ✔LCA
Step 3:	*[$_{CP}$ **what$_i$** C˚$_{[wh]}$ [$_{vP}$ **what$_i$** [$_{VP}$ buy **what$_i$**]]]*	(Move object to SpecCP)
	T_{CP} = {<*what*, C˚$_{[wh]}$>}	⇨ ✔LCA
Step 4:	... *[$_{vP}$ **what$_i$**[$_{VP}$ [$_{VP}$ buy **what$_i$**] where]]*	(Merge adjunct; T_{vP} already computed)
	T_{vP} = { }	⇨ ✔LCA

The interaction between counter-cyclic adjunct merger and the phase-based LCA leads to an interesting prediction.[22] One is led to expect that Superiority effects triggered by overt adjunct wh-movement should re-emerge if the phase-mate wh-argument is generated above, and not below the adjunct. Before expanding on the reasoning behind this claim, notice that the prediction indeed appears to receive empirical support. Contexts which combine wh-subjects with locative wh-adverbs display sensitivity to Superiority (Williams 1994: 191):

(28) a. **Where did who go*
b. *Who went where*

The adjunct in (28)a is trapped in its base position because it needs to cross over the subject phase-internally, but cannot do so, regardless whether the adjunct is merged cyclically or non-cyclically. The details of the two potential derivations for (28)a are provided in (29) and (30), respectively. In (29), the adjunct is inserted before the subject joins the derivation, whereas adjunct insertion is delayed until the vP has been completed in (30):

(29) **Where did who go* Cyclic derivation (early adjunct insertion)

Step 1: *[$_{VP}$ [$_{VP}$ go] where]* (Merge VP)
Step 2: *[$_{vP}$ who [$_{VP}$ [$_{VP}$ go] where]]* (Merge vP)
Step 3: *[$_{vP}$ **where$_i$** [$_{vP}$ who [$_{VP}$ [$_{VP}$ go] **where$_i$**]]]* (Move adjunct to edge of vP)
T_{vP} = {<who, *where*>, <*where*, who>} ⇨ ✘LCA

(30) **Where did who go* Counter-cyclic derivation (late insertion)

Step 1: *[$_{vP}$ who go]* (Merge vP)
Step 2: *[$_{CP}$ where did who [$_{VP}$ go]]* (Merge adjunct in SpecCP)
Step 3: *[$_{CP}$ **where$_i$** [$_{vP}$ who [$_{VP}$ [$_{VP}$ go] **where$_i$**]]]* (Counter-cyclic chain formation)

Assuming that (i) subjects originate above locative and temporal adverbs, and that (ii) arguments cannot be merged countercyclically, overt adjunct movement to the edge of the phase in (29) strands a copy to the left and to the right of the subject, inducing an LCA violation. Derivation (30) is on the other side excluded as an instance of counter-cyclic movement. In (30), the higher adjunct copy is inserted in SpecCP (Step 2) prior to merger of the lower, vP-internal copy (Step 3). Despite the fact that (30) is now sanctioned by the LCA - the T-set for vP has already been computed once the derivation reaches Step 3 - late insertion of the lower adjunct copy results in counter-cyclic chain formation, which in turn is banned by whatever principle prohibits counter-cyclic movement.[23] That is, (30) illustrates that even though adjuncts may be merged counter-cyclically, adjuncts which have been inserted late cannot undergo movement.

To recapitulate, although neither the cyclic nor the counter-cyclic derivation of (28)a succeeds, they fail to do so for different reasons. Whereas cyclic merger (29) is excluded by the LCA, late adjunction in (30) violates the cyclicity requirement on movement/chain formation.

A note of clarification is in order at this point which is intended to remove a potential confound. It was postulated above that the collection of the members of the T-set 'starts over' at each phase boundary, yielding a system in which the LCA assesses movement chains cyclically. Crucially, this specific approach does not subscribe to the claim, though, that the LCA-reduction is a surface linearization condition that is verified at each phase boundary, as e.g.

in Richards (2001). Such a model, which equates (PF) Spell-Out domains both with phases and the domains relevant for the computation of T-sets, is conceivable, but would, in conjunction with the present assumptions, wrongly entail, for one, that entire phases are linearized as a unit, rendering the edge of a phase inaccessible to heads in higher domains. Rather, the LCA is employed here as a filter on possible movement operations which applies throughout a phase, including its edge, and is reset at the phase boundary. Furthermore, heads in higher phases have access to categories that have reached the edge of the phase by whatever mechanism is assumed to standardly license such relations (a proviso in the PIC, as in Chomsky 2000; delayed Spell-Out, as in Chomsky 2001: 14; or partial Spell-Out of the phase, as in Nissenbaum 2001).

3.3. Two open issues

Finally, two sets of problematic cases need to be addressed. First, the LCA reduction of the MLC is not equipped to handle Superiority contexts involving manner or reason adverbs. As has been pointed out repeatedly in the literature, such ontologically more complex adjuncts fail to license the full range of overt permutations which are attested with temporal and locative adverbs (Huang 1982, 1995: 153; Hornstein 1995: 147; Williams 1994). For one, manner and reason modifiers induce Superiority effects with objects ((31)), as well as among each other ((32)):

(31) a. *Why/How did he fix what*
b. **What did he fix why/how*

(32) a. **How did she sing why* (Hornstein 1995: 234, fn. 42)
b. **Why did she sing how*

Very speculatively, manner and reason adjuncts might be distributed less freely because they fail to license the functional readings underlying the interpretation of multiple interrogatives.[24] This might be so for type and/or sortal incompatibilities (reasons/manners vs. individuals) between the fronted wh-expression and the implicit variable it binds inside the *in-situ* wh-phrase. If such a line of reasoning can be further substantiated, these additional restrictions on wh-adverbs should not be related to an inherent property of the MLC, a result which would align well with the present proposal.

Second, the LCA reduction of the MLC is challenged by environments involving long-distance argument Superiority, in which the two competing wh-phrases arise in different phases, exemplified by the paradigm in (33) (Hendrick and Rochemont 1982):

(33) a. ***Who$_i$** did John persuade **t$_i$** [$_{CP}$ to buy what]*
b. ****What$_i$** did John [$_{vP}$ persuade who [$_{CP}$ to buy **t$_i$**]]*
c. ***What$_i$** did John persuade Mary [$_{CP}$ to buy **t$_i$**]*

(33)b resists an LCA analysis for the reason that in none of the two phases (vP and CP) occurrences of *who* and *what* enter into a symmetric c-command relation. Postulating for (33)b the ill-formed derivation (34), in which movement of *what* proceeds via two intermediate landing sites to the left and to the right of *what* inside the vP-phase would moreover lead to a number of dubious side effects.

(34) ***What***$_i$ *did John [*$_{vP}$ ***what***$_i$ *persuade who* ***what***$_i$ *[*$_{CP}$ *that Bill bought t*$_i$*]]*

If, for instance, successive cyclic movement into the lower domain of a higher phase were a general requirement, simple object questions such as (35) could not be derived. In (35), the attracting head C° is sandwiched inbetween the two copies of *what* inside the CP-phase, introducing two symmetric pairs into the T-set:

(35) *What did you see*

[$_{CP}$ ***What*** *C°*$_{[wh]}$ *did you* ***what*** *[*$_{vP\text{-}Phase\ boundary}$ *see* ***what****]]*

$T_{CP} = \{\langle C°_{[wh]}, \textit{what}\rangle, \langle \textit{what}, C°_{[wh]}\rangle\}$ ⇨ ✘LCA

Cross-phasal manifestations of locality also show up in other environments, though, briefly to be touched upon in §4.1. There, I will adopt the orthodox position that all non-phase-internal locality restrictions, including (33)b, fall under the reign of the Generalized MLC.

Sections 2 and 3 presented two independent proposals. The first one led to a widening of the empirical coverage of the MLC, expanding its scope to Merge over Move, Case Freezing and Superraising, whereas the second one made it possible to eliminate certain core cases of the MLC by linking them to the LCA. It has not been specified so far, however, whether these two ideas are compatible, and how they interact. The last section will take up these important issues, aiming at a synthesis of the Generalized MLC and the LCA-reduction of the MLC.

4. Combining the Generalized MLC and the LCA-reduction

Two questions emerge once the reformulation of the MLC of section 2 is combined with the LCA-reduction of section 3. First, are the two proposals compatible, i.e. is the synthesis internally consistent? And second, do the two parts of the analysis indeed make independent contributions, or is one of them subsuming the other? The results of this section will turn out to indicate that a unification into a model with two partially independent subcomponents seems feasible.

4.1. Independence I: The Generalized MLC

It is easy to see that the Generalized MLC is independent from the LCA-reduction. Consider again Case Freezing, repeated from §1: (The same point could be made on the basis of Superraising.)

(10) **Someone*$_i$ *seems [*$_{CP}$ *that [*$_{TP}$ *t*$_i$ *T°*$_{[+fin]}$ *is in the room]]*

As was seen in section 1, the Generalized MLC in (4) and (5) correctly predicts that the potential checking relation between the lower, finite T° and the subject inhibits raising. Since the lower CP in (10) constitutes a phase boundary, and phase boundaries re-set the T-set, movement of *someone* across the higher T° observes the LCA-reduction, though. Neither the lower nor the higher T-set contains the symmetric pairs $\langle T_i, \textit{someone}\rangle$ and $\langle \textit{someone}, T_i\rangle$, with i index ranging over occurrences of T° nodes. It follows that (10) is excluded by the Generalized MLC, but cannot be captured by the LCA.

In a similar vein, Merge over Move effects are only amenable to an analysis in terms of the Generalized MLC. In (1), repeated from above, competition between expletive insertion and movement from the lower subject position is resolved by the Generalized MLC:

(1) a. *There seems [*$_{TP}$ *t to be someone in the room]*
b. *There *seems [*$_{TP}$ ***someone***$_i$ *to be* ***t***$_i$ *in the room]*

The contrast in (1) can, on the other hand, not be related to the LCA. First, the intuition expressed by the LCA can simply not be translated to the context (1), since (1) does not include crossing categories of the right shape and feature specification. Second, raising across non-transitive vP's as in (1) - i.e. vP's which fail to qualify as phases - has to be exempted from the LCA more generally, because these configurations invariantly include an attracting head and a target inside a single phase. (36) provides the relevant parts of the derivation:

(36) *[*$_{CP}$ *[*$_{TP}$ *Someone T°*$_{[+fin]}$ *[*$_{vP}$ *arrived]]]* (Raising across vP, vP is not a phase)

$T_{CP} = \{\langle T°_{[+fin]}, \textit{someone}\rangle, \langle \textit{someone}, T°_{[+fin]}\rangle\}$ ⇨ ✘LCA

There are two strategies to avoid this undesired result, though, one of which has already been employed in the previous section. On the one side, the set of phases can be redefined to include also intransitive vP; I will not comment any further on this option here, which seems viable but comes at the cost of substantial changes (see Legate, to appear, for arguments that passive and unaccusative vPs are also phases). Alternatively, the LCA could be made to disregard the features and categories implicated in subject raising. In section 3, I maintained that the operative domain of the LCA is limited to categories with identical features, and that EPP-driven movement, which is generally thought to motivate raising, does not involve strict feature identity. From this it follows that the T-set for (36)a does not contain the offending pairs in (36)b in the first place, and EPP-triggered raising ceases to pose a problem.[25] Thus, the observation that feature-driven movement is also licit phase-internally does not necessarily entail unsurmountable complications for the LCA-reduction of the MLC.

A second group of contexts which allows to discriminate between the predictive capacities of the Generalized MLC and the LCA-reduction is represented by non-local violations of Relativized Minimality. For instance, the attractees/targets in (37) start out in two different phases, and therefore never enter into a phase-internal symmetric c-command relation.[26]

(37) **Where$_k$* do you wonder [$_{CP}$ who said [$_{CP}$ that we had met t_k]]*

Thus, the analysis of (37) has to be relegated to the Generalized MLC, which in fact correctly prohibits attraction across the intervening wh-phrase *who*.

4.2. Independence II: The LCA-reduction

In section 4.1. it was argued that the Generalized MLC is independent from the LCA-reduction of the MLC. But does the reverse also hold, i.e. are there cases which can only be captured by the LCA-reduction? Although the answer is contingent on the specific assumptions one adopts about the interaction between the Generalized MLC and phases, it seems to be positive. It can therefore be concluded that both the LCA-reduction and the Generalized MLC control at least partially distinct domains.

A first indication for the independence of the LCA-reduction comes from considerations pertaining to successive cyclic movement in multiple questions such as (38). In (38), the EPP-feature on v˚ attracts the object to SpecvP, resulting in (38)b:[27]

(38) **What did who buy*

a. Step 1: *[$_{vP}$ who v˚ [$_{VP}$ buy what]]*
EPP

b. Step 2: *[$_{vP}$ **what$_i$** [$_{vP}$ who v˚ [$_{VP}$ buy **what$_i$**]]]*
T_{vP} = {<who, *what*>, <*what*, who>} ⇨ ✘LCA

Observe to begin with that the relation between v˚ and *what* neither falls under the reign of the LCA, which does not apply to EPP-movement (see discussion below examples (9), (23) and (36)), nor is it regulated by the MLC. In (38)b, the object is the only category that can be attracted by v˚ in the first place, because the subject cannot check features on the head of the projection it originates in. But since there is no other potentially intervening DP which could possibly eliminate the EPP-feature on v˚, the MLC can - in absence of competition - not apply. (38)b will, however, be filtered out by the LCA-reduction, as the three vP-internal occurrences of the two wh-phrases introduce a symmetric pair in the T-set. Thus, the vP-internal relations in (38) are captured by the LCA, but cannot be accounted for by the Generalized MLC, suggesting that the former is independent from the latter.

The argumentation above is not conclusive, though. As it turns out, at a later stage of the derivation, (38)b can equally be excluded by the MLC. After the wh-subject has raised to SpecTP ((39)a) and the interrogative C˚ has been merged ((39)b), the wh-subject in SpecTP is closer to C˚ than the VP-internal object. It follows that C˚ can only enter an Agree[28] relation with the subject, accounting for the contrast.

(39) *Who bought what*

a. *[$_{TP}$ **who$_i$** [$_{vP}$ what [$_{vP}$ **who$_i$** v˚ [$_{VP}$ buy what]]]]*

b. *[$_{CP}$ **C˚$_{[wh]}$** [$_{TP}$ **who$_i$** [$_{vP}$ what [$_{vP}$ who$_i$ v˚ [$_{VP}$ buy what]]]]]*
Agree

Consequently, a more reliable diagnostic for differentiating between the predictions generated by the LCA and the MLC has to be based on contexts that do not involve overt subject shift to SpecTP. Such environments are provided by subject *in-situ* languages such as German.

German is generally described as a language which lacks Superiority in simple clauses (see (40)a). However, as observed by Wiltschko (1998), there is an intriguing exception to this generalization. If the subject has to be parsed into a vP-internal position, as in (40)b, it becomes all of a sudden possible to detect robust reflexes of Superiority (the control in (40)c is marked for some speakers, but clearly preferable to (40)b)[29]:

(40) a. *Wen hat [$_{TP}$ wer [$_{vP}$ oft gesehen]]*
who$_{ACC}$ has who$_{NOM}$ often seen
'Who saw who often?'

b. *?*Wen hat [$_{vP}$ oft [$_{vP}$ wer gesehen]]*
who$_{ACC}$ has often who$_{NOM}$ seen

c. *Wer hat [$_{vP}$ oft [$_{vP}$ wen gesehen]]*
who$_{NOM}$ has often who$_{ACC}$ seen

This finding is directly compatible with the LCA-account, but does not fall out from the MLC. As illustrated by (41), object movement to the edge of vP violates the LCA (Step 2). In line with what has been said about (39), the MLC does not apply to vP-internal movement, because the subject and the object do not compete for the phase-initial position. Crucially, (41) differs from (39) in that the ill-formedness of (41) cannot be captured by the MLC at a later point in the derivation. Subsequent to merger of the interrogative C˚ at Step 3, the object at the edge of vP is closer to C˚ than the *in-situ* subject, and nothing should accordingly block fronting of the object:

(41) *?*Wen hat [$_{vP}$ oft [$_{vP}$ wer gesehen]]*
who$_{ACC}$ has often who$_{NOM}$ seen
'Who saw who often?'

Step 1: *[$_{vP}$ oft [$_{vP}$ wer wen gesehen]]*
Step 2: *[$_{vP}$ **wen** [$_{vP}$ oft [$_{vP}$ wer **wen** gesehen]]]*
T_{vP} = {<wer, *wen*>, <*wen*, wer>} ⇨ ✘LCA

Step 3: $[_{CP}\, C^{\circ}$..... $[_{vP}$ ***wen*** $[_{vP}$ *oft* $[_{vP}$ *wer* ***wen*** *gesehen*$]]]]$ ⇨ ✔MLC

Thus, the Superiority violation in (41) must be computed locally, inside the vP. This result matches the predictions of the LCA, but cannot be derived from the MLC-account.[30]

To recapitulate, in section 4.1 and 4.2 it was argued that the combination of the Generalized MLC and the LCA-reduction of the MLC yields a consistent system. An initial survey indicated that the two principles make different contributions, supporting the view that they are independent. On the one side, the Generalized MLC proves to be broader than the LCA-reduction in some domains (Merge over Move, Case Freezing, Superraising, long distance Superiority and Relativized Minimality), and subsumes its effects in others (local Superiority). On the other side, there is at least one group of contexts - Superiority in German - in which the LCA imposes requirements that cannot be expressed by the MLC.

4.3. Dominating Islands

This final subsection addresses environments which prove recalcitrant for the standard defintion of the MLC, and specifies how the Generalized MLC remove this obstacle.

According to a well-supported conjecture, Superiority effects are not only induced by c-commanding, but also by dominating interveners (Takano 1995; Kitahara 1995; Müller 1998):

(42) a. ??*What did who buy t?* (Sauerland 2000)
b. ??*Who did you buy [which book of t]?*

The LCA analysis fails to exclude such contexts in which one target dominates the other, because it functions as a filter for possible c-command relations among attractors/attractees only. The Generalized MLC,repeated below, integrates a suitable definition of closeness, though, which is broad enough to generalize to dominating islands such as (42)b:[31]

(4) **GENERALIZED MINIMAL LINK CONDITION**
For any α, $\beta \in D_{Tree} \cup$Numeration and for any heads K, L

K ATTRACTS$_{Def}$ α iff
a. K potentially checks α and
b. there is no β such that K potentially checks β and
β can be merged later than α, and (Top-down)
c. there is no L such that L potentially checks α and
L can be merged earlier than K (Bottom-up

(5) K POTENTIALLY CHECKS$_{Def}$ α iff
a. K and α share (a relevant subset of) features and
b. If α is merged, K and α satisfy the structural requirements for feature checking (c-command or Spec-head relation)

According to the top-down clause of the Generalized ((4)b), β intervenes in a potential checking relation between a head K and a category α if β is merged later than α (and not if β c-commands α, as is stated in the standard version of the MLC). Since all nodes dominating a potential target of movement are by definition merged later than that potential target, these node block displacement (given suitable feature specification). As a consequence, *who* in (42)b cannot cross over the containing wh-phrase *which books.* Thus, the Generalized MLC - more precisely, the use of derivational c-command in the definition of the Generalized MLC - naturally captures intervention effects induced by dominating interveners.

5. Conclusion

The present study explored some consequences which result from an extension and a reduction of aspects of the MLC. It was argued that a widening of the domain of the Attract relation together with a loosening of the definition of closeness leads to a unified analysis of a variety of phenomena (Merge over Move, Case Freezing and Superraising) in terms of a generalized version of the MLC. Apart from its extended empirical coverage, the generalized MLC was also seen to be supported by its ability to remove an imbalance in the definition of the domains of Move and Merge. The second part of the paper considered the prospects of reducing a subset of MLC-effects to an antisymmetry algorithm inspired by the LCA. At least at first sight, this reinterpretation of some generalizations about movement not only seems to offer a promising variety of new analytical options, but also might help to prepare the foundation of a system for the formation of syntactic trees which is no longer informed by the impermeable dichotomy Move vs. Merge. The LCA-reduction also instigates various new questions, among them the proper taxonomy of locality violations (local vs. long-distance), and the detailed nature and structural organization of the features involved in movement.

Notes

1. I would like to thank Elena Anagnostopoulou, David Pesetsky, Norvin Richards, Wolfgang Sternefeld, and audiences at McGill University, MIT, the University of Potsdam, the University of Thessaloniki, the University of Urbino, and the University of Tübingen for suggestions, discussion and comments. This work was supported by an APART grant by the Austrian Academy of Sciences.

2. Economy conditions on optional operations, such as QR, Quantifier Lowering and possibly scrambling, which co-determine interpretation but do not affect the well-formedness of the output string will be disregarded here. See Fox (2000) and Sauerland (2000), among many others, for discussion.

3. For discussion of principles which minimize the number of movement steps, such as Fewest Steps, see e.g. Collins (1996) and Zwart (1996).

4. A reviewer points out that (2) involves two different notions of "attract", one referring to an operation triggering movement (left side of biconditional), the other to the licensing condition (right side of biconditional, i.e. (2)a and (2)b). The problem disappears in the revised version below.

5. On the relativization of the closeness relation to minimal domains see Anagnostopoulou (2003), Chomsky (1995) and Collins (1996).

An anonymous reviewer points out that (3), which defines closeness in terms of possibly symmetric c-command, entails that K can attract neither α nor β, if α and β c-command each other. Note however that in contexts of symmetric c-command, α and β also differ in bar-level. If α is a head and β is its complement, then β is an XP. (In adjunction structures, the nodes structurally differ w.r.t. the inclusion/exclusion relation.) Assume, as seems natural, that the Attract relation is defined for features on K, and not for the head itself, and that K's features are specified as to whether they attract heads or phrases (but see Alexiadou and Anagnostopoulou 1998). It follows that if α and β symmetrically c-command each other, a given feature on K may either attract α or β, but not both. Turning to the crucial step, (2)a postulates that the MLC only considers potential interveners (β's) which *can* be attracted by K. Thus, in contexts in which α and β symmetrically c-command each other, (2)a disregards β because α and β are distinct in bar-level and categories of distinct bar-level do not constitute potential interveners in the first place. Hence, clause (3)a of the definition of closeness does not have to be supplemented by an antisymmetry requirement.

6. The poor current understanding of the scope of Merge over Move necessitates further research in order to substantiate these assumptions. There are e.g. various contexts involving expletives which fail to lend themselves to an analysis in terms of Merge over Move. For one, Frampton (1996) and Wilder and Gärtner (1996) discuss pairs as in (i), in which Merge over Move at first sight appears to undergenerate. (i)b should block (i)a, since *there* insertion precedes movement only in the former case.

(i) a. ***There** was [a rumor that **a unicorn**$_i$ is t_i in the garden] in the air.* (Move subject)
b. *[A rumor that **there** is a unicorn in the garden] was in the air.* (Merge expletive)

There is an important difference between (i) and the classical examples (1), though. Only the sentences in (i) contrast in interpretation, as can be inferred from the fact that different clauses need to satisfy the definiteness restriction in (i)a and (i)b, respectively. Given that the economy metric only compares synonymous derivations (Reinhart 1997), (i) does not pose a problem since (i)a and (i)b fail to compete.

Furthermore, a reviewer cautions that (ii) contradicts the Merge over Move condition:

(ii) a. *There has been [$_{XP}$ **a book**$_i$ put **t_i** on the table]* (Move object into SpecXP)
b. ****There**$_i$ has been [$_{XP}$ **t_i** put a book on the table]* (Merge expletive in SpecXP)

(ii) might lend itself to an analysis in terms of subnumerations (given that the subnumeration for the XP phase does not include the expletive; for arguments that passive vP's are phases see Legate, to appear).

7. The definitions are only an approximation which still require further refinements. It must e.g. be ensured that every step in the derivation adheres to the Theta Criterion, resulting in cyclic evaluation as in Epstein et al (1998); otherwise, MLC conform derivations which violate the Theta Criterion would block their well-formed competitors. Another way to express the intuition that a head needs to attract the 'freshest category' was kindly suggested to me by Wolfgang Sternefeld:

(i) K attracts α from the tree or the numeration iff
a. K potentially checks α and
b. if there is a β, such that K potentially checks β it must hold that the tree with β in SpecKP does not contain longer chains than the tree including α.

(ii) K potentially checks α iff
K and α share (a relevant subset of) features

8. I assume that symbols are combined with their features already in the numeration.

9. If the MLC is taken to restrict the relation Attract (Chomsky 2000, 2001), the same considerations carry over to conditions on Attract. On locality differences between Attract and Move, see Bobaljik and Wurmbrand (2002) and Ochi (1998).

10. The edge of a phase α, where $\alpha \in \{vP, CP\}$, consists of the head of α and its specifier(s) (see Chomsky 2000, 2001).

11. Given that the features on T° and on the DP in SpecDP remain accessible to heads in the next phase up, it is plausible to assume that the potential checking relation between T° and DP does so, too.

12. Aspects of this proposal are reminiscent of the 'defective intervention effect' discussed in Chomsky (2000, 2001). According to Chomsky, a DP still functions as an intervener after its Case feature has been checked and deleted, while on the present view, a head with a checked Case feature still may enter into a potential checking relation, and therefore block further movement. Thus, the present account generalizes defective intervention effect from DPs to heads.

13. The conflict could also be resolved by the assumption that the expletive and the DP subject never compete because they are distributed into two different subnumerations (for T_1P and T_2P).

14. The present conception differs from theories in which Move/Attract is conceived of as multiple application of Merge (Epstein et al 1998). In the latter models, the terms which are merged are internally complex copies, and therefore need to be syntactically derived in the working space first, while the present analysis rests on the assumption that terms can be directly attracted from the numeration.

15. For reasons of space preservation, the non-terminals dominating the terminals (❶, ②, etc...) are not graphically represented.

16. On the interaction between phases and the LCA see Richards (2001) and discussion below example (30).

17. On the relevance of feature identity see discussion of EPP below (23) and below (36).

18. The current account is not compatible with the position that all operations at the edge of the lower phase are visible to the higher phase. Otherwise, the T-set of the higher phase would also contain the pair <❶,③>, and movement would be blocked in general.

19. But see also Epstein (1998), Nunes (1996) and Richards (2001) for applications of the LCA to movement.

20. For a proposal which locates wh-subjects in SpecTP see Pesetsky (1989). Such an analysis is e.g. supported by the absence of *do*-support in subject questions.

21. In languages which lack subject-object Superiority, such as German, it has been assumed that the object moves out of the vP prior to fronting to SpecCP (see Haider, this volume, and Müller, this volume). An analysis along these lines is fully compatible with the LCA-based account, given that movement out of the vP is triggered by a feature distinct from [wh]. For discussion see §4.2 below.

22. As pointed out by Norvin Richards (p.c.), this prediction is not contingent on the use of the LCA, but would equally arise on the standard definition of the MLC.

23. In principle, it is conceivable that chain formation and movement are subject to different conditions, among them the cycle. In absence of evidence to the contrary, I will assume, however, that chain formation as well as movement observe strict cyclicity.

24. For a proposal to relate Superiority to Weak Crossover with functional readings (Chierchia 1992), see Hornstein (1995). On functional readings see e.g. Engdahl (1986), Groenendijk and Stockhof (1984), Hagstrom (1998), Reinhart (1997), Tsai (1994) and Winter (2003).

25. Case/Phi-features on subjects and finite T° do not induce LCA violations on the following two assumptions: (i) Case/Phi-features are embedded below EPP in a hierarchical structure (in analogy to phonological feature geometries; Clemens 1985). (ii) Only the topmost feature is visible to the LCA.

26. Note that symmetric c-command relations cannot be introduced by successive cyclic adjunction, as in (i). This hypothesis creates problems for simple object questions, discussed in connection with (35).

(i) ....[$_{CP}$ ***where*** *who* [$_{vP}$ ***where*** *said* [$_{CP}$ *that we had met* ***where***]]]

27. I assume that movement to the edge of vP does not tuck in (McGinnis 1998; Anagnostopoulou 2003; see also Ura 1996). Support for this claim comes from Icelandic, where floated quantifiers associated with the subject need to surface to the right of object shifted categories (Holmberg and Platzack 1995).

28. Recall that wh-subjects surface in SpecTP, since movement to SpecCP is prohibited by the LCA (see (21)). Thus, the MLC licenses an Agree relation between C° and SpecTP in (39)b.

29. At first sight, (40)b might be taken to indicate that *oft*/'often' can only be generated as a VP-adjunct, and therefore has to follow the subject, which originates in SpecvP. This attractively simple analysis fails in other domains, though. In German, all subjects undergo short movement to the left of sentential negation (see (i)). Moreover, sentential negation follows temporal adjuncts such as *oft* (see (ii)):

(i) *weil {wer/jemand} nicht {*wer/*jemand} gekommen ist*
since someone/someone not someone/someone arrived is
'since someone didn't come'

(ii) *weil sie {*nicht} oft {nicht} geschlafen hat*
since she not often not slept has
'since she has often not slept'

Adopting the null-hypothesis that negation needs to combine in semantics with a node denoting a proposition, the lowest possible node it can attach to is vP. It follows that *oft*/'often' must be generated at least as high as a vP-adjunct. Thus, the simple explanation for (40)b in terms of a base-order conflict cannot be maintained.

30. I follow Wiltschko (1998) in assuming that subject raising to SpecTP obviates Superiority because vP-external subjects are D-linked. The accountis also compatible with other analyses, though.

31. The published version of this paper contains the incorrect claim that the Generalized MLC does not cover dominating islands. Partially, this mistake is due to bad editing on my part, resulting in antiquated versions of clauses (4)b and (4)c. These older versions still used a representational version of c-command, which indeed does not extend to dominating islands.

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