Object Shift and Scrambling in North and West Germanic: A Case Study in Symmetrical Syntax

by

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SUMMARY / ABSTRACT

This thesis examines the well-known phenomena of (Germanic) Object Shift and Scrambling from the perspective of a strictly minimalist, purely symmetrical, phase-cyclic syntax, arguing that their characteristic shape-conserving property derives straightforwardly from the fundamental 'symmetry-breaking' strategies that ensure the linearization of such a system.

Chapter Two offers a unified analysis of Object Shift and Scrambling as parametrically determined variants of a single, primitive, head-complement ordering parameter – a version of Kayne's LCA operative at the syntax-PF interface. The verb-object order-preservation effect known as *Holmberg's Generalization* is immediately implied. The obligatory nature of Object Shift with weak pronouns is then shown to provide direct evidence that the phase boundaries defined by Chomsky's *Phase Impenetrability Condition* (PIC) delimit a phonological as well as syntactic unit.

Chapters Three and Four explore the further technical and theoretical ramifications of the proposed linearization parameter for the derivational system of Chomsky's *Minimalist Inquiries* and *Derivation by Phase*.

In Chapter Three, I argue that the coexistence of order-preserving and order-permuting movement types in a single grammar lends further support to Chomsky's phases (as linearization domains), and indicates the presence of a defective *v* phase-head selecting passive/unaccusative VPs. I make the simple observation that those movement types that invert basic order (e.g. passivization, *wh*-movement) are also those that target a position outside the original phase, whereas shape-conserving movement (OS/Scrambling) is 'short distance', i.e. phase-internal. This generalization, which I reduce to the periodic 'forgetting' of derivational information under the PIC, entails that cyclic linearization proceeds in a manner diametrically opposed to the 'resetting' algorithm of Fox & Pesetsky (2003 et seq.). I offer some modifications to Chomsky's phase theory that remove the weak/strong phase distinction and yield a unified, nonstipulative, lexical-array-based reformulation of the PIC. Spec-*v* now emerges as the only possible merge-site for (*there*-type) expletives in the Probe-Goal-Agree system. This low merge-site for expletives solves a number of technical, conceptual and empirical problems faced by standard (Merge-TP) approaches and allows a superior analysis of Transitive Expletive Constructions.

Chapter Four investigates the role of Case theory in the proposed account of linear shape effects. I argue that Case features assume a central importance at the syntax-PF interface in regulating the timing of Transfer/Spell-Out, so that an active element is locally identified as nonfinal for PF/linearization purposes. The predicted interplay between movement, shape, and phasal Spell-Out accounts for all the empirical facts observed across the Germanic paradigm. Finally, to support the case for Case still further, a defence is mounted for the indispensability of Case features in the computation of LF. On the basis of the *v*P-analysis of expletives proposed in Chapter Three and a strong form of the activeness hypothesis, I propose a novel, unified analysis of Person-Case and definiteness restrictions that derives and explains the previously poorly understood commonalities in behaviour between expletives and (Icelandic) quirky case. Defective intervention (and the Match/Agree distinction) is eliminated, dissolving into a heterogeneous range of phenomena that reduce, variously, to PIC effects, Agree-(in)activeness, the timing of optional-EPP-driven movement, and, in the case of Match-driven Move and multiple Agree, a parametrized approach to φ-completeness.

A much simpler, neater system emerges, one in which nonlexical macroparameters (such as the proposed head-directionality parameter) find a natural home as interface desymmetrization strategies that dispose of superfluous and illegible (symmetric) syntactic information.

PREFACE/DECLARATION

This dissertation is the result of my own work and includes nothing which is the outcome of work done in collaboration with others except where specifically stated in the text.

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TABLE OF CONTENTS

Chapter One

Introduction:

The defining properties of Object Shift and Scrambling

This thesis investigates the core properties of Object Shift and Scrambling in Germanic as part of a more general theory of linearization and Spell-Out. The main contention is that these properties can only be properly understood if syntax is a purely symmetrical system, with interpretation at the interfaces a process of desymmetrization that discards the ambiguous and contradictory syntactic information that arises from that basic symmetry. Object Shift and Scrambling provide a particularly revealing window on this process, as this thesis aims to show. By way of a prelude, this opening chapter offers a brief summary of the nature of that window.

Before proceeding, I should issue a small caveat and make clear what this thesis, and this chapter in particular, is *not* intending to do. Object Shift and Scrambling is a vast topic with a huge literature, and whilst I will lay out in broad terms the empirical domain of this enquiry below (section 1.1), I will not attempt a full summary of the rich descriptive facts, including all the dialectal microvariation that has been uncovered, or of the many enlightening analyses that have been brought to bear on those facts over the years. There is a lot to say in the chapters that follow, and only 80,000 words to say it in. I therefore forego the customary literature review, which would be redundant on two counts. Firstly, excellent summaries of the Object Shift/Scrambling phenomenon already exist, and I would refer the reader to Holmberg 1999, Thráinsson 2001 and Bobaljik 2002 for three recent detailed surveys and analyses, and to the many other references given below and in the bibliography. Secondly, my interest here is not so much on Object Shift/Scrambling in their own right but rather on what the basic patterns and properties of these operations reveal to us: in the first instance, about linearization (Chapter Two), and ultimately about other aspects of a minimalist syntax (phases in Chapter Three, and activeness in Chapter Four). My contribution to the Object Shift/Scrambling literature, if any, will therefore be a small one, as I will not be attempting to explain all the descriptive facts or mapping out any new territory as far as the empirical picture is concerned.

I will also forego the customary summary of my theoretical assumptions, again due to its redundancy. My chosen framework is Chomsky's Principles-and-Parameters Theory and, in particular, the minimalist, derivational architecture of *Minimalist*

Inquiries (MI; Chomsky 1998) and *Derivation by Phase* (DbP; Chomsky 1999).[1] I will therefore simply assume familiarity with these works. However, throughout the thesis I will also introduce and explain any technical terms and theoretical machinery as and when I first make use of them. In particular, a summary of the workings of the Probe-Goal-Agree system of MI/DbP may be found in Chapter 3, section 3.2.2. In the next section, I will set out my specific assumptions relating to the analysis of OS/Scrambling as, specifically, an optional movement phenomenon.

1.1 OBJECT SHIFT, SCRAMBLING, AND MOVEMENT

The empirical phenomenon under investigation is a class of short-distance object-displacement operations that move the internal argument (IA) out of its thematic base position inside VP to a VP-external position that is lower than TP but above *v*/VP-adjoined adverbial material, such as negation.[2]

Since Holmberg (1986), such object displacement in the Scandinavian languages (all typologically 'VO', i.e. head-initial in base order) has been known as 'object shift' (OS) in the literature. A further distinction is usually drawn between Mainland Scandinavian (MSc; (1a)), comprising Danish, Norwegian and Swedish, and Insular Scandinavian (1b), comprising Icelandic (and older/conservative dialects of Faroese: see Jonas 2002, Thráinsson 2003, Richards & Biberauer 2004b for recent discussion and analyses).

(1) a. *Hvorfor læste Peter **(den/*bogen)** ikke **(bogen/*den)**?* [Danish]
Why read Peter (it/*the-book) not (the-book/*it)

b. *Hvers vegna las Peter **(hana/bókina)** ekki **(bókina/*hana)**?* [Icelandic]
Why read Peter (it/the-book) not (the-book/*it)

[adapted from Vikner 1994b: 501-2]

The key difference between the two paradigms is that only Icelandic allows full DPs to undergo OS, and that only full-DP OS shows optionality: in both (1a) and (1b), OS is obligatory with weak (i.e. unstressed, unmodified, uncoordinated) pronouns. The

[1] Throughout the rest of this thesis, I will use the following abbreviations to refer to Chomsky's more recent works: MP = Chomsky 1995, MI = Chomsky 1998, DbP = Chomsky 1999, BEA = Chomsky 2001.
[2] Negation (*ikke*, *ekki*, *nicht*, etc.) is standardly taken to mark the left edge of *v*/VP in the Germanic OS literature; see, in particular, Collins & Thráinsson 1996 and Bobaljik 2002 for discussion of such adverbial left-edge diagnostics.

unifying characteristic of this paradigm is that OS is in every case parasitic on V(erb)-movement. Where V does not leave VP, neither can the object:

(2) a. *Hvorfor har Peter (***den**) ikke laest (**den**)?* [Danish]
b. *Hvers vegna hefur Peter (***hana**) ekki lesið (**hana**)?* [Icelandic]
c. *Hvers vegna hefur Peter (***bókina**) ekki lesið (**bókina**)?*
Why has Peter (*it/*the-book) not read (it/the-book)

Here, the perfect auxiliary has raised from T to C; its trace/copy in T precludes V-to-T movement. Hence OS is unavailable. The observation that V-movement holds as a necessary condition for all OS (and perhaps a *sufficient* condition for weak-pronominal OS: cf. Vikner 1994b: 502-6 and Chapter Two, section 5.2) is known as Holmberg's Generalization (HG). OS HG effects are the major empirical focus of this thesis.

Turning to 'Scrambling', a term introduced by Ross (1967) and which has been used to describe various free word-order phenomena across the world's languages, we are concerned here with the configurational scrambling of constituent order seen in the typologically 'OV' (head-final VP) Germanic languages (German, Dutch, Afrikaans, etc.).

(3) <u>German</u>
a. *Peter hat (**es/das Buch**) nicht (**das Buch/*es**) gelesen (***es/*das Buch**)*
Peter has (it/the book) not (the book/*it) read (*it/*the book)
b. *…daß Peter (**das Buch/es**) nicht (**das Buch/*es**) las (***das Buch/*es**)*
…that Peter (the book/it) not (the book/*it) read (*the book/*it)

As with OS, unscrambled pronouns must be interpreted as stressed (contrastively focussed) to be licit; full DPs may be shifted but, like Icelandic, this is only felicitous if the DP can receive a specific, discourse-linked interpretation (i.e. one that is incompatible with receiving the nuclear stress assigned to the V-sister position; cf. Cinque 1993). However, Scrambling (in our sense) differs from OS in one crucial respect: OV Scrambling, at least on the basis of surface order, is not subject to HG. Certainly, if we assume a medial (and not head-final) T-position, the main verb in (3b) remains in situ; in any case, (3a) involves a nonfinite form of the main verb on a par with (2), yet unlike the latter still exhibits displacement over negation.

The key properties of these object-displacement phenomena are summarized in (4).[3]

(4) Table 1: **Object-displacement properties**

	Object Shift	**Scrambling**
1. Holmberg's Generalization (V must leave VP)	YES	NO
2. Obligatory with personal pronouns	YES	YES
3. Possible with full DPs	NO *(MSc)* YES *(Icel.)*	YES
4. Affects discourse interpretation (defocalization)	YES	YES

Properties 1-3 are the main focus of this thesis and, in particular, of Chapter Two. However, it is property 4 that unifies OS and Scrambling as syntactic 'cognates'; that is, they are qualitatively the same operation (their differences in terms of properties 1-3 will be derived as epiphenomena of a basic VO/OV directionality parameter in Chapter Two). It is also property 4 that provides the principal motivation for treating OS/Scrambling as *movement* rather than as base-generation: only a movement account allows a purely local and lookahead-free implementation of optional operations, as is desirable in a "dumb", blind, minimalist syntax (cf. DbP:32). I will briefly discuss this point here (I take up these issues in more detail – technical, conceptual, and empirical – in sections 1 and 2 of Biberauer & Richards 2004, and also in section 2.5 of Chapter Two).

In the system adopted here (that of DbP:34), the interpretive effects associated with OS/Scrambling are a direct consequence of the very optionality of this operation. The landing site of OS/Scrambling is a nonthematic specifier of transitive *v* (*v** in DbP; this specifier would be a Case-/A-position on pre-Probe-Goal assumptions). The *v** head is a phase head that is obligatorily (i.e. lexically) associated with a φ-set (probe) with which the IA Agrees, and *optionally* associated with an EPP-feature. By Full Interpretation (essentially, the minimization of superfluous symbols), the addition of this optional EPP-feature must be motivated in the form of additional interpretive effects at the interface: that is, following the logic of Reinhart 1995 and Fox 2000, a 'marked' interpretation that would not otherwise be available. As a formal syntactic trigger, the optional EPP-feature both localizes the application of optional operations and removes the optionality from the computational system itself, placing it back in the

[3] A third type of object displacement exists in Icelandic (and, to a lesser extent, MSc). This affects only quantified objects and is not subject to HG (see van der Wurff 1999, Svenonius 2000b for discussion). Such quantified object raising (a short-distance QR/A-bar operation) falls into place under the analysis of non-shape-preserving movement in Chapters Three and Four, and so will be set aside in our discussion and analysis of OS/Scrambling and HG effects.

numeration (where it more naturally and unavoidably belongs). The shifted and unshifted derivations in (1)/(3), then, are the products of minimally different numerations (i.e. one with, and one without, the relevant EPP-feature), in line with the idea that a single numeration determines a single output. There is thus no lookahead or semantics-sensitivity in the narrow syntax, i.e. in the application of the syntactic operation itself: OS is the cause, not the effect, of the old/specific/topical/defocalized interpretations that render it felicitous (and conversely, such interpretations are the effect, not the cause (trigger), of OS).

Base-generation accounts of OS/Scrambling certainly provide some of the most innovative, compelling and convincing analyses of OS/Scrambling in the literature: these include Neeleman 1994, Bošković & Takahashi 1998, Neeleman & Reinhart 1998, Neeleman & Weerman 1999, and Fanselow 2001. It could well prove trivial to loosen the notions of thematic domain and/or the Projection Principle (or its minimalist equivalent; cf. Brody's (1993, 1994, 1995, 1998) Generalized Projection Principle) in order to extend the domain of θ-assignment to what would standardly be regarded as nonthematic positions. The real problem with these accounts, however, is that the connection between base generation in a noncanonical position and the associated 'marked' or new interpretations must rely either on the global comparison and blocking of derivations (or their representational outcomes; cf. the complex notion of 'reference set' in Reinhart 1995, Neeleman & Weerman 1999, etc.), or on a semantic (LF-driven) determination of base positions, implying a clairvoyant syntax (lookahead). In short, these approaches lack (and are arguably incompatible with) a local evaluation metric of markedness, as both the marked and unmarked derivations are the product of a single numeration. EPP-features, and thus 'extra' movement operations, provide exactly such a metric. I thus pursue a strictly local, feature-driven, movement-based account of these optional operations within the framework of DbP.

Of course, movement accounts of OS/Scrambling face an inevitable question that base-generation accounts (to their considerable advantage) do not: namely, what kind of movement is it? The literature on OS and Scrambling, particularly the GB and early minimalist literature, has seen many attempts to reduce these operations to the class of A- and/or A-bar movement. Whilst OS is generally assumed to be A-movement (e.g. Vikner 1994b, Holmberg & Platzack 1995), Scrambling has been variously argued to be A-movement and A-bar movement (see Müller & Sternefeld 1994, Vikner 1994b for debate). The usual line of argumentation is to set out the defining properties of the two types of movement (A/A-bar) and to show that OS or Scrambling does or does not

conform to these. I will not attempt to exemplify each A/A-bar property for OS and Scrambling, both for reasons of space and because my purpose here is not to argue for either A- or A-bar movement, but simply to show the lack of an isomorphic correspondence between OS/Scrambling and these movement types. Instead, I present a tabular summary of the judgments standardly given in the literature (in so far as some consensus has been reached – nearly every one of the entries in these tables has been contested, which is in itself indicative of a deep-seated flaw in the very enterprise of analysing OS/Scrambling in this way).[4]

(5) Table 2: **A'-movement**

A-bar properties	**Object Shift**	**Scrambling**
Licenses parasitic gaps	NO	YES
Weak-crossover effects	NO	NO
Reconstructs (does not feed binding)	YES	NO
Affects any category (XP) [argument or adjunct]	NO	NO
Possible rightward movement (e.g. extraposition)	NO	NO
Long-distance possible (i.e. not clause-bound)	NO	NO
Discourse effect (topicalization, focalization, etc.)	YES	YES

(6) Table 3: **A-movement**

A-properties	**Object Shift**	**Scrambling**
Case-driven	YES/NO	NO
Affects only arguments (θ-bearing DPs, PPs...)	YES	NO
Feeds binding (does not reconstruct)	NO	YES
Fed by V-raising (equidistance)	YES	NO
Predicate formation (applies where no external θ)	NO	NO

It is immediately apparent from (5)-(6) that neither OS nor Scrambling fits in with the classical A-/A'-schema. Nor do they even agree in which A/A'-properties they *do* show. Further, it is clear that the key characteristics of OS/Scrambling (cf. (4)) are typical of (and captured by) neither the A- nor the A'-movement type. Not one of the properties in (5) or (6) is definitional for OS/Scrambling, which exhibit unique properties of their own. Foremost amongst these is the VO/OV-conditioned HG effect (the preservation of linear head-complement shape; cf. 1.2 below). Given that the traditional A/A-bar movement typology is no longer even compatible with or well defined under the assumptions of current minimalist syntax, especially Probe-Goal feature valuation, generalized EPP, and Bare Phrase Structure (see Chapter Two, section

[4] The OS judgments in tables 2 and 3 come mainly from Holmberg 1986, Holmberg & Platzack 1995. The Scrambling judgments are taken mainly from a range of papers in the volume edited by Corver & van Riemsdijk (1994).

2.6), it is an incoherent and futile strategy to seek to define the phenomena in (1)-(3) in terms of the (at best) secondary properties in (5) and (6). It is only by freeing OS/Scrambling from this irrelevant theoretical strait-jacket and taking them on their own terms, as potentially a *third* type of XP-movement (cf. Holmberg & Platzack 1995) with the properties summarized in (4), that these properties can be fully understood and explained. This thesis therefore takes the properties in (4) (= Table 1) as basic and aims to capture them directly, rather than forcing OS/Scrambling to be something that they patently are not.

1.2 OVERVIEW OF CHAPTERS AND PROPOSALS

This thesis focuses on (what I propose is) the most basic property of OS/Scrambling, one that subsumes HG in Table 1 and sets OS/Scrambling further apart from 'true' A- and A-bar movement (which both lack it). This defining property, namely the preservation of linear head-complement 'shape' (ordering relations),[5] emerges as a direct consequence of a symmetrical system in which basic order (Verb-Object [VO] and Object-Verb [OV]) is a linearization effect imposed only at PF. Such linearization is achieved by means of a natural and independently motivated directionality parameter, reminiscent of the head-parameter of GB but reconciled with Kayne's LCA: it is a PF ordering strategy rather than a syntactic (phrase-structural) constraint. In line with the hypothesis that the syntax is purely symmetrical, the effect of this parameter is to ensure that objects appear on a particular side of their selecting head only at PF, the natural locus of order and linearization: whether a head selects its complements to its left or to its right is not a syntactic issue in the narrow sense, as syntax only deals in hierarchy (see 2.1).

More specifically, this parameter is a desymmetrization strategy for deleting conflicting c-command instructions in the manner of Epstein et al 1998. It allows OS and Scrambling to be qualitatively identical from the syntactic perspective (i.e. EPP-driven movement to spec-*v*P; cf. 1.1 above) whilst preserving different orders at PF: VO order in the case of OS (HG effects) and OV in the case of Scrambling (anti-HG effects). Moreover, since the shape-preservation effects are purely linear in nature (i.e. it is *PF*-shape that is imposed and preserved), the HG kind of shape preservation emerges

[5] See, e.g., Collins & Thráinsson 1996, Müller 2000, 2001, Fox & Pesetsky 2003, Williams 2003, Bobaljik 2004.

as a qualitatively *different* phenomenon from syntactic or structural shape preservation (i.e. 'crossing' versus 'nesting' with interacting movements). The latter arguably reduces to locality constraints on movement (Attract Closest, MLC, etc.) in combination with a certain view of the Extension Condition (Chomsky's (MP:234) featural cyclicity, and N. Richards's (1997) "tucking-in"). Anagnostopoulou (2004) argues convincingly that all but the central verb-raising component of HG can be derived in this way. For instance, the preservation of relative order between the indirect and direct object under OS in double-object constructions is a locality effect on syntactic movement and thus distinct from the requirement that the verb move in OS constructions (contra the attempted unification in Holmberg 1999). The latter requirement remains something extra and unexplained (Bobaljik 2002, 2004 makes the same case). This thesis, then, is an attempt to derive what the syntax and locality cannot explain: the linear (PF), not structural (syntactic), head-complement shape-preservation effects captured under HG.

Chapter Two achieves this by means of the aforesaid head-directionality parameter, which is operative at the syntax-PF interface as a necessary device ensuring the linearization of a symmetrical syntax, and which serves to impose base order right across the structure (or at least within the phase: see Chapter Three). This parameter unifies a cluster of three properties, a conceptual advantage over many previous accounts: basic VO/OV directionality, +/− HG, and +/− OS. The differences between pronominal and full-DP OS (the former obligatory in HG environments, the latter optional in the sense given in 1.1 above) then lead to the proposal that the mapping to PF proceeds according to a phase-based derivation of syntactic structures (cf. MI/DbP/BEA), and that the patterns of OS obey a Phase Integrity Condition that constrains the relation between syntactic and prosodic phrasing. In short, weak pronouns appear precisely where a system of cyclic, phase-based spellout would predict them to appear. The system has all the benefits of allowing principled regulation of syntactic operations by PF, but without the vices of lookahead and PF-movement (such as that in Zubizarreta 1998, or Chomsky's (DbP) *Disl* and *Th/Ex* operations).

Chapters Three and Four open up the empirical and theoretical domain to explore the further implications of this view of the syntax-PF interface for the MI/DbP derivational system. In particular, I seek to develop a full answer to the question of how a single language system, linearized by the parameter in Chapter Two, can exhibit both shape-preserving movement (OS/Scrambling) and shape-inverting movement (A/A-bar movement 'proper'; cf. 1.1 above), i.e. why only some kinds of movement are subject to head-complement order preservation. I propose that the lack of shape effects with (e.g.)

passivization and *wh*-movement correlates with another crucial difference between these and OS/Scrambling: only OS/Scrambling are phase-internal, with both launch and landing site contained within the same phase. I argue that this points to a natural conclusion about cyclic linearization: shape is preserved *within* phases but not *across* them (precisely the opposite of the algorithm of Fox & Pesetsky 2003). Escaping a phase implies 'escaping shape'.

This account crucially relies on three components: (i) Chomsky's conception of the PIC and his extensional definition of phase heads as C and transitive *v**; (ii) the obligatory presence of a light-verb phase head with passive/unaccusative VPs (Chomsky's nontransitive/defective *v*); (iii) the 'PF-invisibility' of *nonfinal* positions, i.e. intermediate (phase-edge) landing sites. Chapter Three offers extensive motivation for (i) and (ii) by resolving some of the issues and criticisms that arise under Chomsky's phase theory. I propose a unified reformulation of the PIC that removes the arbitrariness and indeterminacy of the MI and DbP definitions. In light of this refinement, I show that defective *v* is indispensable as it provides the only possible merge site for expletives in the MI/DbP/BEA system. This, in turn, yields a simple and natural account of Transitive Expletive Constructions and, in particular, Bures's Generalization.

Chapter Four then seeks to formalize and explain (iii). I argue that Chomsky's notion of activeness, implemented in the form of unvalued Case features on goals, serves as a PF-instruction to delay the Spell-Out of active items. Phase edges are then discounted for the purposes of PF/linearization (i.e. the head-parameter) insofar as the head of that phase fails to deactivate the item which it has Agree-displaced to its edge. It follows that defective (φ-incomplete) phase heads have active (and thus PF-invisible) edges. Since this account is itself reliant on Chomsky's postulated Case (activation) features, Chapter Four concludes with a defence of these features in light of some recent criticism that has attempted to eliminate Case from the computational system. I argue that Case plays an indispensable role not only at PF (in the manner outlined above) but at LF too. To demonstrate this point, I propose a simple, transparent and unified analysis of the Person-Case Constraint and definiteness effects in expletive constructions, both of which emerge as Case Filter effects, and argue that Case renders redundant the unwanted and opaque complexities of an illogical and counterproductive weakening of the activeness hypothesis, namely 'defective intervention', which I eliminate.

We begin, then, with a symmetrical syntax and the question of linearization…

Chapter Two

Keeping Order at PF

2.1 Introduction: Symmetrical Syntax

One of the major goals of the Minimalist Program (MP, MI *et seq*.) is the elimination of redundancy, both from the theories we construct ('methodological' minimalism) and, more interestingly (and controversially), from the object of study itself ('substantive' minimalism). From this perspective, the requirement that the terminal elements of a syntactic object be associated with a linear order is an indispensable part of the theory, following by 'conceptual necessity' from the legibility conditions imposed at the PF interface if language is to be usable at all (speech unfolds in a temporal sequence and thus involves a linear string of sounds). In reducing the linearization requirement to an interface condition on PF representations, we thereby explain why such a requirement should hold; crucially, however, the linear ordering of syntactic structures *before* they reach the PF interface now requires extra motivation (there is also a redundancy in our system if precedence relations are established twice, i.e. in the syntax as well as at PF, with precedence simply mapping to precedence; cf. Chametzky 2000: 109). In the absence of evidence that order plays a role outside the PF wing of the grammar (cf. MP: 334), our null assumption is therefore as in (1), the central assumption of this dissertation.

(1) *Symmetrical Syntax*
Syntactic operations/relations make no reference to notions of linear ordering and directionality (cf. MP: 334; Uriagereka 1998: 217-8; Nunes 1999: 222-3)

If linear order is redundant at LF, then we can (and, therefore, should) eliminate it from the syntactic component of C_{HL}. In other words, order should be kept to PF. That being the case, the question arises as to *how* PF 'keeps order'. In this chapter, I attempt to identify the linearization strategies that PF employs and investigate their operation and interaction. The core word-order patterns associated with Germanic OS/Scrambling then come into play as a window on the linearization of a symmetrical syntax. Three linearization options are motivated by the data: a version of Kayne's *Linear Correspondence Axiom* (LCA); a revived and modified head-directionality parameter;

and prosodic (re)alignment. Together, the first two provide the default ordering strategy; the placement of weak pronouns is then subject to further conditions regulating the prosodic environment in which they can occur.

The chapter is organized as follows. In section 2.2, I introduce our principal ordering strategy, Kayne's (1994) LCA, in the context of its limitations when recast into Chomsky's Bare Phrase Structure (BPS). Section 2.3 proposes that a head-parameter should be implemented in order to overcome these limitations, and motivates such a move on theoretical, empirical and typological grounds. The LCA is then reconciled with the proposed head-parameter in section 2.4. Section 2.5 is concerned with the topic of weak-pronoun placement. A view of the PF interface is presented in sections 2.5.1-2 that paves the way for a phase-based explanation of the distribution of weak pronominal objects in section 2.5.3. Section 2.6 concludes with some speculations on the implications of the head-parameter for our understanding of different types of movement (including the A/A-bar distinction), and sets the scene for what follows in Chapters Three and Four.

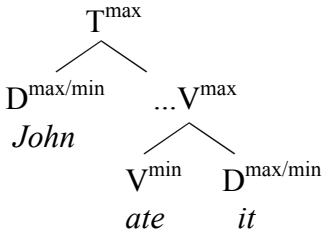
2.2 THE LCA AND BPS: A PROBLEM

As various authors have noted (see e.g. MP, Uriagereka 1998, Nunes 1999), Kayne's (1994) LCA, which we can formulate for present purposes as in (2), cannot be completely adapted into the BPS of Chomsky's Minimalist Program. In particular, the elimination of trivial (vacuous, unary-branching) projections in BPS means that mutual c-command obtains whenever two terminals (i.e. heads) are merged, such as at the base of the tree when V selects a pronominal (minimal maximal) complement, (3).

(2) *Linear Correspondence Axiom*

If α **asymmetrically c-commands** β then (the terminals dominated by) α **precede(s)** (the terminals dominated by) β

(3)



Since *ate* and *it* in (3) c-command each other, no linear order can be determined for this pair of terminals. To borrow a term from Moro (2000), this phrase-marker contains a *point of symmetry*.[1] Given that it is an empirical fact that predicates can select pronominal arguments, and a theoretical necessity that the bottommost pair of terminals at the base of every (sub)tree will be heads, we are forced to conclude that the LCA cannot be a constraint on phrase-markers themselves, i.e. a property of Narrow Syntax, but must be a *linearization strategy* operative only after Spell-Out in the mapping of syntactic hierarchy onto phonotemporal order (cf. MP: 340: "We take the LCA to be a principle of the phonological component that applies to the output of Morphology"). This recasting of the LCA as a PF-mapping strategy (cf. the operation *Linearize* of Nunes 1999) conforms to the general principle that the 'horizontal' dimension of time and sequential ordering is relevant only in the phonological component, so that the syntactic component of C_{HL} deals only in the 'vertical' dimension of hierarchical relations. We therefore have an empirical and theoretical argument in (3) *against* placing order in the syntax (supporting the conceptual argument *for* placing order at PF given in 2.1), reinforcing the intuitively plausible thesis stated in (1).

Furthermore, it is also clear that the unorderable structure in (3) must be 'repaired' if it is to converge at PF, which requires unambiguous linearization instructions. A number of proposals to this end have been made in the literature, including *movement* of one or both of the offending elements (MP: 337, Moro 2000), and *cliticization* of the one to the other (via head-adjunction in the syntax, leading to word-internal restructuring in the morphological component – see MP: 337, Uriagereka 1998, Nunes 1999). However, as both of these repair operations take place in the syntax, they involve a significant degree of lookahead to the PF-interface (where the 'unrepaired' derivation would ultimately fail to converge).[2] Ideally, the syntax should not have access to later stages of the derivation, as global comparison of entire

[1] The result is a *non-total* ordering in terms of Kayne (1994: 4). If, as argued below, it is c-command rather than asymmetric c-command that maps to precedence at PF, then the ordering of the pair (*ate, it*) in (3) is *non-antisymmetric*.

[2] The assumption that PF cannot drive syntactic operations ties in with the more general thesis, presented in section 2.5.1.3, that PF can only operate with the structures that the syntax provides to it: in particular, PF cannot build extra structure, that is, create new positions not licensed during the syntactic part of the derivation. Indeed, since PF converts syntactic hierarchical structure into a linear string, phonological operations like Zubizarreta's (1998) 'P-movement' and Chomsky's (DbP) 'Th/Ex' and 'Disl' are highly dubious – PF-movement, if it exists at all, should be restricted to highly local (i.e. string-adjacent) inversion operations (see also fn.46) or reduce to algorithms determining which copy in a syntactically-formed chain is spelt out (cf. Nunes 1999 and Bobaljik 2002 on the latter). The theory of OS/Scrambling proposed below will lead to the elimination of Th/Ex and Disl in Chapters Three and Four.

derivations involves greater computational complexity than a procedure of purely local determination (cf. Collins 1997).[3]

Therefore, I would instead like to propose a particularly simple alternative solution to the orderability issue, namely a VO/OV directionality parameter of the sort familiar from GB X-Bar Theory. In line with (1), this revived head-parameter does not constrain phrase-markers directly but is 'enforced' only at PF. We therefore avoid the conceptual problems associated with lookahead, as our PF-problem (*viz*. unorderability by the LCA) now receives a PF-solution. The elimination of lookahead is thus one desirable consequence of keeping order at PF. Furthermore, this head-parameter will form the heart of our symmetrical analysis of OS/Scrambling in 2.4.[4]

2.3 HEAD-INITIAL VS. HEAD-FINAL

Before we can formulate our version of the head-parameter, we need to consider the theoretical and empirical arguments that weigh in favour of its revival and clear a path towards its reconciliation with the LCA. Let us begin by addressing some more general issues relating to the antisymmetry hypothesis and the kinds of typological arguments that have been adduced in support of it.

2.3.1 Typological considerations: head-final vs. specifier-final

On an antisymmetrical approach to syntactic structure, such as that implied by Kayne's LCA, any departure in overt constituent order from basic Subject-Verb-Object (or, more accurately, Spec-Head-Comp) must be a derived order. OV cannot be base-generated; rather, the object must have moved to a specifier position asymmetrically c-commanding the overt position of the verb. It therefore follows that rigidly head-final languages such as Japanese involve massive amounts of movement, with each successive phrase moving up into the specifier of a higher head (so that the final stage in the derivation of a complementizer-final clause, for instance, might involve the

[3] We will return to cliticization in section 2.5, where it will turn out that *prosodic* cliticization (but not syntactic, thus avoiding lookahead) does indeed apply in the linearization of weak pronouns.

[4] More specifically, the analysis to be presented below avoids such lookahead in that repair operations (in the form of extra movements) are not *triggered* by this unorderability; rather, PF-legibility is computed entirely on the basis of movement operations independently (and locally) motivated in the syntax of the languages in question (e.g. V-to-T, Object Shift, Verb-Second (V-to-C), etc.). A combination of the usual EPP-driven syntactic movements with the head-parameter will then conspire to rule in/out different configurations in different languages.

movement of TP to spec-CP[5]). Ultimately, such 'roll-up' derivations result in a complex left-recursive structure in the topmost left branch (specifier) of the structure, and therefore, as pointed out by Ackema & Neeleman (2000) and, for head movement, by Brody (2000: 37-8), entail a considerable amount of redundancy in the form of duplicated information (features, nodes, labels, etc.). Unless this extra structure and information (and the more complex derivations that create them) are motivated independently, it would seem that the familiar minimalist arguments (cf. 2.1) would favour their elimination on grounds of theoretical parsimony. In other words, we might expect a 'perfect' language faculty to generate these head-final structures directly, via some kind of structural head-parameter (cf. BEA: 7).

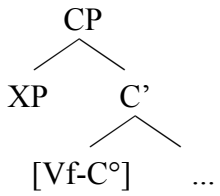
Perhaps, then, the arguments in favour of antisymmetry are empirical or typological ones (as Chomsky suggests in recent work). This line of argumentation is developed in Kayne 2003, which presents a number of typological "gaps" that antisymmetry supposedly predicts but that symmetrical approaches cannot account for. However, these arguments fail to convince for a number of reasons. Firstly, the 'Spec-Head-Comp' hypothesis should, more precisely, be broken down into (at least) two separate claims, each of which needs to be independently justified by abstracting away from the other. That is, the question of whether heads precede or follow their complements is a separate question from whether specifiers precede or follow the rest of the material (Head-Comp/Comp-Head) within an XP. The relative lack of evidence for variation in Spec-Head order (i.e spec-first vs. spec-final on a par with head-first vs. head-final) should not be misconstrued as evidence for absence of variation in Head-Comp order. To take an example, Kayne argues that a symmetrical approach would predict the possibilty of "reverse German" (Kayne 2003: 2), which is not attested. However, at least if we interpret "reverse German" to mean a verb-penultimate language (to mirror the verb-second property of German),[6] this argument (if true) is, at most, an argument against *spec*-finality, not *head*-finality. Assuming the standard analysis of V2 on which the finite verb moves to C° and some XP moves to spec-CP

[5] Or at least, given the general ban on comp-to-spec movement within the same XP (see also Chapter 3: fn.43), to the specifier of an empty head selecting CP as its complement.

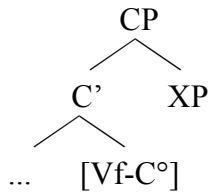
[6] Richard Kayne (p.c.) has clarified to me that a different interpretation of "reverse German" would be more problematic for a symmetrical approach. Namely, a similarly unattested "near"-reverse German in which specifiers remain on the left (i.e. phrase-initial) and only the position of the verb varies (giving verb-final root clauses but verb-initial embedded ones) would be derivable in a system allowing basic complement-head order. The point is well taken; however, it seems to me that such a language (or, at least, the relevant surface orders) could equally be derived in an antisymmetrical system with the right number of empty heads above C, and so this failing is not exclusive to a head-parametrized system.

(4a), a V¯2 (i.e. inverse V2) structure would crucially rely not just on a head-final CP, but on a spec-final one too (4b).

(4) a.



b.



That specifiers always precede the head within a projection is not disputed here, as this follows directly from the LCA (cf. (2)) insofar as specifiers are always merged in a position structurally higher (and thus asymmetrically c-commanding) the head – the type of unorderability issue that arises between mutually c-commanding heads and complements as in (3) will thus never arise for the relation between specifier and head/complement.[7] The absence of reverse V2 therefore says nothing about the possibility of a head-parameter. There may yet be room for variation in basic head-complement order, and the shape of syntax may not be rigidly Spec-Head-Comp after all.

Indeed, unlike spec-final orders, there is plenty of *prima facie* evidence for head-final orders in the world's languages. Any OV clause or postpositional phrase provides such evidence. The fact remains that rigidly head-final languages cannot be easily accounted for on an antisymmetrical approach. Objects in Japanese, for instance, would appear to be able to remain inside VP as much as objects in a VO language. To give just two brief examples: Miyagawa (2001) discusses the relation between "multiple agreement" (or double nominative) constructions and scope-of-negation in Japanese. A minimal pair is given in (5).

(5)	a.	*Taroo-ga zen'in-**o** osie-rare-nakat-ta*	(= accusative object)
		Taro-$_{\text{NOM}}$ all-$_{\textbf{ACC}}$ teach-can-$_{\text{NEG-PAST}}$	
		"Taro wasn't able to teach all"	[not > all, (*)all > not]
	b.	*Taroo-ga zen'in-**ga** osie-rare-nakat-ta*	(= nominative object)
		Taro-$_{\text{NOM}}$ all-$_{\textbf{NOM}}$ teach-can-$_{\text{NEG-PAST}}$	
		"Taro was not able to teach all"	[*not > all, all > not]

[Miyagawa 2001: 307 (28)]

[7] With the possible exception of unergatives, that is. Where these take a simplex subject, as in *He slept*, the subject and verb could be taken to mutually c-command each other. However, a noun-incorporation approach to unergatives such as Hale & Keyser's (1993), or indeed the standard assumption that external arguments merge in spec-*v*P and not spec-VP, would get around this problem.

In the NOM-NOM case (5b), both arguments take scope over the negated verb (V-NEG); in the NOM-ACC example (5a), the nominative argument scopes over V-NEG but V-NEG scopes over the accusative argument. As the object (*all*) precedes V-NEG in both (5a) and (5b) alike, an antisymmetric analysis is obliged to conclude that the object must have raised to a position superior to the verb in both cases. The different scope relations are therefore unexpected, and the account would only seem salvageable by invoking arbitrary stipulations about the intermediate derivational stages at which scope interpretation takes place (such that *all*'s scope is determined prior to accusative raising but subsequent to nominative raising). If we allow ourselves a head-parameter, though, a much simpler account emerges, one in which the accusative object simply remains inside VP (where it is c-commanded by, hence in the scope of, its sister (V-NEG)),[8] whilst nominative case on the object is a reflex of raising out of VP to the relevant functional projection (say, TP), where the object will then scope over V-NEG.

A second argument for the *in-situ* (i.e. VP-internal) status of accusative objects in Japanese is suggested by the discussion of *ga/no* alternations on Japanese subjects in Alexiadou & Anagnostopoulou 2001:203. In that paper, the authors argue that there is a general ban preventing the subject and object of a clause from both remaining inside *v*P.[9] Assuming that the *no* (i.e. genitive) form of the subject occurs only when the latter remains *in situ*, whilst *ga* (i.e. nominative) indicates movement of the subject out of *v*P (cf. the previous paragraph), the unacceptability of *no*-subjects cooccurring with an object[10] follows if the object DP is analysed as remaining in its base position – a possibility not open on an antisymmetrcial treatment. If nothing else, these arguments should at least cast some doubt on the validity of the proposal that OV orders are always derived and never basic.

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[8] This is true whether or not V moves out of VP in Japanese. As *all* is a minimal maximal complement, we would have the structure in (3) again if V remains *in situ*. The mutual c-command relation between V-NEG and *all* might then account for the (marginal) availability of the reverse scope interpretation (i.e. all > not) in (5a). On the other hand, we could equally follow Miyagawa and assume V-to-T raising in Japanese (which would also allow the V-NEG complex itself to be formed through head-adjunction in the syntax) – the point is simply that only on a symmetrical account can the object precede the verb yet the verb c-command the object (whether asymmetrically, through raising to a higher functional head, or symmetrically as sisters inside VP).

[9] The technical details that explain this generalization need not detain us here (see the paper in question for full discussion). Chomsky (DbP:20(25)) proposes a similar constraint ("In transitive constructions, something must escape the *v*P"), a stipulation that allows him to account for the otherwise problematic (for him) examples (i) and (ii) in fn.24 below.

[10] The example given is: *John-ga/*no LGB-o kashita hito*
John-NOM/GEN *LGB*-ACC lent person
"The person to whom John lent *LGB*" [*op cit*.: p. 203 (29)]

Turning specifically to the antisymmetrical treatment of OS/Scrambling (our primary concern here), it is actually antisymmetry that predicts systems apparently unattested in the world's languages. Since any preverbal argument (object or otherwise) must be VP-external under the universal-base hypothesis, basic OV and scrambled O-Adv-V orders must be the product of logically independent movement operations. This central premise leads to a number of problems. Firstly, its denial of a transparent correlation between the two types of OV order (i.e. scrambled and unscrambled/'basic') predicts that nonscrambling OV languages should be at least as common as scrambling ones, contra the implicational universal that all OV languages exhibit scrambling (e.g. Japanese, Korean, Turkish, Basque, Persian, Hindi, to name a few). Other absences it fails to account for are languages which display both OS and Scrambling as separate movement types (i.e. those that respectively conform to and violate HG; cf. Chapter One:1.1, and 2.3.3 below), and the apparent lack of V-to-*v* (/-AgrO) movement in scrambling languages (see Neeleman & Reinhart 1998 on the latter typological hole, and Vikner 1994:510 on the former). Finally, as we will see in section 2.5 below, pronominal objects in OV languages exhibit identical phase-sensitivity patterns to those in VO languages, implying that these objects remain inside *v*'s phasal domain in VO and OV systems alike – that is, they are VP-internal (see also fn.47).

The OS/Scrambling case is not an exception. Rather, it highlights a general, deep-rooted problem with the Kaynean architecture: massive overgeneration. Antisymmetrical arguments from typological gaps fail to convince for the simple reason that the machinery such analyses employ – involving covert heads and massive remnant movements into their specifiers – is simply too powerful to rule out *any* order of constituents, even the unattested ones. Unless we can independently constrain the number of empty heads in a language, the unattested orders discussed by Kayne (2003:7-9), such as *V-DP-P (i.e. postverbal postpositions), can always be derived by taking the observed, 'derivable' orders (here, DP-P-V), merging another empty head H to the top of this structure, and then raising the bottommost XP (which in this case would contain the remnant VP in its specifier, and a trace in its complement position) to the specifier of H. Empty heads that exist purely to derive correct word orders (but which have no interpretive properties at either PF or LF) are already dubious on minimalist grounds; until we find a (non-circular) means of detecting the undetectable, the antisymmetric explanation for typological gaps such as *V-DP-P simply amounts to the stipulation that, in this particular case, there is no H in UG (cf. Kayne 2003: 9), which is little more than a restatement of the original observation. At the very least, this

puts antisymmetrical approaches to phrase structure in no better a position than symmetrical ones. We will return to these typological issues in section 2.3.3 (cf. fn.14). For now, let us examine the theoretical arguments for reviving a head-parameter.

2.3.2 Theoretical motivation

As is well known, Kayne's (1994: 47-9) original formulation of the LCA explicitly excludes the possibility of a head-parameter in that it applies at all levels of syntactic representation and thereby imposes universal Spec-Head-Comp throughout. Indeed, it is due in no small part to the influence of Kayne's proposals that the head-parameter has largely fallen by the wayside in Minimalist syntax[11] (with some notable exceptions – see e.g. Saito & Fukui 1998, Neeleman & Weerman 1999). However, we have already seen that the LCA cannot hold of syntax proper once BPS is adopted, given the problem in (3). On closer inspection of the fundamental operation *Merge*, this problem becomes a much more general one. Merge (more specifically, *Set-Merge* in MI) combines a pair or objects (α, β) into a larger object (K), as in (6a). This operation is inherently symmetrical (α merges with β and β with α, and the result is an *unordered* set). In (6b), the operation iterates, merging another element (γ) with the output of (6a).

(6) a. Merge(α,β) → {α, β} (= K)
b. Merge(γ,K) → {γ, K} (i.e. {γ, {α, β}})

Merge defines certain basic relations between elements. As a result of (6a), α and β are *sisters*, and K *contains* α and β. As a result of (6b), γ and K are sisters, and γ *c-commands* α and β (c-command is thus *sister of contain*). By the LCA (cf. (2)), γ therefore precedes both α and β; crucially, however, no such ordering relation exists between α and β (or directly between γ and K, for that matter).

[11] We can attribute its demise more directly to a basic incompatibility with certain central tenets of the Minimalist Program (MP). With the abandonment of parametrized principles in favour of a uniform C_{HL}, crosslinguistic variation is restricted under MP to the properties and features of lexical items (in particular, to those of functional categories). The head-parameter is therefore unmaintainable in its original form as a structural parameter associated with the X-Bar module of GB. On the same grounds, it might be argued that the basic operation Merge also should not be parametrized (*contra* the proposal of Saito & Fukui 1998 – see below). By an interesting convergence, then, we are led back to our thesis (1) – the head-parameter cannot be part of narrow syntax proper. Insofar as PF is the only locus for language-specific variation outside of the lexicon (cf. Chomsky's (DbP) discussion of the English-specific rule *Th/Ex*, and Chomsky (BEA: 4)), we are further led to conclude, again on independent grounds, that our head-parameter must reside at PF. (See Chapter Five for further discussion of the status of such macroparameters.)

This lack of intrinsic ordering between two (set-)merged elements (i.e. sisters) would seem to render some kind of head-complement ordering strategy a virtual 'conceptual necessity' given that unordered structures are illegible (and thus illegitimate) objects at PF. Saito & Fukui (1998) propose that the effects of a head-parameter can be imposed by means of a parametrized version of Merge, as in (7).

(7) *Saito & Fukui 1998*: Parametrized Merge

Merge(α,β) → K = {γ, <α, β>}, where γ ∈ {α, β}

γ = α: head-initial

γ = β: head-final

Although this proposal would solve the unorderability problem in (3), it does so at a price – namely, we have to give up the null hypothesis in (1). As phrase-structure is directly parametrized in (7), linear order is placed back in the syntax, i.e. the 'core computation' of C_{HL}. In support of this move, Saito & Fukui argue that the setting of (7) does indeed have *syntactic* consequences (for instance, it allows scrambling to operate freely in OV languages, and heavy NP shift in VO languages).[12]

Nevertheless, there is a sense in which the parameter in (7) is at best redundant, at worst impossible, as a constraint on Merge. The head-initial versus head-final orders are not the primary function of this parameter; rather, (7) actually determines which of the pair (α, β) *projects*. However, as Chomsky (MI:133-4) notes, it is always independently predictable which of the merge pair projects (and thus determines the label of K in (6a/7); see also Collins 2002): namely, the *selector* projects. Merge satisfies (and is thus triggered by) a selectional feature F on the selecting head, and it is this ('active', unsaturated) head that provides the label for {α, β}.[13] Therefore, the most a head-parameter can and should do is align the selecting head to the left or right of its complement; it should *not* fix the label in advance as 'always α' or 'always β', as this is either redundant (given the label's independent and unique determination) or it illegitimately forces a non-selector to project (violating featural cyclicity and leading to LF-crash/uninterpretability). But if directionality cannot be a matter of syntax

[12] These syntactic consequences can be equally well derived from a purely PF-internal formulation of the head-parameter, however. The presence of optional scrambling in an OV language, for instance, need not imply that the *syntax* must be sensitive to 'leftward' directionality; it could simply be that moved objects can only be linearized (at PF) to the left of the verb in such languages. (See section 2.4 for such a proposal.)

[13] Given the cyclic operation of C_{HL}, the complement satisfying F must be an inactive, saturated item (maximal projection), and is thus unable to act as the label (with the consequence that "a label... is always a head", BEA: 6).

(projection), then it must be purely phonological after all (namely, the alignment of a head with respect to its complement). We can therefore maintain (1); our head-parameter, now further motivated in light of (6), must be located at PF.

2.3.3 Empirical motivation: Object displacement in North and West Germanic

Of course, the mere fact that the current theory does not *exclude* the possibility of a head-parameter would not in itself be sufficient grounds for postulating its existence. Any such addition to our theoretical inventory requires independent motivation; in the case of a parameter, we would expect to find evidence of interaction with other parameters or properties of the grammar (within a given language), and typological correlations that can be traced back to the setting of our new parameter (at the crosslinguistic level). In this regard, a directionality parameter would seem better supported than most, as many independent properties seem to pattern with the basic VO/OV split (see Neeleman & Weerman 1999 for recent discussion). Our head-parameter, then, does more than simply encode the head-first versus head-final orders that we observe on the surface; knowledge about other areas of the target grammar falls out for free from the setting of this parameter in the process of language acquisition. It is here, as the foremost piece of 'implicational knowledge' yielded by the head-parameter, that Germanic OS/Scrambling reenters the fray. The rest of this chapter will aim to establish and explain the correlation between VO, HG and Object-Shift (OS) on the one hand, and between OV, anti-HG and Scrambling on the other. The further implications of this theory are then the topic of Chapters Three and Four.

A full review of the work on OS/Scrambling phenomena is neither possible nor necessary here (see Chapter One for a brief overview and references). Instead, it will suffice to consider the basic paradigm in (8), an amalgamation of the data presented in 1.1. This paradigm displays the principal patterns which any theory of OS/Scrambling should account for.

(8) a. *Der Student las* ***(es/das Buch)*** *nicht* ***(das Buch/*es)*** [German]
b. *Nemandinn las* ***(hana/bókina)*** *ekki* ***(bókina/*hana)*** [Icelandic]
c. *Studenten læste* ***(den/*bogen)*** *ikke* ***(bogen/*den)*** [Danish]
The-student read (it/the-book) not (the-book/it)
"The student didn't read it/the book"

d. *Der Student hat* ***(es/das Buch)*** *nicht* ***(das Buch/*es)*** *gelesen* [German]

e. *Nemandinn hefur* ***(*hana/*bókina)*** *ekki lesið* ***(bókina/hana)*** [Icelandic]

f. *Studenten har* ***(*den/*bogen)*** *ikke læst* ***(bogen/den)*** [Danish]

The-student has (it/the-book) not read (the-book/it)

"The student hasn't read it/the book"

A number of salient differences between OS (Scandinavian) and Scrambling (German/Dutch) emerge from this data set, and can be summarized as in (9).

(9)

	Pronouns (weak)	**Full DPs**	**Nonfinite main verb**
Mainland Scandinavian	*Obligatory*	*No*	*No* (HG)
Icelandic	*Obligatory*	*Optional*	*No* (HG)
German/Dutch	*Obligatory*	*Optional*	*Yes*

The shifting of weak pronominal (versus full-DP) objects, as compared in the first two columns, will be addressed in 2.5. In the present section, I concentrate on the final column, which relates to the interaction between movement of the object and movement of the verb.

HG (*Holmberg's Generalization*), the observation that object movement is contingent on the movement (and thus finiteness) of the lexical verb, seems to hold only of the Scandinavian languages – comparing (8b,c) with (8e,f), we see that, when the verb remains *in situ* inside VP, the object must also remain in its base position. In German/Dutch, however, there is no such restriction (cf. (8a,d)). This major discrepancy between OS and Scrambling correlates exactly with the basic distinction between the word-order types into which these languages fall – VO (Scandinavian) and OV (German/Dutch), respectively. Thus, knowledge of whether a language allows the OS or the Scrambling type of object displacement is automatically implied in the setting of the head-parameter. This typological correlation is quite unexpected on an antisymmetrical approach if all languages are underlyingly identical (i.e. Spec-Head-Comp) – why would HG (or, more to the point, the universal principles that account for HG, such as equidistance in earlier work (e.g. MP, Bobaljik & Jonas 1996)) only apply to a formally indistinguishable subset of languages?[14]

[14] The question becomes a slightly different one on more recent minimalist analyses, but no less acute. Once AgrOP is replaced with *v*P (with multiple specifiers), as in the system of MP(:349ff.), raising of the object to (outer) spec-*v*P across the subject (in inner spec-*v*P) is no longer ruled out on grounds of equidistance/minimality. HG thus becomes even more mysterious – a strong [D] feature on *v*, triggering

The cross-Germanic differences in behaviour with respect to HG, then, would appear to reduce in a natural manner to a primitive VO versus OV parameter setting. This, in turn, forces us to reconsider the nature of HG itself. If, in accordance with (1), our head-parameter operates only at PF, then HG cannot be a direct constraint on syntactic derivations either; it must rather be a principle of the phonological component (see Holmberg 1999 for such a revision). Ideally, though, HG will not need to be stated independently of the parameter (setting) on which it is parasitic – that is, we would like to show that HG is an epiphenomenon of the VO setting of the head-parameter (and to that extent improve on the phonological approaches to HG in Holmberg 1999 and DbP). As it stands, HG is in any case an insufficient characterization of the facts in (8). The illicit cases of OS in (8e,f) could be given derivations that actually comply with HG: O-movement (i.e. comp[V]-to-spec[*v*]) is in principle licensed if V moves to *v* (whatever our definition of equidistance – cf. fn.14), and therefore the deviant (8e,f) cannot actually be ruled out by HG in the form stated above. Notice, however, that such a derivation would result in an OV surface order (cf. (8e,f)). This suggests that the real generalization to be captured by HG is that *OV surface orders are illicit in a VO language* (i.e., in terms of (1), such orders cannot be the output of linearization at PF). At the level of the syntax, we arrive at the following generalizations:

(10) Revised Generalizations

a. *VO ('Object Shift') Generalization:*
   However high O moves, V must move higher

b. *OV ('Scrambling') Generalization:*
   However high V moves, O must move higher

Thus (10a) replaces HG, and together, (10a) and (10b) should derive from our head-directionality parameter, which operates at PF (in accordance with (1)) and acts as a filter on well-formed PF representations.

On the basis of the core data in (8), then, we conclude that our head-parameter has the effect not only of imposing VO or OV order in the base of the structure (i.e.

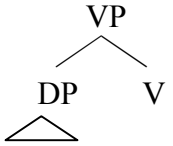
OS, must somehow always imply a strong [V] feature on *v* as well (or, more precisely, on T – see discussion above (10)), but only in those languages in which no higher head has a strong [D] feature that attracts the object further over the raised verb (as would be necessary to derive an OV language on such assumptions). Thus, on an antisymmetrical approach, the robust typological correlations between VO order and HG (and between OV order and *lack* of HG) have to be pinned, rather paradoxically, on supposed implicational relations existing between *logically independent* strong features, in a manner that remains obscure, at best.

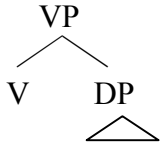
within VP), but of preserving this linear head-complement 'shape' right across the derivation.[15] In the next section, we turn to the question of how we can formulate and formalize such a parameter, one that implements what we have now identified as the defining property of OS/Scrambling: order-preservation.

2.4 PARAMETRIZING THE LCA

Summarizing thus far, we have established that the LCA is an inadequate ordering algorithm under BPS (section 2.2), and that these inadequacies can be overcome in a simple manner by means of a head-parameter (motivated on independent grounds in section 2.3). At this point, it would therefore seem that we have two separate entities, the LCA and the head-parameter, and that the latter simply supplements the former. However, given thesis (1), a more interesting possibility now presents itself. Since both the LCA and the head-parameter must belong in the post-Spell-Out, PF-wing of the grammar, the question arises as to whether we can collapse the two into a single entity, as would seem attractive on minimalist grounds (cf. our desired reduction of HG to the VO setting of the parameter in section 2.3.3). Let us therefore pursue this aim.

Having relocated the LCA and head-parameter to PF, a particularly natural reconciliation of the two does indeed appear readily available – namely, our revised head-parameter can now take the form of a direct parametrization of the LCA itself. At first blush, it would still seem impossible to allow basic [DP_{Obj}-V] order to be generated if we maintain the LCA (cf. (2)) as our principal PF ordering strategy. This is because, as long as V asymmetrically c-commands the terminals dominated by DP in both (11a) and (11b), V will precede those terminals (at PF) in both cases, giving universal basic [V-DP_{Obj}] order, as in Kayne's original formulation.

(11) a. 

b. 

[15] On notions of 'shape' and 'shape conservation', see e.g. Müller 2000 and Williams 2003. Chomsky (MI: 136-7), in a somewhat different context, suggests that "tampering" with previously established c-command and sisterhood relations involving the projecting head should be minimized (see also Chomsky 2004a). Adapting ideas of Epstein et al (1998), the proposal in section 2.4 has a similar effect. Note, too, that this "right across the derivation" claim will be qualified and modified in Chapters Three and Four.

To overcome this problem, we need our head-parameter to override the LCA in such cases (i.e. to determine head-complement order for nontrivial phrase-level complements as much as for the nonbranching complement cases such as (3)).[16] Let us therefore follow the proposal of Epstein et al (1998:Chapter 5) and assume that it is *c-command* rather than *asymmetric c-command* that translates to precedence at PF. The asymmetry requirement on c-command relations for linearization is then simply a function of the need for unambiguous (non-contradictory) precedence instructions at the interface,[17] and therefore holds no special status in the syntax. Removing Kayne's (1994:4) asymmetry stipulation from the formulation of the LCA in (2) is in any case desirable on minimalist grounds – the simpler notion of c-command is then the fundamental relation to which operations of C_{HL} refer. The unordered nature of the sisterhood relation, created through the operation Merge (cf. (6)), can now be formalized as a relation of *mutual* c-command (cf. discussion of (3), and fn.1). Thus, in the case of the structures in (11), the operation Merge that combines V with its complement DP gives rise to a mutual c-command relation (DP is paired with V and V with DP, hence each c-commands the other), with the result that contradictory ordering instructions are provided to PF (i.e. V > O and O > V).[18] We thereby generalize the unorderability issue in (3) to (11) as well, as desired – in both cases, unorderability reduces to mutual c-command; furthermore, in both cases we now have too much ordering information rather than too little, i.e., we have a non-antisymmetric rather than non-total ordering relation.

Clearly, we now require a strategy for rescuing these structures at PF, if our derivations are to converge at this level. Given that both (3) and (11) now involve a surfeit of ordering information, we can appeal to a very simple repair strategy – deletion of information. In this connection, Epstein et al (*op cit.*:152-7) propose that PF resolves such conflicting instructions by means of a *Precedence Resolution Principle* (PRP), which ignores a subset of the c-command relations compiled by the derivation. If PF ignores the relation Comp > Head, then a head-initial order results (as only Head >

[16] The alternative to a head-parameter would be to parametrize the temporal relation to which asymmetric c-command is mapped by the LCA – i.e. languages allowing (11a) would map to subsequence rather than to precedence. However, this would simply lead to antisymmetrical structures branching in the opposite direction (i.e. uniformly left-branching rather than right-branching) and thus no gain in flexibility. Moreover, given that specifiers precede their heads even in OV (11a) languages, we would have to mix precedence and subsequence in our mapping from hierarchy onto phonotemporal order. Such a nonuniform LCA involving contradictory mappings hardly seems a viable or coherent concept, so we need not consider it further.

[17] Kayne's totality requirement on linear ordering (cf. fn.1) is therefore abandoned, another desirable elimination of a redundancy from the system (cf. Epstein et al (1998:137-8:fn.12)).

[18] Here and below, X > Y = X c-commands Y (in the syntax) / X precedes Y (at PF).

Comp 'counts' for linearization); if Head > Comp is ignored, the result is a head-final order (as only Comp > Head counts). This is illustrated in (12) for the basic verb-object relation.

(12)

VP		*C-command relations*		*Ignore*		*PF-order*
V DP	→	{V > DP, DP > V}	→	V > DP	→	DP > V (= OV)
			→	DP > V	→	V > DP (= VO)

Similarly, the operation Move creates (additional) mutual c-command relations. For instance, object-movement to spec-*v*P creates a new O > V relation, as the object's landing-site is structurally higher than (and thus c-commands) the verb. For these cases,[19] Epstein et al argue that it is the V > O (i.e. Head > Comp) relation in the base that must be ignored at PF, since otherwise the displacement effect would not be realized. However, this is clearly inconsistent with the basic setting of the PRP in head-initial languages (as basic Comp > Head is ignored in these; cf. (12)). The generalizations in (10) suggest that precedence relations cannot simply be 'switched' like this. The rationale for movement, then, cannot be a "change in precedence relations" (*contra* Epstein et al (1998:156)), as the relative ordering between head and complement remains crucially unchanged with at least one type of movement: OS/Scrambling (cf. (8)).

I therefore propose a stronger version of the PRP that applies *throughout* the derivation, ignoring a *consistent* subset of c-command relations in a given language and thereby preserving the original order imposed by the PRP in the base. The consistent PRP can then be expressed as a parameter, one that takes the form of an interface strategy for resolving syntactic symmetry. Our revived and revised head-directionality parameter thus takes the form in (13).

(13) *Parametrized LCA*

Merge(α,β) → {<α,β>, <β,α>}[20]

a. VO = Ignore all O > V [i.e. {<α,β>, <β,α>} → {<α,β>}]

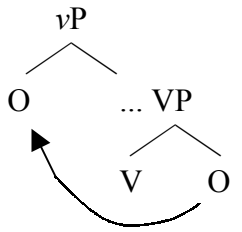
b. OV = Ignore all V > O[21] [i.e. {<α,β>, <β,α>} → {<β,α>}]

[19] Epstein et al in fact discuss movement (and the c-command relations it creates) in terms of the head H that triggers movement for feature checking and whose specifier provides the landing-site; in the case of OS, this head would, strictly speaking, be *v* and not V. Assuming that a functional head will only count for linearization if it is itself filled at PF, we can regard V and *v* as the same PF-object for the purposes of the LCA and the head-parameter.

[20] This replaces the formulation in (6a); that is, (Set-)Merge now creates a symmetric set rather than an unordered one, giving rise to too much rather than too little ordering information: a symmetrical syntax.

According to the setting of (13), the LCA in a given language can only make use of a particular subset of precedence instructions, for Merge and Move alike. The immediate consequence is that HG is derived for exactly those languages in which it holds (i.e., VO languages). Consider (14).

(14)



→ *C-command relations*
Via Merge: {V > O,
O > V} – *ignored in VO language*
Via Move: {O > V} – *ignored in VO language*

OS is strongly tied to verb movement in languages set to (13a) as OS creates an illegible PF instruction, *viz*. O > V, which will be ignored at PF. Hence, the only way to license the object in its displaced position[22] is for a new V > O relation to be established – i.e., further movement is required in the syntax, namely of the verb over the displaced object. Wherever that further movement fails to obtain (as in (8e,f), where V-to-T is blocked by the auxiliary), OS creates an illicit PF-object that the LCA fails to linearize. In the case of OV languages, the setting (13b) not only renders (11a) a possible output of the LCA at PF, but also derives the anti-HG character of Scrambling (as in (8d)): O > V is always a legible PF instruction in these languages, thus (14) is linearizable without further verb movement.[23]

In sum, the effects of a structural head-parameter fall out as part of the conversion of symmetric syntax (mutual c-command relations) into asymmetric linearization instructions at the interface, as per Epstein et al (1998). The setting of this revised head-parameter, as given in (13), accounts for (at least) two major typological

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[21] The "all" in (13a,b) will be qualified in section 2.6 and subsequent chapters.

[22] To fail to do so (thus spelling out the 'displaced' object *in situ*) would render the effects of the movement-driving EPP feature on *v* irrecoverable ('invisible') at the interfaces, in violation of Full Interpretation ("minimize superfluous symbols") and the optionality rationale in DbP:34 (see also Chapter One:1.1). Thus the fact that it is the copy at the *head* of a chain that is spelt out, rather than any lower copy, simply follows from interface conditions. We can therefore dispense with such extra chain-link deletion algorithms as Nunes's (1999) *FF-Elimination* (a desirable move, as *FF-Elimination* relies upon complex transderivational comparisons, and is never actually called upon in convergent derivations, rendering it doubly suspicious as a UG economy metric).

[23] Indeed, given (10b)/(13b), further V-movement in an OV language would actually be unlinearizable at PF (without further O-movement as well), i.e. we would have an analogous situation to (14) in VO languages. In the absence of an object position above TP (spec-CP/V2 aside – see section 2.6 and Chapter Four), this system implies that OV languages must lack V-to-T movement (in accordance with the conclusions of Vikner 2001); specifically, T cannot be the *final* landing-site for V, though V-to-C is still possible (see Chapter Four:4.2.6).

correlations: the setting (13a) gives VO order and implies HG, i.e. object movement requires verb movement; the setting (13b) gives OV order and implies Scrambling, i.e. object movement is licensed freely and independently of verb movement. VO/OV 'shape' is thus preserved through all stages of the derivation. In short, the consequence of shifting the LCA from the syntax to PF in accordance with (1) is that our parametrized desymmetrization strategy (head-parameter) imposes *linear* shape (i.e. VO/OV) at PF in exactly the same way that Kayne's original LCA imposes a templatic *structural* shape (i.e. Spec-Head-Comp) in the syntax.

More generally, with the asymmetry requirement of the LCA now removed from the syntax, the latter reveals a pervasively symmetric character, both in its basic operations (Merge) and relations (sisterhood, mutual c-command), and in its directional (VO/OV) neutrality.[24]

2.5 THE DISTRIBUTION OF WEAK PRONOUNS

We now return to the remaining columns of table (9), and, in particular, the question of why OS/Scrambling is *obligatory* with weak pronominal objects (unlike the apparent optionality of full DPs in those languages that allow it at all).[25] The data in (8) show that, in the unique case of weak pronouns, HG actually holds biconditionally in the VO languages – i.e., not only does OS imply V-movement (cf. the 'traditional', equidistance approach of MP) but V-movement also implies OS. Two main puzzles are thrown up in this regard. Firstly, the unshifted pronouns in (8b-d) obey the relevant setting of (13) for

[24] There are a number of further interesting consequences of this system; I explore the more important ones in section 2.6 and the remaining chapters, but would like to briefly mention another one here. As (13) determines an ordering relation between merge-pairs only, there will be no preservation of subject-verb shape on a par with verb-object shape (for the simple reason that subject and verb are never directly paired by Merge (unergatives aside – cf. fn.7)). Thus, verbs and objects are predicted to be freely reorderable with respect to subjects. This prediction is borne out in the form of Transitive Expletive Constructions, as in Icelandic. As long as V-O shape is retained in this VO language, the verb alone (i) or the verb and object alike (ii) are able to cross the subject. Note, further, that (ii) is a problem for Chomsky's (DbP) theory of OS (cf. fn.9 above) as the in-situ subject should bleed application of OS by virtue of occupying the 'phonological border' of *v*P.

(i) *Það klaruðu margar mýs ostinn*
there finished many mice the-cheese

(ii) *Það máluðu sennilega húsið vandlega margir stúdentar*
there painted probably the-house carefully many students

[Alexiadou & Anagnostopoulou 2001: 198-200]

[25] The optionality is "apparent" since OS becomes obligatory under a given reading of the object; thus (8a) is degraded with *das Buch* unshifted. However, under the assumption that the syntax is blind to the semantics of the atoms and constituents that it manipulates (i.e. no lookahead, no pseudosemantic Topic/Focus features on lexical items, etc.; cf. DbP), this does not (and cannot) entail that OS is obligatory with a definite DP; rather, it must be that a shifted DP is (obligatorily interpreted as) definite. See Chapter One, and Biberauer & Richards 2004 for further relevant discussion of this point.

the languages in question (OV in (8d), VO in (8b,c)), yet these sentences are still unacceptable with the pronouns remaining *in situ*. Secondly, whilst the obligatoriness of pronominal object movement in OV languages (8d) applies even to the complement of nonfinite verbs, in VO Scandinavian (8e,f) weak pronouns are not required to shift when the verb selecting them is nonfinite – indeed, they are banned from shifting in this environment and have to remain *in situ* (as a result of the head/shape-parameter setting (13a)). Thus we cannot simply attribute the patterns of pronominal object shift (POS) to stricter requirements that force pronouns, but not full DPs, to move obligatorily (perhaps due to their bearing morphological case features, cf. Holmberg & Platzack 1995), as (8e,f) show that POS is *not* obligatory when the verb remains inside VP where such movement would violate the head-parameter. In short, we need to be able to account for the obligatoriness of POS in (8a-d) whilst still allowing for the obligatory *absence* of POS in (8e, f). The head-parameter (13) cannot be the whole story for cases (8a-d); what, then, are the extra conditions on the placement and spellout of weak pronouns?

Before we attempt to answer this question, let us first briefly review three recent accounts of OS and pronoun (dis)placement in the minimalist literature. Holmberg (1999) extends the empirical domain of HG so that OS is contingent not only on V-movement but on the evacuation of *any* "phonologically visible" category between the launch and landing sites of the shifted object. OS then becomes a "PF-operation", applying in a component of the grammar dubbed "Stylistic Syntax", where it is driven by the semantico-prosodic properties of the shifted item, formalized via the feature [±Foc(us)].[26] An element bearing the [−Foc] feature must move out of the focus domain (i.e. VP, cf. Diesing 1992) to a position where it can be governed by a phonologically visible [+Foc] element such as the verb or another argument ("[−Foc] must be governed by [+Foc]", p.25). Pronouns are obligatorily, inherently specified as [−Foc], whereas Icelandic full DPs are only optionally [−Foc], hence the noted asymmetry between

[26] Erteschik-Shir & Strahov (2004) propose a similar architecture in their approach to scrambling and OS phenomena, with a post-narrow-syntax level of "P-syntax" in which operations are driven by Topic and Focus features, albeit with a general rule of 'prosodic incorporation' (PI) instead of a special OS operation. Since PI accounts for both pronominal and full-DP OS alike, they have to assume that full DPs can undergo PI (essentially, cliticization) to their host. Whilst shifted DPs are certainly destressed at the level of the phonological phrase or some such higher-level prosodic constituent (see section 2.5.1.1 below), they still bear word-level stress and would therefore seem unlikely candidates for (word-level) cliticization, especially where the host is itself another full DP (as will obtain in the case of full-DP OS in a non-subject-initial V2 clause in Icelandic). Since I do not subscribe to the view that discourse-significant, 'surface semantic' operations like OS cannot be (narrow-) syntactic (on the contrary, I assume they *must* be; cf. DbP: 15 (13)), I instead pursue the aim here of naturalizing OS into the standard derivational architecture of the Minimalist Program, with OS an EPP-driven syntactic movement operation like any other (cf. Chapter One).

pronominal and full-DP OS. Whether this truly solves the problem in question or merely 'technicalizes' and restates it is debatable, however, since what is lacking is an explicit and predictive theory of the different conditions for [±Foc]-assignment across different languages.

Chomsky's (DbP) own proposal, a revision of Holmberg's, seeks to eliminate the semantics-sensitive, Greed-based complications of Holmberg 1999 by maintaining a local, formal syntactic imperative for driving OS, namely an EPP-feature optionally added to the *v** phase head in languages for which this will have an effect on outcome.[27] These are the [+OS] languages, in which an interpretive complex *Int'* (new, focussed, non-specific semantics) is assigned to the "phonological border" of *v**P, and the 'new outcome' that arises from EPP-driven movement to the *v**P edge is the evasion of *Int'* (the edge of *v**P is, by hypothesis, assigned the complementary semantics, *Int*). Since this OS rationale applies to pronouns and full DPs alike, the full-DP/pronoun asymmetry must simply result from the incompatibility of inherently anaphoric elements (i.e. pronouns) with *Int'* semantics – an unshifted pronoun will result in severe deviance.[28]

Essentially, then, Chomsky's tack is to assign the *Int'* complex not to the element that shifts (as Holmberg does) but rather to a position in the structure. Whilst this succeeds in localizing the problem and removing lookahead to the interface, one might yet question whether a 'property of positions' is really a desirable or plausible alternative given the minimalist assumptions of BPS and Inclusiveness (or "No Tampering" in terms of Chomsky 2004a), according to which no structure exists independently of the lexical items that project it. Further, since the edge of a phase subsumes the "phonological border" in the relevant cases (i.e. the edge *becomes* the phonological border if something moves to it), there must be some way of distinguishing these notions independently of structure if each is to be assigned contradictory semantics (*Int* to the former, *Int'* to the latter), with *Int* presumably overriding *Int'* just in case border = edge. The phonological-border approach is in any case problematic if we assume the external argument to merge in spec-*v**, as Chomsky

[27] Chomsky (DbP:34) proposes an economy principle to the effect that the assignment of optional EPP-features to phase heads must "yield a new outcome" (cf. Reinhart 1995, and Chapter One:1.1). Failure to yield such an outcome results in an unmotivated feature in violation of Full Interpretation.

[28] Note that convergence *per se*, then, is not at stake for Chomsky, which seems correct for the genuinely optional cases, i.e. full-DP OS (cf. fn. 25), but much less so in the case of unshifted weak pronouns, which no amount of pragmatic context-tweaking can rescue. Rather, an unshifted weak pronoun is *impossible* (ungrammatical) and must be realized as strong (stressed at PF, animate at LF, etc.). Since strong pronouns are as inherently anaphoric/old (i.e. *Int'*-incompatible) as weak ones, LF would seem to be the wrong interface at which to situate this restriction on weak pronouns, hence a PF approach is to be preferred (cf. below).

does, since it is then unclear that the internal argument would ever be in the border zone of *v**P at the point in the derivation where OS to spec-*v** must apply (i.e. prior to raising of the external argument to spec-T, given strict cyclicity; see also fn.24).

Grohmann (2000) provides a different LF-based rationale for the scrambling of weak pronouns in OV Germanic. Weak pronouns are argued to be "LF-clitics" (cf. also Laenzlinger 1998) which raise as XPs out of the VP-domain in the overt syntax and then cliticize to a person- or point-of-view-related functional head at LF. The movement in question (or at least the ultimate step of covert cliticization) is driven by the hypothesized ϕ-deficiency of weak and clitic pronouns; the functional head to which they cliticize then supplies the missing ("deficient", "underspecified") features via a checking relation. Like Holmberg (1999), this movement is therefore 'greedy', driven by properties of the moved element rather than its host; like Chomsky (DbP), it cannot provide us with an account of all of the facts in (8)/(9) – Grohmann's characterization of weak pronouns is aimed at OV Germanic and would seem unable to allow for HG effects in the VO languages, whereas DbP works well for VO languages but fails to predict the obligatoriness of pronominal scrambling in OV (8d) (see section 2.5.4 for more on this point).

Where all three approaches converge, however, is in the central role that they attribute to the presumed semantic, LF-interpretive properties of weak pronouns ([± Foc], *Int'*, LF-cliticization to a point-of-view head, etc.). This leaves the one essential, irreducible fact about weak pronouns completely mysterious and incidental – namely, their prosodic deficiency, i.e. the very fact that they are weak at all.[29] Just why should obligatory OS be a property of prosodically deficient elements only? The various LF-related assumptions and technical devices assumed by these authors are arguably missing the point and surplus to the requirements of a maximally simple account of the facts at hand (though, to be fair, only Grohmann's is specifically a theory of weak pronouns, and the technology in Holmberg and Chomsky extends to full-DP OS as well as pronominal OS). In order to come closer to the level of 'principled explanation' striven for under the Strong Minimalist Thesis (as reformulated in Chomsky BEA, 2004b), I therefore propose that a much simpler, arguably more natural account of the facts in (8)/(9) should be located at the interface with PF, not LF.[30] This will allow us

[29] As defined by Cardinaletti & Starke (1996), weak pronouns are unable to be stressed, conjoined or modified. See also Laenzlinger (1998) and Grohmann (2000) for further discussion of the three-way (strong/weak/clitic) typology of pronouns in Romance and Germanic.

[30] To be sure, the proposal in section 2.4 and that which follows in 2.5.1-4 is by no means the first attempt at a purely PF-based approach to OS or weak-pronoun placement. Bobaljik 2002's morphophonological analysis, for example, places both the motivations for and the restrictions on overtly shifted objects

to take seriously the prosodic deficiency of weak pronouns whilst at the same time dispensing with the LF-related paraphernalia of [±Foc] features, government relations, Greed-driven movement, extra/covert cycles and even OS/*Int* parameters, none of which seem necessarily imposed by the interfaces or reducible to general principles of computational efficiency. Instead, we will appeal to just a single theoretical device, the phase.

Chomsky (MI, DbP, BEA) argues on conceptual and empirical grounds that the syntactic derivation is composed of a number of smaller units, called *phases*, which are identified with the 'propositional' categories CP and (transitive) *v*P. Each phase represents a point at which the syntactic object is accessed and evaluated ('spelt out') by the interface components PF and LF, thereby rendering a particular subpart of the previous phase inaccessible to further operations in the syntax. This subpart is defined by Chomsky's *Phase Impenetrability Condition* (PIC), which states that, given the structure $[_{ZP}$ Z ... $[_{HP}$ α [H YP]]], with Z and H the heads of ('strong') phases, the phase HP is spelt out when Z (i.e. the next strong phase head) is merged, at which point the domain of H (i.e. YP) becomes invisible for the remainder of the derivation. In other words, only the head and specifier ('edge') material of the lower phase head remain accessible to subsequent operations. Thus any operations initiated by head Z can only search as far as the edge of HP. Since phases are identified as C and *v*, if Z = C and H = *v* then VP (= YP) is accessible to probing by T but not by C. That is, C introduces a phase boundary between *v* and VP.[31]

The phase, via its corollary the PIC, thus imposes a maximum-length restriction on syntactic dependencies (thereby defining locality domains in a minimalist syntax; see Chapter Four:4.3.2.2). However, if the domain of a phase is a separate Spell-Out unit, as the phase-cyclic model of multiple Spell-Out implies, then we should also expect to find evidence for the reality of this unit on the phonological side of the PF-interface

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entirely within the PF-component (in the form of adjacency conditions on PF-/morphological merger), thus avoiding the lookahead problems of using the semantics or the phonology to make decisions in the syntax. Tellingly for our present concerns, however, Bobaljik's otherwise entirely PF-internal account of OS and HG still has to invoke LF considerations precisely to explain the obligatoriness of (pronominal) OS – pronunciation of the lower copy in an OS chain would result in a (globally-regulated) mismatch between the copies respectively privileged by PF and LF (since it is the higher, VP-external copy that is interpreted at LF, again in the manner of Diesing (1992)). Indeed, Bobaljik does not distinguish between shifted pronouns and full-DPs in this respect and so is unable to account for the extra restrictions on weak-pronoun placement identified above. The account proposed below combines the twin virtues of (a) a purely LF-free analysis, and (b) a syntactically localized account, by essentially transposing Chomsky's (DbP) analysis from LF to PF (the 'effect on outcome', in his terms, becomes a PF one; cf. fn. 43).

[31] A much fuller discussion of phases and the PIC can be found in Chapter Three.

(Simpson & Wu 2002 make a similar point).[32] What kind of evidence should we then be looking for if Spell-Out does indeed apply cyclically to these units?

To answer this question, we need to identify the PF equivalent of a phase boundary being introduced between *v* and VP. To this end, we must briefly review some theoretical assumptions about the nature of the syntax-PF interface. I will adopt the framework of prosodic phonology as elaborated in the papers in Inkelas & Zec (1990) and elsewhere. Section 2.5.1 outlines two of the main devices employed in this framework, both of which have been extensively motivated in the literature; in combination with a Phase Integrity Condition proposed and motivated in section 2.5.2, these together will derive the distribution of weak pronouns from phase-imposed phonological junctures (section 2.5.3).

2.5.1 The syntax-PF interface: Theoretical assumptions

2.5.1.1 Indirect Reference ("Syntax-Free Phonology") and the Prosodic Hierarchy

In order to make the theory of the syntax-phonology connection as restrictive and testable as possible, it is desirable to limit the amount of access that the rules and operations of the phonological component have to syntactic information. Phonology should no more be able to refer to purely syntactic notions (such as categories, labels, traces, c-command, government, dominance, sisterhood, θ-marking, agreement, etc.) than syntax can to the segmental content of the lexical items it manipulates. We do not expect to find a syntactic operation that moves to the front of the clause all phrases whose head contains a bilabial fricative; similarly, we would also like to minimize, in a principled manner, the extent to which phonological rule domains are defined by the syntax. To this end, prosodic phonology assumes that the syntax-phonology relation is mediated by an intervening level of *prosodic* representation, the 'prosodic hierarchy'. Phonological rules thus refer only to the constituents of this prosodic structure (15), which is itself determined on the basis of syntactic structure by way of *mapping rules* such as the end-based algorithm of Selkirk (16). This algorithm captures the lack of isomorphy between syntactic and phonological constituency and derives prosodic domains that find considerable empirical support both within individual languages (where multiple rules may make use of the same few domains) and crosslinguistically

[32] The work of Fox & Pesetsky (2003) could be interpreted as evidence for phases at the PF interface insofar as their linearization statements are regulated in a post-syntactic component (see Chapter Three, 3.1.2). Also, Adger 2003b, Legate 2003 and Kahnemuyipour 2004 offer phase-based analyses of stress assignment. For the LF interface, see Bonthuis 2004 for arguments that phases are implied by the logical form of semantic representations.

(these patterns of domain formation recur across the world's languages). See *i.a.* Selkirk 1995; Selkirk & Shen 1990; Truckenbrodt 1995, 1999; Hayes 1990; Inkelas & Zec 1990, 1995, for detailed discussion.[33]

(15) *Prosodic hierarchy*

( )	*Utterance*	
( )( )	*Intonational Phrase*	(IntP)
( )( )( )( )	*Phonological Phrase*	(φ)
( )( )( )( )( )( )( )	*Phonological Word*	(ω)

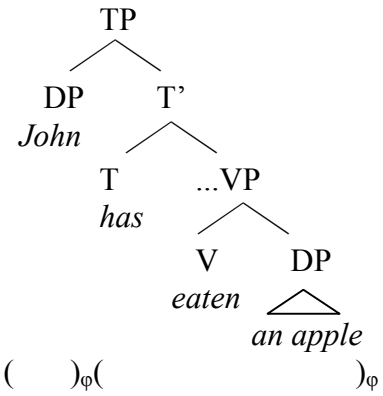
(16) *End-based mapping algorithm*

a. Align-(XP, L/R; φ, L/R)
= *Align the left/right edge of every maximal projection with the left/right edge of a phonological phrase*

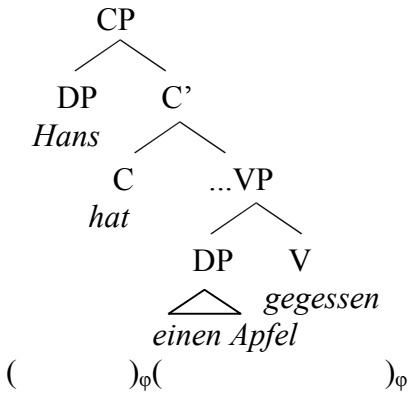
b. Align-(X°, L/R; ω, L/R)
= *Align the left/right edge of every syntactic head with the left/right edge of a phonological word*

Following the conclusions of Truckenbrodt (1995:Chapter 6), I will assume here that right-recursive (VO) languages correspond to an R/R setting, and left-recursive (OV) languages to an L/L setting, of (16a).[34] This is exemplified in (17), which illustrates how the algorithm in (16) maps syntactic to phonological phrases in different languages.

(17) a. *English (VO): Align-(XP, R; φ, R)*



b. *German (OV): Align-(XP, L; φ, L)*



[33] Some authors propose additional levels in the hierarchy (such as Major and Minor Phrases, Clitic Groups, etc.); these are not necessary for our purposes here. The hierarchy also continues below the level of the phonological word (foot, syllable, …) and thus into the domain of prosodic morphology (cf. McCarthy & Prince 1995).

[34] Truckenbrodt actually replaces the syntax-sensitive end-based alignment constraint in (16a) with a 'purely phonological' constraint that aligns the left/right edge of the phonological phrase with its stress-bearing head. All this need mean for our present purposes is that the constraint family in (16) may not be primitive.

2.5.1.2 Top-Down Effects ("No Straddling")

As an independent level of representation, the prosodic structure in (15) is further subject to a number of wellformedness constraints (i.e., constraints on the output of the mapping algorithm (16)) which together ensure a strictly layered and exhaustive parse of the syntactic string. Relevant here is that a prosodic constituent of level C^n must be properly and exhaustively contained in a prosodic constituent of the immediately dominating level C^{n+1}. In other words, a ω cannot straddle a φ-boundary, and a φ-boundary imposes a boundary at all lower levels of the hierarchy (see Selkirk & Shen 1990, Condoravdi 1990, Truckenbrodt 1995:29-31 for further discussion). Thus, analogously to syntactic structure, a constituent of the hierarchical prosodic structure in (15) cannot be immediately dominated by two distinct mother nodes (as is the middle ω in (18a)).

(18) a. *Ill-formed*

( )( )$_\varphi$

( )( )( )$_\omega$

b. *Well-formed*

( )( )$_\varphi$

( )( )( )$_\omega$

As argued in Truckenbrodt 1995, the ill-formed (18a) results in an ordering paradox such that the offending ω is temporally contained in two distinct and sequentially ordered phonological phrases. The phonological material in the ω in question would therefore have to both precede and follow itself, violating the irreflexivity requirement on linear order (cf. Nunes 1999).[35] We therefore have a phonological analogue to the LCA-unorderability of section 2.2, an intolerable situation at this level (i.e. PF, where order must be kept – cf. (1)).

The upshot of this "no straddling" constraint is that the following two top-down effects are implied: (a) if two adjacent feet/syllables are in the same ω, then they must also be in the same φ; (b) if two adjacent feet/syllables are in different φ's, then they must also be in different ω's. These will become important in sections 2.5.2-3.

[35] By the same logic, recursive structures of the form ((...)φ...)φ should also be barred outright, calling into question the recasting of *Nonrecursivity* as a violable constraint in Optimality approaches such as Selkirk 1995. Indeed, the nonrecursive nature of prosodic (as opposed to syntactic) structure is a key argument in favour of the Indirect Reference Hypothesis and thus prosodic phonology, providing as it does an example *par excellence* of the lack of 1:1 isomorphy between syntax and phonology; cf. Neeleman & Weerman 1999.

2.5.1.3 Phonology-Free Syntax

In section 2.2, it was noted that lookahead to the interfaces (PF and LF) should be avoided in the syntax – a syntactic operation must therefore be locally triggered (i.e. by an EPP-feature), and its legitimacy locally determined, without reference to later stages of the derivation or transderivational comparisons. We have already seen this principle at work in our discussion of the data in (8e,f) in section 2.4. OS without further V-movement, as in (14), provides an illegible PF-instruction to languages set to (13a). But the fact that (14) is ill-formed at PF does not in itself trigger further V-movement in the syntax to create a linearizable structure. Movement of nonfinite V to T is syntactically excluded here, as the auxiliary (or its trace/copy) already occupies this target site (and there are no further V/EPP-features to be satisfied on T). Movement, therefore, is only ever licensed by the need to satisfy a local, syntactic imperative (EPP-feature; cf. fn.4). The most that PF can do is to (try to) assign a wellformed representation to the syntactic output it receives – it cannot force repair operations not licensed by the syntax itself (see Anderson 2000, Legendre 2000 for similar conclusions drawn from an OT perspective). As we will see in section 2.5.3, this will lead to the *in-situ* pronouns in (8a-d) being interpreted as *strong* pronouns (wherever possible – cf. fn.45), accounting for the unacceptability of these sentences with an unshifted *weak* pronoun.[36]

2.5.2 Phase Integrity

With the above framework in place, we are now in a position to formulate the expected PF equivalent of introducing a (syntactic) phase boundary between a phase head and its complement domain (i.e. between C and TP, and between *v* and VP). On a minimal extrapolation of the PIC to the PF-interface, the phase will represent an upper bound on the size of phonological phrases (i.e., that level of the prosodic hierarchy that is defined by syntactic constituency, cf. (16)).[37] In other words, we may assume that, at point of Spell-Out, a φ-boundary is introduced, with the result that two adjacent categories straddling a phase boundary will belong to separate φ's (and thus separate ω's, by the

[36] It will also give us a handle on the problem of why, conversely, shifted pronouns must always be interpreted as *weak* in MSc – see below. Note, also, that the principle that PF-wellformedness is never at the expense of syntactic wellformedness may actually underlie our original thesis (1), insofar as linearization is, as argued, a matter of PF-wellformedness alone. Thesis (1) may thus derive from the more general statement that syntax makes no reference to *any* purely phonological notions.

[37] Note, then, that there is no implication (given (18)) that phases should impose boundaries at higher levels of the hierarchy, such as the Intonational Phrase and Utterance. Clearly, there are phonological rules that apply to the entire, reconstituted string, such as the determination of intonational contours; but this does not mean that syntactic phases cannot have an effect on lower-level prosodic categories and thus feed or bleed those phonological rules that refer to the latter.

"no straddling" effect in (18)). This arguably natural assumption that a φ-boundary is introduced at each point of Spell-Out implies the following constraint on syntax-PF mapping, one that preserves the integrity of syntactic phases at the PF-interface:

(19) *Phase Integrity Condition*

For two adjacent categories to be parsed inside the same φ (and any lower prosodic category), they must be spelt out in the same phase.

That is, we derive a 'Maximal φ Condition' such that no φ can be larger than a phase.

We now have everything we need to identify and explain the extra constraints that regulate the distribution of weak-pronominal objects in Germanic OS constructions. Before we do so, though, let us first illustrate how (19) might work on the basis of independent evidence from phenomena other than OS. Sections 2.5.2.1-3 offer three cases that provide empirical support for Phase Integrity at PF.

2.5.2.1 Neg-contraction resolving biclausal ambiguity

Firstly, it is well known that examples such as (20a) involve ambiguity according to whether negation takes scope over the matrix clause or only over the embedded predicate (wide and narrow scope, (20b-c), respectively), and that this biclausal ambiguity is resolved by contraction of *is not* to *isn't*, which allows only the wide-scope interpretation of negation (20d).

(20) a. *The point is not to scare the public*

b. [[The point is not] [to scare the public]]

c. [[The point is] [not to scare the public]]

d. *The point isn't to scare the public*

e. <is not> → <isn't> / (_ _)$_{\omega}$

Assuming the contracted form *n't* to be a clitic/affix that forms a single phonological word (ω) with its host, it follows from *No Straddling* (18) that the cliticization schematized by the rule in (20e) is possible only if *is* and *not* are in the same phonological phrase (φ). By (19), this situation will only obtain where no phase boundary intervenes between these string-adjacent terms. Insofar as the two readings correspond to a structural ambiguity (i.e. *not* is merged in the matrix clause in (20b), but in the embedded clause in (20c)), the lack of contraction in (20c) can be attributed to

Phase Integrity (19), as shown in (21). Contraction, as in (20d), is only possible where *n't* is merged in the matrix clause, i.e. the same clause as its host. This suggests that (19) is at least a necessary condition on *not*-contraction at PF.

(21) *[The point [$_{T'}$ is [$_{vP}$ v_{def} ...V [$_{CP}$ C [[n't] T ...]]]]]
(// ...)$_{\varphi}$
↑ *φ-boundary forced at merge of matrix* v_{def} [38]

2.5.2.2 ECM in English vs. French

We might also invoke (19) to explain the differences between French and English regarding the availability of ECM constructions, as discussed in Kayne 1981:

(22) a. *John believes Bill to be stupid*
b. **Jean croit Robert être stupide*
John believes Robert to-be stupid
c. *Le garçon que je croyais être stupide*
The boy that I believed to-be stupid

Neeleman & Weerman (1999) propose a PF analysis of ECM constructions such that the matrix verb and ECM subject have to appear in the same φ (for reasons of the ECP and case-licensing at PF, not relevant here). If we adopt this central insight, the facts in (22) follow straightforwardly from Phase Integrity if the relevant ECM verbs in English but not French are able to select a TP complement (T_{def} in Chomsky's terms).

In (23a), the string-adjacent *believes* and *Bill* are straightforwardly parsed into the same φ, and thus the ECM relation is established. In (23b), a phase boundary intervenes between the adjacent verb and ECM subject: when matrix *v* is merged, the complement domain of embedded C, containing the ECM subject in embedded spec-TP, is spelt out (by the PIC) and thus cannot be parsed inside the same φ as the matrix verb. However, if the ECM subject moves to the matrix CP, as arguably occurs when the ECM subject is relativized (23c), then the copy left by successive cyclic EPP-driven movement via spec-*v*P will still be accessible to the matrix verb (in T) after the respective domains of embedded C and matrix *v* are spelt out, allowing the verb and ECM subject (copy) to be parsed together as φ-mates by (19).

[38] See Chapter Three for (additional) arguments that defective, nontransitive *v* is a (strong) phase.

(23) a. *English* (no V-to-T; ECM verb selects T_{def} complement)
John believes Bill to be stupid
$[_{vP}...v$ ...V $[_{TP}$ [Subj] T_{def} ...]]]
( )$_{\varphi}$

b. *French* (V-to-T; verb selects CP complement only)
*Jean croit Robert être stupide
[…T $[_{vP}...v$ ...V $[_{CP}$ C [[Subj] T ...]]]]
(//)$_{\varphi}$
↑ *φ-boundary forced at merge of matrix v*

c. Le garçon que je croyais t_i t_i être stupide
[Subj$_i$] ... [T $[_{vP}$ [t_i] *v* ...V $[_{CP}$ [t_i] C [[t_i] T ...]]]]
( )$_{\varphi}$

2.5.2.3 Null-complementizer distribution

In their discussion and analysis of complementizer deletion in English, Bošković & Lasnik (2003), following Pesetsky (1992), propose that the null complementizer is a PF-affix requiring an adjacent host. However, to account for the data in (24), Bošković & Lasnik have to make additional stipulations, so that the host must specifically be a [+V] category, with a further special exception for copulas.

(24) a. *It seemed at that time $[_{CP}$ Ø $[_{TP}$ David had left]]
b. *What the students believe is $[_{CP}$ Ø $[_{TP}$ they will pass the exam]]
c. *Mary believed Peter finished school and Bill $[_{CP}$ Ø $[_{TP}$ Peter got a job]]
[Bošković & Lasnik 2003: 529 (3a,b,d)]

Sensitivity to syntactic categories would be unfortunate for a phonological rule like affixation (cf. the Indirect Reference hypothesis of section 2.5.1). These extra stipulations are, in fact, unnecessary given the Phase Integrity condition in (19). Since PF-affixation involves restructuring at the level of the phonological word (ω), as schematized in (25), and since V (host) and C (null affix) must be in the same φ in order to form a single ω (cf. the wellformedness theorem in (18)), such PF-affixation should be subject to (19).

(25) <V C> → <[V-C]> / (_ _)$_{\omega}$

It follows from the Phase Integrity approach that adjacency alone will be insufficient for affixation (and other adjacency-dependent PF operations) just in case a phase boundary intervenes between the string-adjacent terms. In the present case, an

intervening phase boundary blocks affixation between null C (which we can take to be an enclitic element) and left-adjacent host (irrespective of its syntactic category). We can therefore explain the ungrammaticality of (24a-c) without the need for syntactic subcategorization at PF or stipulations about copulas. Copula *be* fails as host in (24b) since it occupies the matrix T position. The PIC inserts a φ-boundary between matrix phase-head *v* and its complement VP, thus separating matrix T from the null C head (the same applies for *Bill* in matrix spec-TP and the null C head in (24c)). (24a) is then ruled out if adjuncts are separate phases/spell-out domains (cf. Uriagereka 1999, BEA).[39]

2.5.3 Weak pronouns as phasal affixes

As stated at the start of this section, there must be extra conditions regulating the placement of weak pronouns that go beyond our head-parameter in (13). The latter resolves the unorderability issue associated with pronominal complements (cf. (3)), allowing both [V-Pron] and [Pron-V] to be generable linearized outputs at PF. Yet only in (8e,f) is the weak pronoun able to remain in its merge position.

At first blush, it would seem that phase theory is unlikely to offer a characterization of the extra conditions that regulate and obligatorize the placement of weak pronouns. Take the rough generalization in (26), based on Svenonius 2001a.

(26) A weak pronoun is spelt out *in the same phase* as the lexical verb.

Although this captures the basic patterns for the VO/Scandinavian languages, it fails to cover the OV facts if we maintain Chomsky's C/*v* definition of phases – the shifted object in (8d), which we take to occupy spec-*v*P, is in a different phase from the *in-situ* lexical verb for spell-out purposes (since the PIC imposes a phase-boundary between *v* and its complement, VP). However, (26) will serve us well as a first approximation

[39] Bošković & Lasnik, too, invoke an intervening prosodic boundary to explain the unavailability of complementizer drop with right-node-raised clauses (cf. **They suspected and we believed* [$_{CP}$ Ø [$_{TP}$ *Peter would visit the hospital*], their (3c)). They argue that RNR'd complements are to be parsed as separate intonational phrases (i.e. IntP in (15)), hence affixation is blocked between the null affix and its adjacent host. Since an IntP-boundary implies a φ-boundary (by (18)), this is of course perfectly compatible with the present proposal. An (2004) generalizes the IntP approach to claim that all the cases of illicit complementizer drop involve clausal complements in "noncanonical" positions and that such noncanonically-placed clauses are obligatorily parsed as separate IntPs. However, he rejects a null-affix analysis and instead seeks to derive complementizer drop from a general ban on empty IntP edges. This ban is then claimed to be the PF counterpart of the PIC, though they would appear to be conceptually and logically unrelated, to my mind at least. In the proposal I am putting forward here, the PF counterpart of the PIC is simply the PIC – same units, same effect (i.e. isomorphic phase boundaries at syntax and PF, yielding the equivalent inaccessibility to syntactic and phonological operations alike).

since, once we derive *why* this generalization holds at all (i.e. even for the VO languages), the OV languages fall immediately into line.

Recall the salient characteristic of weak pronouns, that which distinguishes them from strong pronouns, namely their prosodic deficiency. This is the core, defining property that any theory of weak-pronoun placement should take into account (and, ideally, it is the *only* property that an explanatory account should have to appeal to). Let us formalize this prosodic deficiency as in (27).

(27) A weak pronoun is not an autonomous prosodic word (ω).[40]

In order to be interpretable at PF and thus not incur a violation of Full Interpretation (FI), weak pronouns therefore require hosting by a preceding word at PF (cf. Erteschik-Shir & Strahov 2004 for a similar characterization of weak pronouns). That is, they are enclitic PF-affixes (like the null complementizers of section 2.5.2.3) that move as independent XPs in the syntax and cliticize to the left-adjacent category only at PF (i.e. *post*-movement, contra Erteschik-Shir & Strahov).[41]

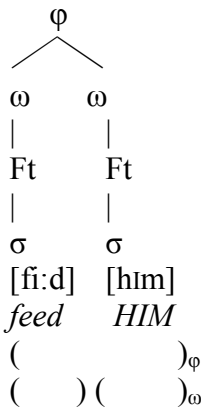
Thus, a strong pronoun may be attributed the prosodic structure in (28a) – it is an autonomous, stress-bearing unit, capable of independent realization – whilst a weak pronoun is necessarily realigned as part of the prosodic structure of its host ω (28b) since the only way to prosodically license such an unfooted syllable is to parse it inside another ω.[42]

[40] That is, it is smaller than a foot, hence its inability to bear stress. A stressed syllable is the head of a foot (the minimal stress-bearing unit), and every foot must be dominated by (i.e. contained in) a ω for prosodic wellformedness (cf. section 2.5.1). Thus no ω can be smaller than a foot.

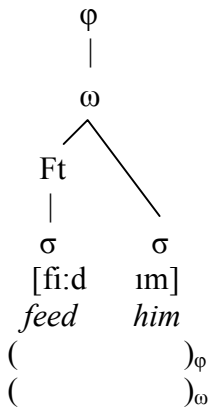
[41] Thus in interrogative and adverb-initial V2 clauses, for example, the weak pronoun in the *v*P-edge is hosted by the left-adjacent subject DP rather than the verb – there is never any 'choice' of host, then, and no category-sensitivity is required. Note also that, since they are enclitic, weak object pronouns cannot appear in clause-initial position – as Grohmann (2000) shows, only strong pronouns may appear in the pre-V2 position in Germanic. Weak *subject* pronouns, on the other hand, are not restricted in this way and are, of course, legitimate in initial position. Since the enclitic property of weak object pronouns has to be stated as a primitive of the theory, the obvious (but uninteresting) solution is simply to treat weak subject pronouns as *pro*clitics. I leave the issue open.

[42] The structures in (28) are based on Selkirk 1995. (28b) is Selkirk's "internal clitic", avoiding the recursivity of the "affixal clitic" structure that she assigns to weak pronouns (cf. fn.35 above).

(28) a. *Strong form*



b. *Weak form*



The weak pronoun (PF-clitic) and its host are, by definition, part of the same ω. As such, they instantiate exactly the same word-level reanalysis scheme as that given above for *n't*-contraction in (20e) and for null-complementizer affixation in (25). We therefore predict that the distribution of weak pronouns should likewise be subject to the restrictions imposed by Phase Integrity (19) – for affixation to obtain, the weak pronoun and its left-adjacent host must be parsed inside the same φ and so must minimally belong to the same syntactic phase. Any intervening PIC-induced phase boundary will block hosting and so render the weak pronoun uninterpretable at PF; in such cases, FI dictates that the strong form of the pronoun be realized (this is the only way to yield a wellformed PF; cf. 2.5.1.3).[43] The preliminary generalization in (26) can now be restated in the form of the constraint in (29), which derives immediately from (19).

(29) *Weak pronouns as 'phasal' affixes*

A phase boundary cannot intervene between a weak pronoun and its host.

In practice, (29) prevents a weak pronoun from appearing at the left edge of a phonological phrase (and thus of a phasal domain) – these pronouns may in that sense be informally characterized as phasal affixes. The facts in (8), including the problematic asymmetry between full DPs and weak pronouns with regard to obligatoriness of shifting, now follow without further ado.

[43] Hence, wherever OS can in principle apply (i.e. HG environments in VO languages and universally in OV languages), unshifted pronouns are obligatorily strong, and, conversely, strong pronouns only optionally undergo OS – it follows that the strong form is the default, 'unmarked' form in OS environments. The weak form is the *result* of OS in the syntax (and not the teleological motivation for it, thus lookahead plays no part); it is this otherwise unavailable 'effect on outcome' at the PF-interface, i.e. the realization of the weak form, that licenses the optional EPP-feature on *v*, in the now familiar manner of Reinhart 1995, DbP, etc.

Firstly, the availability of postverbal weak pronouns in the nonfinite (i.e. unshifted, non-HG) environment in (8e-f) is trivial: the *in-situ* verb and its complement inhabit a single φ by the R/R (VO) setting of (16a), and since no phase boundary intervenes between them, the indicated prosodization can take place. The more interesting cases, then, are those where pronominal OS is obligatory, i.e. (8a-d). By (29), we predict (correctly) that these obligatory environments should be exactly those where the PIC would separate the *un*shifted pronoun from its left-adjacent host and so result in their being parsed into separate φ's (by Phase Integrity, (19)), bleeding hosting and the realization of the weak form of the pronoun. Let us take an unshifted and a shifted example from both a VO and an OV language to show how this is borne out, starting with VO (Icelandic).

(30) *Icelandic* (VO) (= (8b))[44]

a. Unshifted pronoun

*[$_{CP}$ [*Nemandinn*] [$_{C'}$ [*las*] ... [$_{vP}$ *ekki* [$_{VP}$ t$_V$ *hana*]]]

( )( )( )$_φ$

b. Shifted pronoun

[$_{CP}$ [*Nemandinn*] [$_{C'}$ [*las*] ... [$_{vP}$ *hana* [$_{vP}$ *ekki* [$_{VP}$ t$_V$ t$_{Obj}$]]]

( )( )$_φ$

Upon merger of matrix C, the complement domain of *v* (i.e. VP) is spelt out by the PIC, forcing a φ-boundary to be inserted at the left edge of VP. That is, the PIC imposes a phase boundary, and therefore also a φ-boundary, between *v* and VP. It follows that the unshifted pronoun in a head-initial (VO) language like Icelandic will fail to find a legitimate, left-adjacent, phase-mate (and thus φ-mate) host wherever the verb leaves VP (cf. (30a)). OS is therefore obligatory here if the pronoun is to be spelt out as weak.[45] By undergoing EPP-driven OS into the *v*P-edge, the pronoun in (30b) is able to be ph(r)ased with the left-adjacent word, allowing the weak form to be realized via encliticization. The extra constraint on the placement of weak pronouns, namely the bidirectionality of HG in the case of pronominal OS (as opposed to full-DP OS) identified at the start of section 2.5, has therefore been reduced to (29) – a weak pronoun cannot be stranded at the left edge of a phasal domain.

[44] And identically for Danish (8c). Main-clause V2 German (8a) shares this analysis too, albeit with the base positions of V and O in (30a-b) switched around for OV order.

[45] In the VO case (30a), the pronoun is forced to form a φ on its own. As a weak pronoun is an illegitimate autonomous ω (cf. (27) and fn. 40), it violates *a fortiori* the minimal size requirements for all higher-level constituents on the prosodic hierarchy. Only the strong form of *hana* can be parsed in isolation and thus allow a convergent PF-object to be obtained. (In the case of German (31a), below, no such convergent alternative is possible since *es* is an inherently weak form that lacks a strong allomorph, perhaps by virtue of its inherent inanimacy – cf. Cardinaletti & Starke 1996.)

Turning next to OV Germanic, we see that the exact same factors are at work, as shown for German in (31).[46]

(31) <u>*German* (OV)</u> (= (8d))

a. Unshifted pronoun

*[$_{CP}$ [*Der Student*] [$_{C'}$ [*hat*] ... [$_{vP}$ *nicht* [$_{VP}$ *es gelesen*]]]

(...)( )$_{\varphi}$

b. Shifted pronoun

[$_{CP}$ [*Der Student*] [$_{C'}$ [*hat*] ... [$_{vP}$ *es* [$_{vP}$ *nicht* [$_{VP}$ t$_{Obj}$ *gelesen*]]]

(...)( )$_{\varphi}$

Again, merger of matrix C imposes a phase/φ-boundary between *v* and VP. The unshifted object inside the head-final VP in (31a) is therefore stranded without a legitimate, left-adjacent, phase-mate (φ-mate) host by the PIC, irrespective of whether the verb moves or not. Hence pronominal OS is obligatory in an OV language even where the lexical verb is nonfinite and thus remains inside VP (yielding (31b)). We thus derive the well-known *lack* of HG effects in OV languages (cf. (9), and (8d) versus (8e-f)).[47, 48]

[46] To be sure, there are some subtle language-specific differences dividing the OV and VO languages. Whilst the EPP-shifted weak-pronominal object must always appear in the leftmost specifier of *v*P with respect to *v*P-adjoined adverbials (cf. Vikner 1994b, Grohmann 2000), a fact which follows if adverbials are separate phases (see end of section 2.5.2.3) and thus illegitimate hosts by (19), there is crosslinguistic variation as to whether a shifted direct object (DO) pronoun must also appear to the left of a (shifted) indirect object (IO). In German, the IO does indeed count for the 'leftmost' requirement of shifted pronominal DOs (cf. (i)), whereas in Swedish and Norwegian, IO-DO order must be preserved post-movement (at least where IO is a full DP; cf. Anagnostopoulou 2004), as in (ii).

(i) *Der Student hat (es) dem Mann (*es) nicht gegeben*

(ii) *Jag gav (*den) Elsa (den) inte*

Given a 'tucking-in' approach to IO-DO order preservation (N. Richards 1999, Anagnostopoulou 2004), a syntactic account of the stricter German placement seems unlikely (rather, a local φ-internal PF inversion or alignment rule might be at work, cf. Anderson 2000 on Slavic clitics), but I do not pursue the matter here.

[47] On an antisymmetrical approach, the pronominal object in OV German would have to have raised to a specifier above VP in (31a) and (31b) alike, and should therefore be able to parse with its left-adjacent host by (19) in either case (i.e. whether or not OS applies). The analysis presented here thus provides evidence that direct objects in OV languages are no different from those in VO languages – that is, they display VP-internal behaviour in VO and OV language-types alike, suggesting that the syntax is, indeed, essentially symmetrical.

[48] Ian Roberts (p.c.) points out that this analysis raises the question of how the weak-pronominal object is hosted in a nonfinite embedded OV clause, as in *Er versuchte, es zu lesen* ['he tried to read it']. Pending further investigation, I will simply assume (as I am forced to do) that the complement clause of restructuring verbs is smaller than a CP phase; the discussion and analysis of restructuring infinitives in Wurmbrand 2001, Wurmbrand & Bobaljik 2003 lend some support to this claim (i.e. the 'non-restructured' infinitival phrase may simply be a *v*P, with *es* in its edge and thus matrix-accessible).

2.5.4 Summary and conclusions

This section set out to identify and explain the minimal extra conditions on weak pronoun placement in Germanic that are responsible for the lack of flexibility and optionality that obtains with these elements in OS environments by contrast with full DPs (i.e. the bidirectional HG effect in VO Scandinavian, and the generalized, anti-HG obligatoriness in OV West Germanic). The account proposed in sections 2.5.2 and 2.5.3 offers a principled explanation of the patterns in (8) by proceeding from the one inalienable property of weak pronouns, their prosodic deficiency, and locating the distributional consequences of this property entirely within the PF component where they most naturally belong. This property, in turn, allows us to make do with the barest of assumptions and eliminate all but the most necessary stipulations. The prosodic realignment of weak pronouns with their hosts, a requirement ultimately imposed by FI, is shown to be sensitive to syntactic phase boundaries, providing direct evidence for the reality of Chomsky's phases at the PF interface in the form of a maximal size restriction on prosodic constituents, (19).[49] This restriction, which is the minimal extension of the PIC to PF and prosodic constituency that can be expected if phases constitute the units of Spell-Out, finds further empirical support in various domains outside of weak-pronoun distribution in Germanic (sections 2.5.2.1-3).

The analysis has a number of further implications and conceptual advantages over previous minimalist accounts of the distribution of weak-pronominal objects. Firstly, it cuts across the VO/OV divide without having to make special provisions for either word-order type. In particular, it can explain the obligatoriness of weak-pronominal OS in OV languages (cf. (8d)) without the need to stipulate that such languages are always [+OS]; Chomsky's (DbP) account would be forced to stipulate that the "phonological border" of *v*P in OV languages is obligatorily assigned the *Int'* semantic complex (unlike VO languages, which are free to vary in this [+/−OS] property, raising the awkward question of why there should be no [−OS] OV languages). Indeed, the need for a separate OS/HG parameter is eliminated in the

[49] Moreover, the analysis supports the extensional definition of phase heads as C and *v* and so, to that extent, provides evidence against the richer phase systems of Svenonius 2001a/b, Epstein & Seely 2002, Müller 2003, and others (see also Chapter Three:3.1.1). However, it casts doubt on Chomsky's use of 'phonological isolability' as a diagnostic for phasehood – it is the complement of a phase head (i.e. VP), rather than the phrase projected by the phase itself (i.e. *v*P), that is spelt out by the PIC; likewise, it is the former rather than the latter category that is isolated at PF (in the form of a φ-boundary blocking cliticization out of the spelt-out unit). The units of cyclic spell-out are thus uniform on both sides of the syntax-PF interface. (Bošković 2002 gives further arguments against invoking PF-isolability in the C/*v* definition of phases.)

present proposal, since it makes the simple prediction that a weak pronoun cannot be the leftmost element inside VP (rather than *v*P); the effects of word-order type fall out immediately, and pronominal OS and Scrambling can therefore be treated as two sides of the same (VO/OV) coin, just like their full-DP counterparts in section 2.4. We can therefore subsume all three properties – HG, ±OS, and VO/OV – under a single linearization parameter, (13).

Secondly, we have no recourse to special allowances for *v*P-adjuncts (e.g. negation in (8) and the other adverbial elements taken as diagnostics for OS in the literature, cf. Collins & Thráinsson 1996), a concession that is common to many OS analyses – cf. the inability of adverbials to govern [−Foc] in Holmberg 1999, their apparent invisibility for the purposes of determining the phonological border in DbP, and their unavailability as hosts for 'prosodic incorporation' in Erteschik-Shir & Strahov 2004. On the present account, adverbial hosts are barred in the same way as any other illegitimate adjacent host-candidate, *viz*. by the PIC, which implies that adjacency is merely necessary, not sufficient, for affixation to obtain.

Finally, as mentioned above, the present analysis exploits the prosodic deficiency of weak pronouns rather than any inherent semantic properties (real or otherwise). The 'structural deficiency' of weak pronouns (cf. Cardinaletti & Starke 1996, Grohmann 2000) resides solely in their prosodic rather than syntactic structure, a desirable move since the apparent lack of any logical connection between syntactic deficiency and prosodic weakness should ideally render the former notion redundant in an explanation of the basic distributional patterns. We thus avoid the postulation of [±Foc] features, weak/strong ϕ-features, and the attendant complexities of Greed-driven movement. Further, the present analysis refers only to phases and the PIC; it thus dispenses with the extra notion of phonological border and the associated stipulations and complexities regarding the positional assignment of interpretive complexes. Counterintuitive measures such as 'LF'-cliticization to empty heads are replaced by transparent PF-cliticization driven by indispensable prosodic requirements. Since this cliticization at PF is fed by OS in the syntax, the latter operation conforms to the requirement that an optional operation have an effect on outcome (DbP:34 (60)). As we have seen, the obligatory *absence* of pronominal OS in (8e,f) follows since cliticization is available *in situ*, and so the optional EPP-feature would therefore not be motivated in this case. Since pronouns always inherently encode old information (unlike nonpronominal DPs), irrespective of whether they are strong or weak, it is not clear that 'new outcomes' could ever be motivated via the LF-interface. That is, if it is semantic

rather than prosodic properties that motivate pronominal OS (via the licensing of an optional EPP-feature in the syntax), the only effect on outcome is the avoidance of a deviant interpretation (a clash of semantic complexes) rather than the creation of a new one (cf. also fn.28). If we are to maintain a local implementation of optional, 'surface-semantic' operations without the need for direct PF-LF interaction and global contamination of the syntax, then the only interface at which pronominal OS can be motivated is PF. This, in turn, allows a maximally simple theory to emerge that eliminates the redundant technology of LF-based approaches.

In sum, weak pronouns appear precisely where a multiple spell-out model would predict such prosodically deficient elements to appear. The theoretical and conceptual parsimony of this approach, I believe, comes closer than previous accounts to the minimalist goal of explaining syntactic phenomena purely in terms of 'natural' interface conditions.

2.6 Concluding remarks: The A/A-bar distinction and the typology of movement

Starting out from the assumption in (1), we have developed a minimalist approach to linearization at the PF interface that makes use of two very simple and independently motivated devices – the head-parameter in (13), incorporating Kayne's LCA (via Epstein et al's PRP), and the Phase Integrity Condition in (19), incorporating Chomsky's PIC. Together, these have been shown to successfully and straightforwardly account for the core empirical facts of OS and Scrambling in (8).

A great many questions still remain. For example, we have had little to say so far about the absence of full-DP OS from MSc (cf. the middle column of table (9)). Further, we have said nothing about the relation between the ordering parameter in (13) and other types of movement, those that target positions outside the thematic domain, such as TP (A-movement) and CP (A-bar movement). These (and other) questions are the topic of the next two chapters, where we will seek to identify and explain how (13) fits into a general theory of the interaction between displacement and linearization, one that allows a single language system to countenance both order-preserving and order-permuting movement operations. The remainder of this chapter offers a sketch of the direction we shall take, starting with the status of the A/A-bar distinction itself.

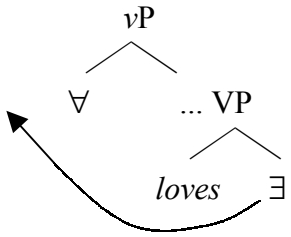
As we saw in Chapter One in our discussion of previous approaches to OS/Scrambling, the distinction between A- and A-bar positions (and the movement types they define) was central to much work in earlier Principles-and-Parameters Theory. Whilst it is still appealed to intuitively or informally in more recent analyses, it has nevertheless resisted a full naturalization into the Minimalist framework. Indeed, the distinction would seem unstatable under the Probe-Goal system of Chomsky (MI, DbP, BEA), on two counts. Firstly, Move and Agree are now dissociated, so that the former is simply remerger of a piedpiped category triggered by a generalized EPP-feature. Secondly, the operation of ('long-distance') Agree replaces special checking relations, such as spec-head, with simple c-command. Consequently, even Chomsky's attempt at a minimalist reformulation in MP is no longer tenable, since the latter defines A-movement in terms of (narrowly) L-related positions and the "checking domain of L-features"; cf. MP:196. Certainly, given BPS and Inclusiveness, we can no longer coherently appeal to a definition in terms of a 'property of positions' (cf. discussion of the *Int'* complex in 2.5 above). In order to maintain the A/A-bar distinction in a truly minimalist setting, and thus confirm its status as an explanatory concept rather than a descriptive tool, we must reduce it to conditions imposed by the interfaces. The present analysis of movement operations that constrains them in terms of the parametrized desymmetrization strategy in (13) may pave the way towards such a minimalist redefinition.

To see how this might work, we first need to consider an obvious shortcoming of our approach. The parameter in (13) cannot be the whole story when it comes to a theory of movement since, if it were, then we would predict that *all* movement operations should preserve shape (precedence relations). This is patently not the case – indeed, the order-preservation property would seem unique to OS/Scrambling, as both A-bar movement (*wh*-raising, topicalization, etc.) and A-movement (passive and unaccusative raising) seem able to upset the basic VO/OV ordering. A-bar movement can freely apply to subjects, objects and adjuncts alike, destroying shape relations seemingly at will; and expletive-free passive and unaccusative clauses are characterized by the shifting of an internal argument from the complement-to-V position to a higher specifier (subject) position where it c-commands the verb (cf. Burzio's Generalization), resulting in exactly the kind of switching of precedence relations in a VO language that we have argued above to be impossible in the case of Object Shift. How can these differences be accounted for in the present framework, one that seeks to remove interpretive asymmetries from core syntax (cf. (1)) by appealing to interface strategies

such as (13)? Here I will outline some suggestions that will provide the departure point for the more detailed and elaborate discussion in Chapters Three and Four.

Let us assume that the argument in section 2.1 for eliminating linear order from syntax proper (and the recasting of linearity as a PF output condition) may be part of a more general programme that would apply this logic to *all* (apparent) asymmetrical relations in the grammar (see also Chapter Five). That is, in the strongest version of the 'symmetrical syntax' hypothesis (cf. (1)), we would like to be able to treat LF-interpretive asymmetries (scope, binding, etc.) in the same way as PF-linearization. The LF correlate to the PF-unorderability problem of section 2.2, i.e. to ambiguous precedence relations, is ambiguous scope relations, and the latter, too, are naturally expressed in terms of conflicting c-command relations providing contradictory information to the interface. Taking the standard assumption that scope is structurally encoded as c-command, a simple scope ambiguity with multiple quantifiers of the form *Everyone loves someone* can be stated in terms of the ignoring (deletion) of superfluous c-command relations at *LF*, analogous to what we saw for PF in section 2.4. Given the structure in (32), quantifier raising of the existential at LF will give rise to a symmetrical (and thus ambiguous) set of scope relations {∀ > ∃, ∃ > ∀} that can be resolved by ignoring one of these scope-interpretive c-command relations: ignoring ∀ > ∃ gives the wide-scope reading of the existential, ignoring ∃ > ∀ the narrow-scope reading.[50]

(32)



C-command relations
Via Merge (∀, VP): {∀ > ∃}
Via Move (QR): {∃ > ∀}

Unlike the PF situation, however, Ignore of a given c-command relation is only optional here. As the scope-bearing elements are not merged as sisters, the relevant symmetry arises only through Move, not (first-)Merge, and so consistent Ignore (i.e. a parameter of the kind in (13)) is unnecessary (or impossible). A language is thus free to ignore either of the c-command relations; hence the ambiguity.

[50] Clearly, such a simple example does not do justice to the subtle and complex facts of syntactic scope presented in the literature. My aim here is simply to draw a parallel with the PF analysis of section 2.4.

In the case of *overt* A-bar movement, the ignoring of a given c-command relation at LF will give rise to the phenomenon known as *reconstruction*. Returning to the issue of shape-preservation at PF, we thus have an interesting parallel between the two interfaces: that type of movement that is known to reconstruct for the purposes of LF interpretation (i.e. ignores scope-feeding c-command instructions at LF) also seems to have the property of 'reconstructing' at PF (i.e. ignores linearization-feeding c-command relations, *viz*. those that would violate the relevant setting of (13)). Two questions now arise. Firstly, if the O > V relation created by *wh*-fronting of the object in, e.g., *what did John buy?* is actually ignored at PF (yielding PF-reconstruction on a par with LF-reconstruction), why is *what* not realized linearly in its base position? Secondly, how do we account for the shape-destroying property of passive/unaccusative A-movement, which, unlike A-bar movement, is not canonically associated with reconstruction at LF?[51]

I would like to suggest that the answer to both these questions lies in a single difference that unites A- and A-bar movement, on the one hand, and distinguishes them from OS/Scrambling on the other, and that this key difference is what underlies the ability of A- and A-bar movement to escape the shape-preserving requirement that should seemingly be imposed by (13) on all movement operations alike. Let us assume, as above, that the final landing-site of OS and Scrambling is spec-*v*P (at least in the case of the short, '*Mittelfeld*' displacements under consideration here, exemplified in (8)), whereas the final landing-sites of *wh*-movement and passive/unaccusative raising are external to *v*P (i.e. spec-CP and spec-TP, respectively). Let us further assume that, under the phase-based system of Chomsky (MI, DbP, BEA), movement to a position outside of *v*P cannot take place in a single step but must rather proceed successive-cyclically through the edge of *v*P according to the PIC (since *v*P is a 'strong' phase in Chomsky's system – we will see in the next chapter that passive/unaccusative *v*/VP has the same status). We can then distinguish between the relevant cases as follows: OS/Scrambling are simplex movement operations that directly target the position in which they are spelt out, namely the specifier of (transitive, nondefective) *v*P; *wh*-movement and passivization of the internal argument, on the other hand, involve complex, two-step movement operations that first raise the argument to spec-*v*P (defective *v* in the case of passive/unaccusative, nondefective *v** in the case of *wh*-movement), from where it is

[51] Temporarily setting aside the familiar examples from raising predicates (of the form *Pictures of himself seem to John to always turn out poorly*), and from psych-verbs (of the form *Those pictures of himself pleased John*), which arguably involve logophors (cf. Manzini & Roussou 1999). We will revise this position in Chapter Three:fn.2, where it is suggested that the A/A-bar distinction dissolves into independent syntactic differences, correctly predicting that reconstruction should cut across the typology.

accessible to probing by C/T and, thereafter, movement to its final landing-site (spec-CP/TP).

Why, then, should this make a crucial difference? Suppose that PF can distinguish between intermediate landing-sites and final landing-sites. Movement to the former is driven by EPP-features added to the relevant probe for reasons of PIC-compliance: that is, to allow the moved element to enter into a feature-valuing relation with a probe in a higher phase (thus allowing FI at LF). These 'intermediate EPPs' thus differ from those EPP-features which determine the final spell-out position of the moved element[52] – plausibly, only the latter are relevant to PF (i.e., serve as PF-instructions). If so, then the c-command relation formed by movement to an intermediate position (such as a spec-*v*P escape hatch) might play no role for the purposes of (13), being automatically ignored as an unviable precedence instruction. Consequently, only the c-command relation formed by subsequent further movement to the final landing-site (i.e. spec-CP/TP > spec-*v*P) can feed linearization, a relation that is derivationally innocuous from the point of view of (13).[53] Essentially, we predict that shape-preservation effects will only obtain for those movement types in which launch and (final) landing-site of the moved XP are contained within the same phase – that is, for OS and Scrambling alone. Only movement outside of *v*P, to TP and beyond, will escape the effects of (13); shape-sensitive linearization by (13) thus remains the basic, simple case, despite only a minority of movement operations (OS/Scrambling) actually conforming to it.

To recap, our aim is to give a principled analysis that allows a VO language to delete only those O > V relations that involve phase-mate final landing-sites (spell-out positions), in accordance with setting (13a), whilst ignoring for these purposes those created through indirect (intermediate, PIC-driven) EPP-movement. The latter are not deleted precisely because they do not involve a PF-instruction (that is, the final spell-out position of the raised XP). As such, they are able to feed further movements, and thus c-command relations, that are able to obviate the effects of the parameter in (13). Ultimately, if the line of thought pursued above is correct, we arrive at something like the following symmetrical typology of syntactic movement (reminiscent of that in Bobaljik 2002), which summarizes the conclusions tentatively (and preliminarily) drawn in this section:

[52] See Bošković 2002 for related discussion of 'final' versus 'intermediate' EPP positions.
[53] We will expand on this at length in Chapters Three and Four.

(33) *Movement typology*	**Ignore at PF**	**Ignore at LF**
Object Shift/Scrambling	×	×
Covert QR (reconstructed)	×[54]	✓
A-movement (passive/unaccusative)	✓	×
A-bar movement (*wh*, topicalization)	✓	✓

This, in turn, may provide the basis for a strictly minimalist reformulation of the traditional A/A-bar distinction, the desideratum we started with. The typology in (33) defines these (and other) movement types in terms of interface properties rather than positions in the phrase marker. It has the further advantage of expanding the A/A-bar dichotomy of movement types into a (maximally) *four*-way typology, allowing OS/Scrambling to be treated as a class unto itself with its own defining properties rather than forcing it to fit uncomfortably within the A/A-bar system (cf. Chapter One).

The scene has now been set for Chapter Three, where we will explore the technical and conceptual ramifications of implementing the kind of analysis delineated above. Fortunately, most of what we need will fall out without stipulation from a logical and consistent deployment of the existing minimalist technology.

[54] Assuming covert movement (QR) to take place immediately post-Spell-Out at the end of the phase (cf. BEA), the c-command relations it creates will not be ignored at PF for the simple reason that they will not be present there in the first place. It is doubtful, however, that covert QR can actually reconstruct, as the effects of movement would be completely undone and thus undetectable at either interface, in violation of FI. The typology may thus only be three-way rather than fully symmetrical (see also Sobin 2004).

Chapter Three

Final landing-sites and the passives problem:

On defective *v* and the shape of phases

Let us take stock of where we are now with a brief review of the conclusions that have been reached so far and the questions that remain to be answered. In Chapter One we saw that the central properties of the OS/Scrambling type of movement phenomenon set OS/Scrambling apart from the traditional A- and A-bar movement types. These properties were set out in Table 1, section 1.1, repeated here.

(1) Table 1: **Object-displacement properties**

	Object Shift	**Scrambling**
1. Holmberg's Generalization (V must leave VP)	YES	NO
2. Obligatory with personal pronouns	YES	YES
3. Possible with full DPs	NO *(MSc)* YES *(Icel.)*	YES
4. Affects discourse interpretation (defocalization)	YES	YES

In Chapter Two we developed a theory of OS/Scrambling that allows these properties to be captured directly as a third type of (XP-)movement alongside and distinct from A- and A-bar movement. A number of the properties in Table 1 emerged as epiphenomena once the core defining property of OS/Scrambling was identified, namely its order-preserving character. The latter allows the differences between OS and Scrambling to be reduced to a basic VO/OV linearization parameter operative at the PF-interface that ensures the desymmetrization (and thus PF-legibility) of syntactic structures, as repeated here in (2).

(2) *Parametrized LCA*

Merge(α,β) → {<α,β>, <β,α>}

a. VO = Ignore all O > V [i.e. {<α,β>, <β,α>} → {<α,β>}]

b. OV = Ignore all V > O [i.e. {<α,β>, <β,α>} → {<β,α>}]

The requirement that 'V must leave VP' for OS to obtain in a VO language (i.e. HG), property 1 above, thus reduces to the general effect that base-merge order (VO/OV) is imposed right across the derivation (or rather within a phase at least, as we will see below). This, in turn, subsumes property 3, since OS will only be possible in a VO

language where local V-movement (V-to-T) takes place, separating Icelandic from the rest of Scandinavian. The stricter condition on the realization of (weak) pronouns, i.e. property 2, was shown to follow from the deficient prosodic structure of weak pronouns and the sensitivity of PF-cliticization to a phase-imposed phonological boundary, a natural consequence of Chomsky's Phase Impenetrability implementation of multiple spell-out. Property 4 is a consequence of the rationale for optional operations adopted in DbP and based on the Reinhart (1995) and Fox (2000) insight into the functional motivation for 'marked' derivations – an optional, 'extra' movement operation like OS/Scrambling (or rather, the formal trigger for this movement, the optional EPP-feature added to the phase head *v*) must ultimately be cashed out in the form of extra effects at the interface, i.e. a new interpretive outcome (defocalization, old/specific semantics, etc.); see Chapter One, and Biberauer & Richards 2004.

The basic properties of OS/Scrambling therefore turn out to be far more unified and uniform than Table 1 initially suggested. A revised table appears in (3).

(3) Table 1 (*revised*): **Object-displacement properties**

	Object Shift	**Scrambling**
1. ***Order preservation*** (Parametrized LCA)	YES	YES
2. Obligatory with weak pronouns (Phase Integrity)	YES	YES
3. Obligatory new interpretation (Full Interpretation)	YES	YES

We will take properties 2 and 3 to have been sufficiently explained by, respectively, Phase Integrity and Chomsky's optionality rationale (which ultimately derives from Full Interpretation – "α enters the numeration only if it has an effect on output", MP:294 (76)). The primary, defining property of short, *v*P-internal OS/Scrambling is therefore property 1 – order ('shape') preservation. It is this property which distinguishes OS/Scrambling from classical A- and A-bar movement, neither of which is subject to the constraint against reversal of precedence relations (linearization instructions). The question of just *why* it is that only OS/Scrambling are thus constrained, and why A- and A-bar movement are able to escape this constraint, is the topic of the remaining two chapters. In Chapter Four our empirical concern is the case of verb-second and the question of why the VO orders it derives are not ruled out in an OV grammar. In the present chapter, however, we focus on the opposite problem – that posed by OV outputs in a VO grammar, i.e. the derivation of passive/unaccusative structures (A-movement 'proper') in English and Scandinavian.

At the end of the previous chapter we sketched out a first approximation of the line of argumentation I will take in order to derive and explain the unique restriction of the order-preservation property to OS/Scrambling. In the terms employed there, OS/Scrambling differs from A/A-bar movement in being unable to ignore precedence relations at PF beyond those ignored by the parameter in (2) above.[1] However, only a certain kind of 'extra' precedence relation can be ignored in these cases, a kind of precedence relation that is created in the case of A/A-bar movement but not in the case of OS/Scrambling (hence the divergent behaviour with regard to this property). To take the example of passivization in a VO language, clearly the *final* O > V instruction that results in the derived subject (raised internal argument) being pronounced in a position that precedes the participle is not ignored (otherwise the object would still be pronounced within *v*P). Rather, passivization, like A-bar movement into the CP-domain, must involve a complex, successive-cyclic movement operation that raises the object not directly to spec-TP, but rather via an intermediate step through the specifier of a defective (nontransitive) *v*P. It is then this initial movement step to spec-*v*P that the VO setting of (2) is somehow able to overlook in the case of passivization, allowing the *intermediate* O > V instruction it creates to remain undeleted without violating (2) or (looked at a different way) to be ignored without resulting in the object being spelt out *in situ* to the right of the participle, as would happen if the relevant relation were ignored by (2). Put simply, the difference between OS/Scrambling on the one hand, and A/A-bar movement on the other, is that only with the former does the O > V relation created through object-movement to spec-*v*P feed the desymmetrization parameter in (2); in the case of A/A-bar movement, this O > V relation does not feed into (2) – it is 'invisible' to PF.

Clearly, since the A/A-bar distinction is no longer available as a primitive, explanatory notion in the Probe-Goal system of MI/DbP/BEA, where feature-checking ('valuation' under long-distance Agree) feeds movement rather than vice versa, it is not enough to simply state PF-invisibility of intermediate movement as a primitive property of the A/A-bar paradigm. All movement is driven by the need to check 'generalized' EPP-features; the most we can do is refer loosely to A-probes (i.e. φ-probes) or A'-probes ('P'-probes; cf. MI:149:fn.91), and since A-/φ-probes are involved in OS/Scrambling and A-movement alike, we cannot ascribe PF-interpretive differences to

[1] That is, certain precedence relations that would normally be ignored by the respective setting of (2) can escape being ignored in the case of A- and A-bar movement and thus feed a switching of base order at PF. They are thus 'ignored at PF' not in the Chapter Two sense of being deleted by (2), but rather in the sense of not even feeding into the PF-algorithm (2) in the first place – a second-order 'ignoring for ignore' that will be formalized in terms of activeness in Chapter Four.

probe-types. Instead, this PF-invisibility should fall out from independent differences in the form and configuration of the dependencies created. The key difference, as suggested at the end of Chapter Two and alluded to above, is that order-preserving movement, as instantiated by OS and short scrambling, is phase-internal. Anti-shape effects, as observed with A/A-bar movement, obtain when launch and final landing site are separated by a phase boundary.[2]

Our aim in these final two chapters, then, is to flesh out this phase-based account in full. In order to fully explain why it is that non-phase-internal movement (i.e. A- and A-bar movement) is able to obviate the order-preservation effect imposed by (2), we must do two things. Firstly, we must give proper content to the notion of 'PF-invisibility' introduced above – why should movement to an intermediate position not count for the purposes of (2)? This is the topic of Chapter Four, where I shall formalize the notion that 'nonfinal' EPP-positions do not count as PF-instructions (cf. Chapter Two:2.6) in terms of 'activeness' (cf. DbP). Secondly, we must show that A-movement (passivization, unaccusative-raising) does indeed proceed via an intermediate phase edge and thus does not involve direct, 'one-fell-swoop' movement to spec-TP. That is, the present account stands or falls on the existence of light defective *v* selecting a participial or unaccusative VP (i.e. in addition to the nondefective *v** that is present in active, transitive constructions) and on its status as a phase head. Motivation for v_{def} and its phasehood is one of the two main foci of the present chapter. In section 3.2 I will argue on empirical, conceptual and technical grounds that spec-v_{def} provides the merge-site for *there*-type expletives (Expl). Indeed, it will emerge that spec-v_{def} is the only possible merge-site for Expl – thus, insofar as Expl is an empirical fact, so must v_{def} be.

[2] Similarly, the LF-interpretive differences that traditionally separate A- from A-bar movement (i.e. reconstruction), characterized as '+/− Ignore at LF' in section 2.6 of Chapter Two, must also follow from deeper principles and cannot be stated as a primitive property of probe-types or positions. In this case, I believe that the difference between obligatory and optional EPP-features (MI, DbP) may hold the key. The optionality rationale that regulates the addition of an optional EPP-feature to *v* (and thus OS), discussed in sections 1.1, 2.5 above and 3.2 below, results in obligatory new interpretations where movement satisfies *optional* EPP (effectively ruling out reconstruction here). By the same logic, *obligatory* EPP-features are free from the requirement that they feed new interpretive outcomes. The prediction is that reconstruction of movement is allowed just in case the movement operation in question satisfies an *obligatory* EPP (such as that on T, at least in English: Chomsky MI:109, DbP:44:fn.17). The fact that A-reconstruction is prevalent with raising in English (cf. the ambiguity of *Someone from New York is likely to win the lottery*, discussed in Bobaljik 2002; see also Sauerland 2003 for recent discussion) indicates that reconstruction is indeed a function of EPP-type rather than a defining property of (the A-bar) movement-type per se; the non-primitive, probe-independent A/A-bar distinction is expected to break down in this way (i.e. any movement that satisfies an obligatory EPP and thus reconstructs is therefore 'A-bar movement' in the only remaining primitive sense of this term).

Before doing so, we need to look at the concept of 'phase' in more detail in order to address the deeper issue of the role the phase can play in cyclic linearization. Even if nonfinal (intermediate) positions do not count for (2), which is the topic of Chapter Four, there is still the question of why the final spell-out position of, for example, a derived (passivized) subject does not violate (2) in a VO language. As stated above, the very fact that this top copy is pronounced implies that PF cannot be ignoring it. How, then, does it 'escape shape'?

3.1 MORE ON PHASES: SHAPING AND ESCAPING

In the remainder of this chapter we set aside the question of the 'PF-invisibility' of *intermediate* movement positions (nonfinal landing-sites; see Chapter Four) in order to address the question of why the *final* landing site of a passivized internal argument in VO languages (and, likewise, the raised verb in OV V2 languages) is apparently as innocuous to PF and the parameter in (2) as the intermediate movement that feeds it. Since final (unlike intermediate) EPP-positions clearly do feed the creation of legitimate precedence instructions that must count at PF in order to yield overt top-copy spell-out, their innocuousness for the purposes of (2) must have a different source from the similar innocuousness of intermediate positions (whose PF-invisibility is witnessed in the very fact that the copies in these positions are not realized, allowing us to argue in Chapter Four that intermediate movement does not create a precedence instruction at all). How can a single language system allow final EPP-positions to be treated in such disparate ways, both forcing them to respect (2) and thus preserve shape relations in the case of OS/Scrambling, and yet simultaneously tolerating violations of (2) in the case of non-shape-preserving A- and A-bar movements?

Put simply, A- and A-bar movement operations must somehow be allowed to forget the c-command and precedence relations established in the lower, thematic part of the clause. That is, the domain of the parameter in (2) cannot be the entire clause but must be a smaller structural unit, a unit that encompasses the entire OS/Scrambling chain but which is smaller than the structural extent of an A/A-bar chain. The notion of *phase* as defined and motivated in MI/DbP/BEA and Chomsky 2004a provides us with exactly the unit that would seem to be implicated here. Indeed, it would be entirely unsurprising if the phase should emerge as the domain of shape-preservation, since one of the principal motivations for the phase is the reduction in computational burden that

is attained if completed portions of the derivation can be dispensed with (i.e. 'forgotten') for the purposes of subsequent operations. Once sent to Spell-Out, the relevant structural unit and all the information it contains are no longer accessible for the remainder of the syntactic derivation. The result is a minimization of search space; however, since there is no derivational memory beyond the phase, we also expect the c-command relations established in the lower phase, and thus the ordering information they encode, to be likewise lost. Therefore, the VO/OV parameter in (2), operative at the syntax-PF interface at each point of Spell-Out, can only regulate for non-contradictory c-command relations within a single phase. Escaping a phase thus implies 'escaping shape'. In effect, a passivized internal argument is relinearized upon remerger to spec-TP (i.e. outside of the passive/unaccusative *v*/VP, which we shall argue to be a phase below), so that its derived sister, in this case a projection of T, replaces V as its ordering-partner node.

Thus the prediction that follows from phase theory is that VO/OV shape will be preserved *within* a phase, but not *across* phases. Before turning to the question of the status of passive/unaccusative *v* as a phase (section 3.1.1.3), we should hold up the very notion of 'phase' to some further scrutiny. Since the account presented here is reliant on (Chomsky's definition of) phases, we should address some of the criticisms and alternative formulations that have appeared in the recent literature; we should also consider a proposal by Fox & Pesetsky (2003) that employs phase-like entities in a manner that delivers precisely the opposite result from that predicted above, such that linear order is preserved *across* phases but is freely permutable *within* them.

3.1.1 Derivation by faze?

The aim in this section is to review the main properties of the phase as conceived by Chomsky (MI *et seq*.) and to argue that the alternative conceptions that have been proposed in the recent literature, far from improving on Chomsky's version, only add obscurity and confusion to the notion. That is, if phases exist at all, they must exist in more or less the form described by Chomsky. Let us first consider the motivations for the phase (sections 3.1.1.1-2), before proceeding to the particular (extensional) definition that Chomsky adduces (section 3.1.1.3).

3.1.1.1 Computational considerations – smaller than CP/*v*P?

As we saw in Chapter Two (section 2.5), the phase constitutes the unit of spell-out in a single-cycle, multiple spell-out derivational system. Such a system comes close(r) to meeting the expectations of the Strong(est) Minimalist Thesis (SMT; cf. MI:96(2), BEA:3(3)) by eliminating redundant extra cycles (e.g. a covert cycle replicating the operations of the overt cycle) and reducing computational burden by imposing an intrinsic limit on the amount of structure that the syntax must keep track of and take into consideration. Once a phasal unit has been sent to the interface, it removes itself from the possible search space of subsequent syntactic operations – essentially, the syntax can 'forget' it. This reduction in search space is expressed in the form of the Phase Impenetrability Condition (PIC), a natural (and necessary) corollary of the multiple spell-out rationale for phases (thus there can be no phase – in any useful sense – without the PIC, and (more trivially) vice versa). We shall return to the precise definition of the PIC shortly; for now, the point to be made is that all authors who adopt (some version of) phase theory would seem to agree on at least this much,[3] i.e. phases reduce search space and the amount of structure that must be held in active memory, as is desirable in a derivational ('weakly representational', cf. Brody 2002) system where the transparency of the output of each derivational step should be limited.

Where authors differ is in how strongly they apply the logic of minimizing search space. Taken to its (absurd?) conclusion, search space should be constrained to be maximally small (i.e. zero). Thus Müller (2003) proposes that every ph*r*ase (maximal

[3] With one or two exceptions, of course. Abels (2003) seeks to reduce all PIC effects to intervention (i.e. relativized minimality), thus denying that phases are impenetrable due to their having been sent to spell-out. Instead, phase heads have the property of being able to intervene for any given feature (they are a kind of 'universal intervener'); then, by Attract Closest, any instance of the attracted feature F contained inside the complement of the phase head H must first move to the specifier of H in order to circumvent the intervention by F on H. Of course, Chomsky's PIC approach also requires that phase heads be able to 'attract' (i.e. probe, match, and EPP-move) any unvalued feature within their domain to the phase edge (hence the postulation of generic 'P-features' for successive cyclic A-bar movement, etc.: MI:149:fn.91). What Abels's alternative seems to overlook is that this otherwise arbitrary and mysterious 'universal attractor' property only makes any sense to begin with under a cyclic spell-out conception of phases and the PIC – thus the special status of C and *v* is rendered only *more* mysterious and stipulative on Abels's approach. That is, it is precisely because the PIC renders the domain of phase heads opaque to subsequent probing that any unvalued features still contained in that domain must be moved to the phase edge (via the aforesaid dummy/universal probe property). That C and *v* should just happen to have this property independently of the design and exigencies of a cyclic spell-out model thus becomes a completely unexplained property of C_{HL} for Abels, an imperfection in every sense of the word. The universal attractor property has the mark of conceptual necessity on the cyclic spell-out approach of Chomsky and others, ensuring convergence in a derivational system that minimizes computational burden and representational residue; it's just a pernicious nuisance and unnecessary complication on Abels's.

Also, Fox & Pesetsky (2003), as we will see below, are committed to a view of the phase that requires these units (and the information they encode) to be stored in memory throughout the entire derivation, so that the output of one phase constrains the output of subsequent phases. Thus, for them, no such reduction in computational burden can be attained (leading us to question why phases, thus conceived, should exist in the first place, given the SMT).

projection) should be a phase (spell-out unit), thereby reducing minimality/intervention (MLC-locality) to the PIC (phase-locality).[4] Epstein & Seely (2002) draw a similar conclusion (thus every transformational operation is a separate cycle and spell-out unit).

Whilst a discussion of the relation between phases and locality is reserved until Chapter Four (where I will show that phase-locality is indeed required in addition to minimality/intervener-locality), it suffices to state here that I do not follow these authors in their conclusions. Cases where a single head (probe) can be valued by two distinct goal categories (where $Goal_1$ asymmetrically c-commands $Goal_2$), known as 'defective intervention' configurations in the literature (albeit misleadingly – see Chapter Four), show that search space cannot be minimized to a deterministic zero (i.e. yielding one possible goal per probe) and, furthermore, that intervener-relativized locality (i.e. minimality) is indeed real (and not reducible to the phase/PIC). Eliminating the search space for goals is not the logical conclusion of Chomsky's computational-burden argument since it is probes, and not goals, that drive the derivation, thus avoiding the additional, lookahead-related computational complexities of a goal-driven (i.e. Greed-based) syntax (MI:127). Thus probes and goals have separate cycles. Strict, XP-by-XP cyclicity is a property of the probe cycle; cf. MI:132(53), the 'Locus Principle' of Collins 2002, and the 'pivot' of Frampton & Gutmann 2002. Only probes must be identifiable via minimal (i.e. zero) search (as indeed they are, by virtue of the label of the existing structure at any given point in the derivation) – thus search space is indeed maximally small in the case of locating the probe. It follows that all probing features on a head must be valued before a new head/probe is merged – the 'featural cyclicity' of MP:234(3) ("D is cancelled if α is in a category not headed by α", D a derivation and α containing a strong feature F), which accounts (for example) for the unavailability of a convergent derivation of (4) in which the subject-island violation (CED effect) would be bled by *wh*-extraction preceding 'A-movement' of the subject-DP to T (i.e. the traditional EPP). Since T's probe features must be satisfied (valued) before C is merged, DP-movement to T is forced to precede *wh*-extraction to CP.[5]

(4) Who was [a picture of *(who)*] bought *([a picture of (who)])*?

Given the necessity of (a) a probe-driven syntax (i.e. assuming the computational arguments against Greed to go through, cf. Martin 1998, Lasnik 1999)

[4] Interestingly, this is just the opposite of Abels (cf. fn.3).
[5] Here and below, unpronounced copies ('traces') are given in brackets in italics.

and (b) of unvalued features in order to render goals active for Agree (cf. DbP:6(3a); see Chapter Four:4.3), it follows that the valuation of goal features must be evaluated on a different cycle from that of probe features (since otherwise the valuation of DP's goal/Case feature could not be delayed beyond the D-cycle/locus itself, ruling out valuation by a higher, DP-external head (T/*v*), and indeed ruling out even the possibility of external merge, i.e. selection of the DP!), and that the goal-cycle must be larger than the probe-cycle – thus goal convergence is evaluated not at the *phrase* level but at the *phase* level. The logic of the Müller/Epstein & Seely approaches only follows if probes and goals operate on identical cycles, denying the very asymmetry on which the Probe-Goal system is founded (i.e. entities that initiate operations, and entities that satisfy them, both of which must have unvalued features). Phases, insofar as these are larger than XPs, can thus be seen as an implication of this basic asymmetry. Cyclicity and locality are not the same thing (they correspond to the identification of available probes and goals, respectively), and there is no *a priori*, conceptual argument for collapsing them.

3.1.1.2 Merge-over-Move and convergence – larger than CP/*v*P?

By imposing a maximal-length restriction on grammatical dependencies, the phase yields a minimalist means of defining locality domains (cf. Svenonius 2000a, Frampton et al 2000, Adger 2003a) and, in particular, a "strong form of subjacency" (MI:108). Since the PIC provides for an escape hatch (the phase edge) via which an unvalued element can avoid spell-out and remain accessible to the next phasal probe, Chomsky's phase theory provides a minimalist implementation of successive cyclicity – unvalued elements move through successive phase edges until they are valued and deactivated. The reality of these intermediate steps (and the copies left in these edge positions) is confirmed empirically by reconstruction effects (the phase edges constitute reconstruction sites, cf. Abels 2003, Sauerland 2003 for recent discussion), *wh*-copying (full or partial realization of intermediate copies, cf. Nunes 1999, Felser 2003), and intermediate inversion and other C-related phenomena (cf. Henry 1995, McCloskey 2002).

However, the principal empirical motivation for the phase given by Chomsky in MI is that the units thus identified delimit the domains within which merge of an expletive (Merge-Expl) preempts movement of an argument, i.e. Merge-over-Move (MOM) effects. The familiar MOM paradigm involves the timing of Merge-Expl with raising predicates and nonfinite complement clauses. Compare (5a) and (5b/c):

(5) a. *There is likely [$_{\alpha}$ a proof to be discovered *(a proof)*]
b. Which article is there some hope [$_{\alpha}$ that someone will read *(which article)*]
c. There is a possibility [$_{\alpha}$ that proofs will be discovered *(proofs)*]

In (5a) (= MI:(12a)), the constituent labelled α is nonfinite TP (T_{def}). On the assumption that Merge is in some sense 'cheaper' than Move (by virtue of being a simpler operation; Move is a composite operation comprising Agree + Piedpipe + Merge) and that simple operations preempt more complex ones (MI:104(14a)), the derivation of (5a) is blocked since Merge-Expl will block Move of *a proof* at spec-T_{def}, yielding the grammatical *There is likely to be a proof discovered* (with Th/Ex – cf. DbP and 3.2.3 below). The question then is why Merge-Expl does not block movement of *someone* within the complement clause labelled α in (5b) (based on MI:(20)). Similar questions arise with regard to (5c) (= MI:(7b)) and the alternation in (6), discussed in Boeckx & Grohmann 2004 (cf. Castillo et al 1999). Since (6a) and (6b) are projected from identical numerations, how is it possible for the MOM effect seen in the α constituent in (6b) to be delayed until the main clause in (6a)?

(6) a. There was a rumour [$_{\alpha}$ that a man was in the room] in the air
b. A rumour [$_{\alpha}$ that there was a man in the room] was in the air

Chomsky's solution is that the α constituent in the case of (5b/c) and (6), wherein α = CP, is a "closed system" unlike that in (5a), wherein α = T_{def}; that is, α is a phase in (5b/c) and (6) but not in (5a). Rather, (5a) contains just a single phase (supposedly; but see 3.1.1.3 below), i.e. the matrix CP. Since phases are simply lexical subarrays (i.e. subsets of the numeration) containing a single instance of one of the phase heads, C or (transitive) *v**, the lack of MOM effects in the complement CP phase in (5b/c) and (6a) is a trivial consequence of the phases (subarrays) in question not containing an expletive – thus α in (6a) derives from a different set of lexical items from α in (6b).

The validity of the MOM hypothesis has been disputed (see, e.g., Shima 2003 and especially Bošković 2002); certainly, insofar as the empirical generalizations it captures are real (as they seem to be, at least in Germanic), it would be desirable to derive these effects from independent principles rather than the dubious economy metric 'Merge is cheaper than Move' (which, unlike the economy principles of Last Resort and

Full Interpretation, would not seem reducible to interface conditions and is anyway unsustainable on the view that Move *qua* 'internal Merge' is simply Merge applied within the existing structure, as in Chomsky 2004a/b). A more natural, less stipulative approach to MOM effects will emerge in section 3.2. For our immediate purposes, (5b) serves to illustrate and motivate another fundamental property of the phase – it is not a dynamically determined and inherently convergent entity, but must be statically and intrinsically defined by some other property (Chomsky chooses 'propositionality', which I shall adopt here too, though the argument against convergence as a defining property of phases is independent of whether or not 'propositionality', however construed, is the correct criterion or a coherent notion).

A number of authors have proposed that phases should vary, not just between languages but even within them. The guiding idea is that ph(r)ases should be sent to spell-out as soon as they are ready, i.e. as soon as all of their unvalued features have been checked. In other words, phases must be *convergent* (see Svenonius 2001a/b and Felser 2003 for two such approaches). The effect of this is to minimize the amount of structure that has to be kept in active memory; to this extent, such approaches are motivated by the same 'phases should be as small as possible' concerns as Müller and Epstein & Seely in the previous subsection. Where they differ is that convergence-defined phases may potentially be much larger than Chomsky's CP and *v**P. Thus, whilst English derives a convergent entity already at the VP stage on Svenonius's assumptions (and thus VP is sent to spell-out as a phase smaller than Chomsky's *v**P), the unvalued features on the finite verb that are required for V-to-C movement in verb-second languages imply that only the entire CP can constitute a phase in these languages.[6] Thus the convergence-based approach entails that phases be (internally) crash-proof – both probe-features and goal-features alike must be valued in order for a phase (defined as an entire XP rather than just the complement domain of the head) to be spelt out.

Chomsky (MI:107-8) argues against a convergence-based definition of phases on the basis of example (5b) above. Since the activating *wh*-feature on the *wh*-object is not valued until merger of matrix C, it follows that there is only one phase in (5b) on the

[6] Proponents of such approaches would therefore seem committed to the view that speakers of some languages (e.g. V2 ones) require bigger memories than speakers of other languages. However, if the computational considerations of section 3.1.1.1 don't hold for V2 languages (and thus only hold as a parametric option crosslinguistically), then there is no reason why they should hold at all. Thus the very motivation for phases as part of the computational design of UG, the invariant C_{HL}, falls apart. Phases, if they exist at all, must therefore be universal and uniform across languages, providing an extra argument in favour of Chomsky's conception.

convergence approach, namely the entire (matrix, +*wh*) CP. We should therefore expect (wrongly, cf. above) to find a MOM effect within the complement clause α since this monophasal derivation contains Expl. The embedded CP must therefore be a phase irrespective of its containing the unvalued *wh*-feature.

Even if we reject MOM effects as a valid test for (non-)phasehood, we can argue against convergence-defined phases on conceptual grounds. In short, a(n internally) convergent phase is a completely pointless, impotent entity. Firstly, strictly speaking, only matrix CPs (and non-extracted embedded declarative clauses) will actually be fully convergent in the sense given above (i.e. with all Case, *wh* and other activating goal-features valued, in addition to the probe-convergence which is independently ensured by cyclicity). Take a simple clause like *John ate an apple*. The bare VP *ate an apple* cannot be a convergent phase (contra Svenonius) for the same reason that *v*P cannot be spelt out prior to merger of T: just as the subject in spec-*v*P has a Case feature that needs valuing, so does the object. This leaves the entire clause (i.e. C/TP) as the only possible convergent phase. Since nothing smaller than a main clause can be a phase, we lose the very motivation for phases to begin with (i.e. the reduction in computational burden; cf. section 3.1.1.1 and fn.6).

Secondly, if phases were always guaranteed to be convergent, then there would never be any need to escape a phase – that is, there would be no PIC and no successive cyclicity (and, as we saw in section 3.1.1.1, phases without the PIC are senseless). It is sometimes said that the notion of 'phase edge' and its escape-hatch property is little more than a barriers-style stipulation or "wild card" (see Abels 2003, Boeckx & Grohmann 2004), and indeed it would be if phases were convergent. But it is precisely because the internal convergence of phases is *not* intrinsically guaranteed that something like the escape-hatch property, the addition of EPP-features to phase heads to yield 'Indirect Feature-driven Movement' (IFM; MI:108), and the PIC follow by necessity. Full Interpretation (FI) independently demands that the entities sent to spell-out must converge, but there is no way for the syntax to know that it has created an interface-interpretable object *prior* to (trying to) spell it out. Instead, at certain intrinsically determined points in the derivation (i.e. at merger of *v* and C for Chomsky), an attempt is made to spell out the phase *whether it is 'ready' or not*. It is precisely because, in many cases, the phasal domain will *not* be 'ready' (i.e. convergent) that EPP-features can be added at the end of the phase (by local inspection) to ensure convergence by shifting the offending active (unvalued) features into the active (edge) part of the structure. Thus it is a matter of course that phases must converge at the

interface (i.e. must be goal- as well as probe-convergent), but this is the *consequence* of spell-out, not the cause/trigger. Convergence-defined approaches to phases make it the *cause* of spell-out; they therefore involve considerable amounts of extra computational complexity in that they imply (a) lookahead to the interface in order to guarantee 'readiness' (i.e. convergence, which is an interface property, not a syntactic/computational one),[7] and (b) the redundancy of specifying in the definition of phases what is independently guaranteed by deeper principles (FI), i.e. convergence (cf. MI:108, 144:fn.49 for a similar point).

There is one respect in which convergence-based approaches might seem to have a conceptual advantage over the static, 'propositional' approach of Chomsky, and that is that there is no discrepancy between the entity spelt out and the projection of the phase head itself. Thus, for Chomsky, C and *v** are the phase heads but it is their complements (TP and VP, respectively) that are sent to spell-out; for Svenonius (and others) it is the entire phase (i.e. convergent XP) that is spelt out. This 'inconsistency' is sometimes held up as a weakness of Chomsky's conception of the phase (cf. above references), though this seems disingenuous. Firstly, on one level, it is simply playing with terminology (after all, a 'banana' is both the fruit inside the skin and the entire skin+fruit complex, without any inconsistency being implied). More seriously, this apparent virtue of the convergence approach is simply an artefact of the inherent crash-proofness which, we have seen, comes at the cost of introducing more complex derivational machinery and rendering phases entirely meaningless. Since the entire convergent XP is sent to spell-out, these approaches divest themselves of the PIC (and thus of the empirical virtue of deriving successive cyclicity and reconstruction sites and the conceptual virtue of reducing memory load and representational transparency). Put another way, if the entire CP and *v*P were somehow forced to be spelt out on Chomsky's approach, they would crash every time an unvalued feature remained inside them since there would no longer be the possibility of escape via the edge.[8] Hence, only a subpart is actually sent to spell-out; the remainder remains active and accessible to the

[7] If not, then each step of the derivation must be tentatively sent to the interface as a 'trial phase' so that the syntax can detect whether or not it has produced something convergent yet (if not, it must backtrack and return to the derivation, rather than proceeding in the local, blind manner of Chomsky's system by adding EPP-features to ensure convergence); the uniform C/*v* approach avoids this by determining in advance a limited, perhaps minimal number of intrinsic spell-out points (and deploying IFM where convergence would otherwise fail).

[8] According to BEA(:5), the result of spelling out the entire phasal XP would be to render displacement impossible – i.e., there could be no such phenomenon as movement. Whilst I agree that *successive-cyclic* movement (i.e. IFM, targeting phase edges) would indeed be precluded, *phase-internal* movement (i.e. movement to non-phase-heads such as T) would surely remain on such an approach, at least under the DbP reformulation of the PIC (cf. 3.1.1.3 below).

next phase.[9] The PIC, then, is not an ugly stipulation but a necessary consequence of taking cyclic spell-out seriously (i.e. of "meaningful cyclic computation", as Chomsky puts it (BEA:5)).

In sum, I submit that phases can be neither larger than CP/*v*P (this section), nor smaller than CP/*v*P (section 3.1.1.1). The alternatives render the notion 'phase' almost completely spurious (if smaller, it becomes equivalent to the probe cycle; if larger (/convergent), it becomes equivalent to the entire tree). This is not to say that Chomsky's C/*v* definition of phases is not without problems (though, as we'll see in the next section, these problems may be quite easily overcome); rather, Chomsky's approach would seem to offer the only viable notion of phase, one that is necessary and natural on minimalist assumptions.[10]

3.1.1.3 Defining phases: 'propositionality', the PIC, and eliminating a weakness

If the considerations of the previous sections are correct, then phasehood is not a dynamic notion but is a property intrinsic to certain categories and not others. In MI, Chomsky proposes that phase heads should determine syntactic objects that are independent at the interface – for LF, this means phases should be fully saturated semantic entities, i.e. thematically complete predicative categories (*v*P with all θ-roles assigned, and probably DP too) and fully typed clauses (CPs marked for force, tense and mood). This property of phases Chomsky terms *propositional* (thus phases are propositional in this special, technical sense of the term, irrespective of the many other uses of the term in the logicosemantic literature). It is then suggested that only CP and transitive (external-argument-selecting), φ-complete *v*P (dubbed *v**P in DbP) are phases; TP (finite/φ-complete or otherwise) and unaccusative/passive, φ-incomplete *v*P are not phases.

However, since defective (φ-incomplete, unaccusative/passive) *v*P has as much semantic-phonetic integrity as *v**P (i.e. PF-isolability, and a full argument structure at LF), it meets the propositionality criterion for phasehood as given above. Thus

[9] One criticism of the phase-head/spell-out-unit discrepancy of Chomsky's approach does seem correct, however. As Abels (2003) points out, since the units sent to spell-out are actually VP and TP (rather than *v*P and CP, respectively), it is incoherent to cite the (supposed) phonetic independence/PF-isolability of CP and *v*P as a decisive factor characterizing phasehood (cf. MI:106, DbP:8/12). The analysis of weak pronoun placement in Chapter Two, section 2.5 demonstrates that it is indeed TP and VP which form independent phonological units for the purposes of syntax-PF mapping, as Chomsky's approach would more accurately predict (see also Chapter Two:fn.49).

[10] Actually, Uriagereka's (1999) 'command units' offer a viable and, indeed, independently necessary alternative conception of phases. It is hoped that, once D(P) is recognized as a phase in Chomsky's system, the two approaches can be unified (after all, Chomsky's system, like Uriagereka's, requires complex left branches to be constructed in parallel, and thus to be the product of separate lexical arrays, i.e. phases; cf. MI:110). See fn.25 for the beginnings of a proposal to this end.

unaccusative/passive *v* should be a phase head too. For this reason, Chomsky introduces a distinction in DbP between *strong* and *weak* phases. C and *v** are strong phases, whereas defective *v* is a weak phase. Weak phases share with strong phases their PF-LF integrity (i.e. they are all propositional), but only strong phases have the following two (interrelated[11]) properties (DbP:14):

(i) they are IFM-sites (i.e. they have the EPP-property, such that EPP-features may be added to them to allow movement to their edge at Spell-Out);
(ii) they are subject to the PIC (i.e. represent points of spell-out and thus determine spell-out units).

That 'weak' phases should lack properties (i) and (ii) is rather disconcerting. Firstly, regarding (i), Legate (2003) has shown that unaccusative/passive *v*P is indeed a reconstruction site and thus must have the EPP-property allowing successive-cyclic movement to and through its edge. She adduces evidence from a variety of phenomena, including parasitic gaps, quantifier raising/ACD, and variable binding/principle-C effects, which all exhibit identical behaviour for transitive and unaccusative/passive predicates alike. We might add to this the evidence from quantifier float; following Sportiche (1988), the stranded quantifiers in (7a) and (7b/c) lend at least superficial support for an intermediate touchdown site at the *v*P edge with both transitives and passives/unaccusatives alike.[12]

(7) a. The speakers [all *(the speakers)* ate their breakfast]
b. The speakers [all *(the speakers)* arrived *(all the speakers)*]
c. The speakers were [all *(the speakers)* invited *(all the speakers)*]

Secondly, in lacking property (ii), weak phases are rendered as pointless as the convergent phases criticized in section 3.1.1.2. If they are irrelevant for Spell-Out and the PIC then they are not phases at all in any useful, meaningful sense. A weak phase is simply a *non*-phase; all phases must be 'strong'. It is therefore desirable to eliminate the conceptually redundant strong/weak distinction and to talk simply of 'phases'. There are two possible ways to achieve this: either we remove the weak phase (i.e. defective *v*)

[11] Interrelated, since only a head that is relevant for spell-out (i.e. one with an opaque complement domain, (ii)) will require the optional EPP-property (i).
[12] See Bošković 2001 for a recent elaboration of Sportiche-style analyses.

from the class of phases,[13] or we unify it with the 'strong' phases, C and *v**. Since defective *v* is propositional in the relevant sense and also exhibits the EPP-property (i.e. (i) above), the latter approach is clearly preferable. We therefore seek to demonstrate that unaccusative/passive/defective *v* (henceforth v_{def}) further has the property (ii), i.e., that it is subject to the PIC.[14] Our main argument will be developed in Chapter Four: the existence of shape-breaking A-movement (passivization and unaccusative-raising) provides evidence that the raised internal-argument (IA) stops off via an intermediate edge-position (i.e. spec-v_{def}) on its way to spec-TP. In the remainder of this section, we make a negative argument for v_{def}'s relevance to the PIC. Namely, the strong/weak phase distinction is already rendered superfluous by the redefinition of the PIC suggested in DbP, as a result of which it is no longer necessary to assume that v_{def} can *not* be subject to the PIC – it may well be, trivially so.

It is the accessibility of v_{def}'s domain to T that leads to the conclusion that v_{def} is not subject to the PIC and is therefore at most a 'weak' phase. In MI, Chomsky defines the PIC as follows (I will follow Müller 2003 and refer to this version of the PIC as PIC_1).

(8) *Phase Impenetrability Condition*$_1$ (MI version: PIC_1)[15]
In phase α with head H, the domain of H is not accessible to operations outside α[16]; only H and its edge are accessible to such operations.

That is, the domain (complement) of H is spelt out as soon as HP is complete, i.e. as soon as a new 'locus' (probe/selector, cf. Collins 2002) is introduced. For H = *v*, this means that VP is sent to spell-out as soon as the head selecting *v* is merged, i.e. T, rendering VP and its contents inaccessible to probing by T. That the head H (in this case *v*) is not itself spelt out yet is due to the fact that it must remain accessible for selection by the next head (T). Since the head H remains accessible, it follows that the residue outside of H' will also remain accessible, that is any specifiers and material adjoined to HP – this is termed the *edge* of H(P), and hence its status as escape hatch.[17] Thus, if Z, H and W are phase heads (underlined) and X and Y are non-phases, the search space

[13] The strongest implementation of this strategy would be to get rid of defective *v* altogether, i.e. as a *category*, so that unaccusatives and passives lack a light-verb head and involve bare VPs only; cf. 3.2 below, where this approach will be rejected.
[14] Example (21) in Chapter Two and the analysis thereof provides further evidence for this position.
[15] MI:108(21). This definition is also given in DbP:13(7).
[16] Or, equivalently, "outside HP" in DbP:13(7).
[17] In BEA:(5), the head is included as part of the edge, thus unifying all PIC-accessible material under this term. I will stick to the MI/DbP formulation for the purposes of the discussion below.

available to X, selecting H, under PIC_1 can be schematized as the boldfaced area in (9) (adapted from Müller's (2003) (3)):

(9) $\underline{Z}\ [_{XP} \ldots X\ [_{\mathbf{HP}} \mathbf{\ldots}\ \mathbf{\underline{H}}\ [_{YP} \ldots Y\ [_{WP} \ldots \underline{W} \ldots]]]]$

If we substitute T for X, *v* for H, V for Y and D for W, it is immediately clear why v_{def} cannot be a phase under PIC_1. The operation Agree (MI/DbP/BEA) allows for long-distance feature valuation, that is, agreement without movement (see section 3.2.2 for more detail). Thus, in the expletive-associate construction in (10a), T is assumed to Agree directly with the IA, via which relation T values Case (nominative) on IA and IA values the φ-set on T (10b).

(10) a. There T $[_{v/VP}$ arrived $[_{DP}$ a man]]

b. Agree(T, *a man*) →
$[T_{[\phi,\ (EPP)]} \ldots DP_{[\phi,\ \sout{Case}]}]$

In order for *a man*, contained inside VP, to be PIC_1-accessible to T's φ-probe, no phase head can intervene between probe and goal. This is fine if we assume that unaccusative/passive VPs are not selected by a light *v*; however, assuming that all thematic VPs are selected by a predicative *v* head (defective or otherwise; cf. fn.13), then the $v_{(def)}$ selecting VP in (10) will render *a man* inaccessible to T by PIC_1 if v_{def} is a phase (i.e. a 'strong' phase, with property (ii) above). The conclusion is that v_{def} must be a weak phase, since its domain is irrelevant for Spell-Out (it remains accessible to higher probes and so cannot be subject to the PIC in (8); that is, it must lack property (ii); cf. DbP:45:fn.28).

In DbP(:13-14), Chomsky proposes a revision to the PIC that has the (side-) effect of extending the search space of X beyond H and its edge in (9) and which, he claims, is both conceptually and empirically preferable to the version in (8). Since H and its edge are accessible not only to X in (9) but right the way up to the next phase head (Z), H and its edge are part of the higher, ZP phase for the purposes of the PIC/spell-out. Conceptually, therefore, the simplest conclusion is that only phase heads determine points of spell-out; since X is a non-phase it is an unexpected complication if it is X that triggers spell-out of H's domain. A uniform approach would render non-phases irrelevant to cyclic spell-out altogether; on such an approach, the domain of H will not be sent to spell-out/interpretation until Z is merged. Whilst this changes nothing as far as Z's search space is concerned, it has the interesting consequence that we now

expect X's search space to extend as far as the edge of the next lower phase, i.e. WP in (9). This revised formulation of the PIC, which I will dub PIC_2 (a term again due to Müller 2003), is defined by Chomsky as in (11); the expanded search space that it renders available to X is represented in boldface in (12) (a modification of Müller's (5)).

(11) *Phase Impenetrability Condition*$_2$ (DbP version: PIC_2)[18]
[Given structure [$_{ZP}$ Z … [$_{HP}$ α [H YP]]], with H and Z the heads of phases – MDR]:
The domain of H is not accessible to operations at ZP; only H and its edge are accessible to such operations.

(12) $\underline{Z}$ [$_{XP}$ … X [**$_{HP}$ … $\underline{H}$ [$_{YP}$ … Y [$_{WP}$ … $\underline{W}$** …]]]]

Essentially, whereas X's search space is co-extensive[19] with that of **Z** under PIC_1 (cf. (9)), its search space is co-extensive with that of **H** under PIC_2, a subtle shift in perspective that has not been explicitly noted in the literature (to the best of my awareness). We shall return to it presently, but it is worth remarking here that, once viewed in this way, the PIC_2 is not simply a 'weaker' or more 'liberal' version of the PIC by comparison with the (supposedly) stricter, stronger PIC_1, as some authors have claimed (Müller amongst them). For such authors, the PIC_2 is less minimalist than the PIC_1 in that it takes us further from the original phase-motivating objective of reducing computational burden and operational memory; this is because it actually *increases* search space vis-à-vis PIC_1. A weaker PIC would seem a step backwards in this respect. I have already argued (section 3.1.1.1) against the logical conclusion of such critical strategies (namely the idea that phases and search space should be maximally small, even sub-phrasal). We can now add to this that the PIC_2 is *not* a weakening of the PIC; rather, it is simply a realignment of X's phasal allegiance. In the case of X = T, as above, the move from PIC_1 to PIC_2 is nothing more than an assertion that T has a closer relation with *v* than with C for the purposes of cyclic spell-out (in a manner we shall formalize below), sharing search space now with *v* instead of C. Since there is no coherent, nontrivial sense in which a T-*v* relation (and its primacy under PIC_2) is just a 'weaker' C-T relation (primary under PIC_1), we can set aside such criticisms.

[18] DbP:14(11).
[19] That is, *downwards* co-extensive. Only if we allow a head to probe its own specifier (a possibility ruled out if search is c-command, and explicitly in MI:148:fn.89) would search space be completely identical between Z and X in (9) and X and H in (12) (i.e. upwards as well as downwards). See Rezac 2003, Müller 2004 for proposals that allow upwards expansion of search space.

Turning to the empirical superiority of PIC_2 over PIC_1, Chomsky notes that the increased probe-range of X under PIC_2 is supported by the existence of quirky nominative-object constructions in Icelandic, which instantiate a probe-goal relation between T and nominative IA that crosses a *v**P phase node, an Agree operation that would be blocked under PIC_1.[20]

(13) a. Her_{DAT} T [$_{v*P}$ $bored_{3pl}$ [$_{DP}$ $they_{NOM}$]]

b. Agree(T, *they*) →
[$T_{[\phi, (EPP)]}$ ... $DP_{[\phi, \text{~~Case~~}]}$]

Under PIC_2, however, T's search space is not restricted to the edge material of *v**P. Substituting as before (i.e. T for X, *v* for H, V for Y and D for W), T can probe right down as far as the edge of the nominal IA inside VP given (12), unlike (9). The phasal status of *v* is now innocuous for the T-DP Agree relation in (13b).

Chomsky leaves the empirical implications at that. However, it is immediately apparent that the quirky nominative in (13) and the Expl-associate Agree relation in (10) instantiate the same configuration (an idea we will develop in Chapter Four:4.3.2.1) – the only difference is that *v* is *v** in (13), selecting an external argument (EA), but v_{def} in (10), where it lacks the EA-property. The accessibility of the IA to T in both (10) and (13) should therefore ideally have the same explanation. Yet whilst Chomsky attributes the accessibility of v_{def}'s domain in (10) to v_{def}'s status as a weak phase, it is simply the PIC_2 that accounts for the domain accessibility in (13). As we have seen, weak phases are a dubious concept, perhaps the only weak aspect of Chomskyan phase theory, and so their elimination is desired. Since there is no question of attributing the IA's accessibility to T in (13) to *v** being a weak phase (indeed, Chomsky does not even consider this), the more satisfactory option is to reduce (10) to (13). In other words, the IA's accessibility to T in expletive constructions such as (10) is simply a consequence of the PIC_2. Given PIC_2, the associate DP in (10) is trivially accessible to probing by T: like in (13), the phasal status of *v* (here v_{def}) is now irrelevant for the T-DP Agree relation in (10). Thus PIC_2 achieves the twin desires of unifying (10) and (13) and, moreover, rendering the weak/strong phase distinction superfluous. Once PIC_2 replaces PIC_1, there is no need to claim that v_{def} is a weak phase, lacking properties (i) and (ii)

[20] These structures also involve quirky dative external arguments, which we take to be base-merged in spec-*v**P like transitive agents. English words have been used in place of their Icelandic counterparts here, for convenience; much further discussion of this phenomenon, including references and Icelandic examples, can be found in Chapter Four.

above, and thus the final obstacle to treating v_{def} as a 'strong' phase (i.e. one that is subject to the PIC – property (ii)) is removed.

To summarize this subsection so far: We do not need both the PIC_2 *and* the weak/strong phase distinction (a redundancy that seems to have escaped notice, or at least mention, in the literature, and certainly in Chomsky's writings), and so should dispose of one of them on parsimony grounds. Since (a) the PIC is a fundamental principle of phase theory (section 3.1.1.1), (b) PIC_2 is as natural a formulation of the PIC as PIC_1 is,[21] and (c) weak phases are an empty concept and thus an imperfection from the minimalist viewpoint, it is the weak/strong distinction that should be eliminated. With PIC_2 in place, v_{def} can then be treated as a phase like any other: it has the EPP-property (cf. (i)) and is PIC-regulated (cf. (ii)) in additional to being a propositional unit. All the phases are thus 'strong', and we can refer to them all simply as 'phases'.

PIC_2, then, would seem a desirable alternative to PIC_1, removing the conceptual and empirical weaknesses associated with the latter. However, there is one potentially serious flaw with accepting (11) instead of (8) as our formulation of the PIC, one which again has not been specifically remarked upon in the literature. Recall from our discussion below the definition of PIC_1 in (8) that the rationale for edge accessibility (that is, for including the head and specifier/adjunct material of phase head H as part of the search space of the next higher probe X) followed from the need for H to remain visible to X for selection by the latter. Since the head of H must be accessible, it follows that all material structurally higher than the head in HP must also remain accessible to probing beyond the life of the phase (i.e., all material dominated by the spec-HP node(s)) – this is the edge material, hence edge accessibility. Unfortunately, this logic only holds under PIC_1, where phase H is spelt out as soon as the HP projection is maxed out and the next head is merged. Under such circumstances, the head (and thus specifiers) of H must indeed survive spell-out if they are to remain syntactically active. This is no longer the case under PIC_2, though. Since spell-out of phase H is now delayed until merger of the next phase head (Z above), H remains trivially accessible to X (for purposes of selection etc.) regardless of whether or not it would be part of the spelt-out unit at point Z. The serious flaw of adopting PIC_2, then, is that there is no longer any need to assume that H remains accessible upon merger of Z – H could

[21] See above; in fact, the PIC_2 is arguably *more* natural than PIC_1, both in respect of the conceptual argument from uniformity that Chomsky gives and the considerations below.

therefore be spelt out along with its complement domain (YP above). Worse, if H does not remain accessible, then it no longer follows that spec-H must too (since the accessibility of spec-H was premised on the accessibility of H). We therefore lose our original rationale for the escape-hatch property of the edge, and indeed for the very notion of 'edge' to begin with.

Such a chain of thought would seem to play into the hands of those who would deem the 'edge as escape hatch' clause of the PIC an arbitrary stipulation (as, *inter alios*, Abels (2003) and Boeckx & Grohmann (2004) do). As we saw in sections 3.1.1.1-2, though, some version of the PIC, defining a phase-internal cut-off point for the purposes of spell-out, is an indispensable corollary of the nonconvergent (extensional) approach to phases. Phases and the PIC (and, by extension, escape hatches) are two sides of the same coin, and thus neither is any more of a stipulation than the other once we take cyclic spell-out seriously. There can be no question of getting rid of the PIC altogether, then; rather, the PIC_2 simply forces us to find a different motivation for why it is specifically H and spec-H that remain accessible to Z.

As we have seen, Chomsky's original motivation for accessibility of the phase head (under PIC_1) was simply its availability for selection (MI:108). Since Z does not (directly) select H in (12), we can no longer appeal to a selection relation to motivate PIC-accessibility of H to Z; however, evidence of a direct Z-H Agree relation would give us the empirical evidence we need. If Z can probe H without H having to move first to X, feeding the possibility of direct H-to-Z movement, then H must remain syntactically accessible upon merger of Z (and then, by the same logical extension as before, so must its specifiers, reinstating the edge property). The existence of V2 (V-to-C) languages that lack independent V-to-T (such as Mainland Scandinavian; see e.g. Santorini 1994, Vikner 1994a), would seem to instantiate exactly the kind of HMC-violating movement that our PIC_2-regulated Probe-Goal-Agree system would predict to be possible. Given Z = C, X = T and *v* = H, as above, this apparent evidence that *v* remains accessible to probing by C would seem to (empirically) motivate treating the head, and thus also specifier, of H as part of the next phase, just as *v*'s availability for selection did before under PIC_1.

Essentially, then, if excorporation is like selection in being fundamental to the design of C_{HL}, we can adopt PIC_2 exactly as defined in (11).[22] In any case, even if excorporation is *not* a part of natural language (see Julien 2002 for recent detailed

[22] In other words, the PIC_2 as given in (11) actually predicts that excorporation should be a real, attested, legitimate phenomenon. I leave the exploration of this idea (and comparison with the empirical predictions of the earlier technical loophole identified by Roberts (1991)) to further research.

discussion and vast empirical survey), all that really seems to be at stake here is whether or not we include the phase head H in Z's search space, since, as argued above, at least *some* minimal subpart of a phasal projection must remain accessible on a nonconvergent approach to phases, i.e. at least the specifier (edge) material.[23] The phase-integrity analysis of weak-pronoun placement in Chapter Two(:2.5), if correct, provides further empirical evidence in favour of the 'edge+head' approach, since the complement domain it isolates (VP) is shown to form an independent spell-out unit on the phonological side of the syntax-PF interface. We can leave the matter undecided for now, though we will return to the aforesaid Mainland Scandinavian (MSc) case in Chapter Four, where the availability of a direct *v*-C relation will prove crucial to our account of shape-breaking V2 movement and the lack of full-DP OS in MSc, thus lending further support to including H in the accessibility clause of PIC_2 (11).

Let us then address, finally, one remaining aspect of the PIC_1/PIC_2 distinction which has attracted accusations of arbitrariness – the very fact that there exist two different formulations of the PIC in the first place. That there should even be room for equivocation here might be taken as a weakness of the whole approach, such that we are not dealing with a natural and necessary principle after all. Of course, the reformulation and modification of theoretical ideas is actually a healthy and integral part of scientific progress, but let us just accept for the moment that the PIC dichotomy could be indicative of a deeper conceptual flaw or inconsistency.

The notion of edge (+ head) accessibility remains constant across the two versions of the PIC (nontrivially, as we have just seen). What changes is the head that determines point of spell-out (and thus the rendering opaque of the phasal complement): the next head under PIC_1, but the next *phase* head under PIC_2. We have already reviewed a number of conceptual and empirical arguments in favour of PIC_2 over PIC_1, so the outcome of the debate is already settled (i.e. we have decided on PIC_2, and so can consign PIC_1 to history as a preliminary, ultimately abandoned first approximation of the PIC); the point here, though, is not which version is correct but whether the difference between them is anything more than a simple matter of definition (and thus, like the various formulations of government, ECP, etc. in GB syntax, no more than arbitrary, descriptive choices). In order to show that the PIC has more than descriptive value, then, we need to show that (a) the range of possible alternative definitions is

[23] Further, it could perhaps be argued that considerations of simplicity render a 'head + edge' definition *a priori* preferable to the 'edge-only' alternative: assuming that the PIC, as a spell-out principle, should refer primarily to what *is* spelt out rather than what *isn't* (the latter only secondarily), then 'complement' is arguably a simpler notion than 'complement + head' (though one could equally argue the reverse, given that 'complement' implies a selecting head anyway).

strictly limited in a principled manner, ideally to just the two 'allomorphs', PIC_1 and PIC_2, and that (b) these two choices fall out naturally once the indeterminacy responsible for the alternation is identified and understood.

In our earlier consideration of the difference between (9) and (12), we observed that, although the head determining the timing of spell-out changes from X to Z, the only computational consequence is an extension to the search space of X; the search space of Z remains unaffected. We further noted that this extension of search space is not a 'weakening' or 'liberalization' of the PIC (and thus of the theory of cyclic spell-out itself) but simply a minimal shift in perspective regarding the phase head (Z or H) with which the search space of the non-phase head (X) is identified. Thus, in terms of spell-out and search space, X=Z under PIC_1, whereas X=H under PIC_2. It is now possible to restate the explananda in (a) and (b) above as the following two questions: (A) Why does the possibility of dual allegiance only arise for X, and (B) why *must* it align itself with either Z or H? To answer these questions, we must formalize the nature of the X-Z/X-H allegiance. For expository purposes, let us replace Z-X-H in (9)/(12) with the core functional categories C-T-*v*, respectively, i.e. with Z = C, X = T and H = *v*, as before.

As mentioned in section 3.1.1.2, Chomsky formalizes phases as subsets of the numeration/lexical array (LA), with each such subarray containing a single occurrence of one of the phase heads, C or *v*. Once a given subset LA_i is exhausted via (external) merge into the derivation, further operations (internal merge) may take place if EPP-features are added to the phase head (IFM); otherwise, the derivation proceeds to the next subset, LA_j, continuing as before, and so on until the entire numeration/LA is exhausted (MI:106). It is therefore clear that C and *v* (= Z and H) must belong to separate LAs, by definition, hence no ambiguity arises as to their phasal allegiance (this answers question (A), above). What remains undetermined, though, is to which subarray T (= X) belongs – an as yet unobserved (or at least unremarked) indeterminacy, as far as I am aware. Since T (/X) is not a phase head, it cannot head its own LA separate from and excluding C and *v* but must be contained in either C's or *v*'s LA (thus answering question (B)). We therefore have a decision to make: is T part of the subarray headed by phase head *v*, or part of the subarray headed by phase head C? In principle, either is possible, suggesting a striking parallel with the theoretical choice between PIC_1 and PIC_2. In both cases, T's phasal allegiance is at stake – in the former case, T shares the LA with either C or *v*; in the latter case, T shares search space with either C or *v*. We have already suggested (see discussion under (12)) that these search-space patterns

indicate that the T-*v* relation is in some sense primary under PIC_2, and the C-T relation primary under PIC_1. We can now give some specific and meaningful content to this previously vague and informal notion of 'primary relation' by defining it as the sharing of a common LA: the primacy of the T-*v* relation under PIC_2 is formalized as T and *v* sharing the same LA; the primacy of the C-T relation under PIC_1 is formalized as C and T sharing the same LA. This, in turn, allows a conceptually appealing unification of the two cases of indeterminacy identified above, as in (14).

(14) a. PIC_1 corresponds to T belonging to C's LA
b. PIC_2 corresponds to T belonging to *v*'s LA

Unfortunately, however, there is (as yet) no logical necessity behind the statements in (14). The PIC, as currently formulated (cf. (8)/(11)), entails no logical connection between sharing LA and sharing search space. Whether T shares search space with C (as in (9)) or with *v* (as in (12)) is a function of the timing of the spell-out of *v*'s complement domain. Under PIC_1, this occurs as soon as T is merged, thus immediately curtailing T's probe domain; under PIC_2, it is delayed until C is merged, which, by cyclicity, does not occur until the T probe-cycle/locus is complete, hence T's probe domain remains uncurtailed. Belonging to the same LA as C/*v*, then, does not imply coextensive search space with C/*v*: T could perfectly well belong to C's LA whilst sharing *v*'s search space under the PIC_2 definition in (11), and to *v*'s LA whilst sharing C's search space under the PIC_1 definition in (8), since the timing statements of the respective definitions refer only to the phrases projected by the phase heads ("at ZP" in (11), "outside HP" in (8)), rather than to the LAs they determine. LA and search space are thus doubly dissociated.

In spite of its appealing conceptual neatness, then, it would seem we must abandon the hope of reducing the PIC_1/PIC_2 dichotomy to T's phasal/LA-allegiance. I would like to suggest, however, that we do not give up at this point. So compelling is the parallel between the LA and PIC/search-space indeterminacies, both of which hinge on T (/X) and which way it swings, that we could be missing a potentially important and deeper generalization if we were to ignore it. If current formulations of the PIC are unable to accommodate it, then perhaps this is indicative that both PIC_1 and PIC_2 are getting it wrong somewhere and that we still have not arrived at the definitive, ultimate conception of the PIC, one in which the conceptual and empirical differences between PIC_1 and PIC_2 are epiphenomenal rather than built into the original definition (in the

stipulative manner which, we saw above, can lead to accusations of arbitrariness). If we can abstract away from these then maybe the 'true' essence of the PIC will emerge. Let us pursue this intuition and the goal of attaining a unified PIC.

As a first step to unification, let us note that, despite their apparent differences regarding the head that triggers spell-out of H (the non-phase head X in (8), versus the phase head Z in (11)), the accessibility clause of both PIC_1 and PIC_2 is expressed in terms of phase heads: "outside HP" under PIC_1, and "at ZP" under PIC_2. Nevertheless, there is still a discrepancy here when we consider the actual derivational timing of spell-out, since "at" is not the same as "outside": the former implies that the triggering phase head is a new probe, the latter that it is an old (expired, exhausted) one. Thus, whereas under PIC_2 H's complement (WP) is spelt out as soon as the phase head (Z) starts being the probe/locus, under PIC_1 H's complement is spelt out as soon as the phase head (H) *stops* being the probe/locus. Under the former, spell-out is a consequence of introducing a (phasal) X°; under the latter, it is a consequence of leaving a (phasal) XP. However minor or trivial these inconsistencies may appear, they clearly make all the difference between T sharing its search space with *v* or with C. The devil is in the detail, and it is indeed a conceptual weakness if the difference between PIC_1 and PIC_2 boils down to nothing more than terminology. If arbitrariness and stipulation are to be avoided entirely, and thus the PIC to attain explanatory status as a natural principle, its content should be substantial and real and not left to the small print. Indeed, as we shall see, it is precisely by rendering the PIC impervious to such caprice as 'stop-start', 'X°-XP', 'new-old', 'at-outside', etc., that the undesirable dissociation between LA and search space is eliminated.

We can solve all these problems by reconceiving the timing of spell-out not in terms of phase heads but in terms of phases. As we have seen, phase heads are only part of the definition of what a phase is; rather, the formal entity dubbed the *phase* by Chomsky is, first and foremost, a lexical subarray. Phase heads determine lexical subarrays, but they are not themselves the phase in any real sense. Rather, they are simply members of the phase (subarray) like any other lexical item (albeit privileged members in that they determine points of spell-out and are unique within a given phase/subarray). Similarly, the phrase projected by the phase head is not in any sense the phase itself (thus there is no more reason why the phase-projected XP should be the entity sent to spell-out than any other XP projected by a member of the phase/subarray, contra those who claim an inconsistency between C/*v* as phase heads and TP/VP as spell-out units, cf. section 3.1.1.2 above). It thus follows that the phase need not stop at

the phase-projected XP either; rather, just as the subarray may contain non-phase heads selected by the phase head (i.e. V in the case of *v*), so it may contain non-phase heads by which the phase head is itself selected (i.e. T in the case of *v*). Once viewed in this way, the most natural definition of the *Phase* Impenetrability Condition is one that refers not to phase heads in the first instance but rather, simply, to phases – i.e. LAs. (Phase heads then only indirectly define the PIC, by virtue of defining the phases to which the PIC directly refers.)

Let us therefore reformulate the PIC in terms of LAs (i.e. phases proper), as in (15), where LA_H = the lexical subarray containing (defined by) phase head H, with **either** $X \in LA_H$ **or** $X \notin LA_H$ (the two logical possibilities, as identified above).

(15) *Phase Impenetrability Condition* (unified, LA-relativized: PIC_{LA})
[In phase α with head H,] the domain of H is not accessible to operations 'outside' LA_H; only H and its edge are accessible to such operations.

Under this formulation, the phasal domain of phase head H is spelt out as soon as H's phase (i.e. LA) is exhausted, thus coming closer to the original conception of MI(:106) than DbP's PIC_2 (which, as we have seen, would allow T to be part of C's LA whilst still delaying spell-out of the *v* phase until Z, yielding one half of the aforesaid (double) dissociation between LA and search space). Moreover, by taking phases (qua LAs) seriously, the problems reviewed above for previous formulations of the PIC (PIC_1 and PIC_2) now vanish, as follows.

Firstly, since phase heads *per se* no longer determine the timing of spell-out, there is no longer room for equivocation of the 'X°/XP' or 'at/outside' kind: lexical subarrays are neither heads nor phrases but chunks of numeration; they are not probes but sets of lexical items, and so do not represent points of the derivation. (That they do not fit into the probe cycle (cf. section 3.1.1.1) is thus similarly trivial.) It doesn't matter whether we view spell-out as a consequence of leaving/ending old phase LA_n or of introducing/starting new phase LA_{n+1}: such terminological vagaries are irrelevant and (now *truly*) inconsequential, as desired.

Secondly, it now *does* follow that search space determines LA-allegiance and vice versa: that is, there is now a strong logical connection between search space and LA. Spell-out occurs once a phase is exhausted; therefore, if T belongs to *v*'s LA, then spell-out of the *v*-phase cannot possibly occur at point of T-merge (unlike under PIC_1, which yielded the other half of the aforesaid double dissociation). If T and *v* are part of

the same LA, then this LA is not exhausted whilst T is still active; only when the next phase begins (via merge of C) is *v*'s complement spelt out, which therefore remains accessible during T's probe-life. Conversely, if T belongs to C's LA, then spell-out of the *v*-phase *must* occur at point of T-merge – since T and *v* are in separate LAs, *v*'s LA must be exhausted when T is merged; T marks the start of the next LA, triggering spell-out of the *v*-phase by (15), and thus rendering *v*'s complement opaque to both T and C alike. Thus, under (15), the search-space pattern defined by PIC_1 (i.e. C-T identity) directly entails that C and T are part of the same LA; the search-space pattern defined by PIC_2 (i.e. T-*v* identity) directly entails that T and *v* are part of the same LA. Sharing LA implies sharing search space, and vice versa, thus achieving the LA/search-space unification that was not possible under PIC_1 and PIC_2, where LA and search space were dissociated.

Indeed, it is a considerable conceptual weakness of the existing PIC definitions that two heads can belong to different phases and yet share identical search space, and that two heads in the same phase can exhibit divergent search space. The simplified PIC in (15) eliminates this weakness by removing the effect on search space from the definition of the PIC itself and reassigning it to the definition of LA; what was previously a function of differing accessibility clauses (and thus different PICs: PIC_1 versus PIC_2) is now a function of different LA compositions. If T belongs to the C-phase then (15) delivers (9), i.e. the effect of PIC_1; if T belongs to the *v*-phase then (15) delivers (12), i.e. the effect of PIC_2.

In short, then, the progression from PIC_1 to PIC_2 in MI/DbP need not imply any change to the PIC itself. We can keep the PIC constant by adopting the formulation in (15); all that changes from PIC_1 to PIC_2 is then the composition of *v*'s (= H's) LA, i.e. whether or not it contains T (= X):

(16) a. "$\underline{PIC}_1$"

Definition: the domain of H is not accessible to operations outside LA_H

LA_H: {H, Y, WP}

Search space for H: $\underline{Z}$ [$_{XP}$ … X [$_{HP}$ … $\underline{H}$ [**$_{YP}$ … Y [$_{WP}$ … $\underline{W}$** …]]]]

Search space for X: $\underline{Z}$ [$_{XP}$ … X [**$_{HP}$ … $\underline{H}$** [$_{YP}$ … Y [$_{WP}$ … $\underline{W}$ …]]]]

Search space for Z: $\underline{Z}$ [**$_{XP}$ … X [$_{HP}$ … $\underline{H}$** [$_{YP}$ … Y [$_{WP}$ … $\underline{W}$ …]]]]

b. "$\underline{\text{PIC}_2}$"

Definition: the domain of H is not accessible to operations outside LA_H

LA_{H}: {X, H, Y, WP}

Search space for H: $\underline{\text{Z}}$ [$_{\text{XP}}$ … X [$_{\text{HP}}$ … $\underline{\text{H}}$ [**$_{\text{YP}}$ … Y [$_{\text{WP}}$ … $\underline{\text{W}}$** …]]]]

Search space for X: $\underline{\text{Z}}$ [$_{\text{XP}}$ … X [**$_{\text{HP}}$ … $\underline{\text{H}}$ [$_{\text{YP}}$ … Y [$_{\text{WP}}$ … $\underline{\text{W}}$** …]]]]

Search space for Z: $\underline{\text{Z}}$ [**$_{\text{XP}}$ … X [$_{\text{HP}}$ … $\underline{\text{H}}$** [$_{\text{YP}}$ … Y [$_{\text{WP}}$ … $\underline{\text{W}}$ …]]]]

As we see in (16), the search space of H and Z remains the same across (16a) and (16b) alike, since they are always part of separate phases; only X's search space changes. Given the (partial)[24] LA in (16b), X's search space is downwards-coextensive with H's (cf. (12)); given the (partial) LA in (16a), it is downwards-coextensive with Z's (cf. (9)). The definition of the PIC remains the same in both cases; the only difference is that X belongs to H's LA in (16b) but not in (16a) (where it belongs to Z's LA). It is now abundantly clear that the expanded search space for X in (16b) compared with (16a) cannot possibly be viewed as a 'weakening' of the PIC and thus of the very rationale for phases/cyclic spell-out (*pace* Müller 2003) – the PIC does not change. Only the contents of the LAs change, and since an increase to the contents of one LA implies a concomitant and equivalent decrease in the contents of another, the net effect is neither a weakening nor a strengthening of anything – the computational burden and derivational workload is identical, and so neither (16a) nor (16b) is more (or less) computationally tractable than the other.

We have now reduced our two indeterminacies (PIC_1 versus PIC_2; [{C, T},{*v*}] versus [{C},{T, *v*}]) to a single binary choice. Since neither option can be preferred on purely computational grounds, we would seem to have identified a perfect example of a (nonlexical, macro)parameter, like the linearization parameter in (2). T's LA-membership is surely indeed at least a *potential* point of parametric variation. However, it is arguable that such (macro)parameters should only exist as interface (desymmetrization) strategies ensuring legibility of the syntactic output (see Chapter Five). They should therefore be syntactically inert. Whereas directionality has no effect on syntactic operations (cf. the Symmetrical Syntax hypothesis of Chapter Two:2.1), the choice between assigning T to *v*'s or to C's LA clearly does in that it alters the search space available to (non-phase-head) probes.

[24] Partial, since (for instance) the external argument of H (qua *v*) is not included, for ease of exposition. We will further refine these LAs in fn.25.

We have already reviewed the empirical and conceptual arguments for preferring PIC_2 over PIC_1 (cf. discussion of (10) and (13)). Whilst the conceptual argument of DbP no longer holds once we adopt the unified PIC in (15)/(16), it remains true that T must be able to see into *v*'s complement domain for both transitive and defective *v* alike. In the following, then, I will assume that UG simply opts for (16b), i.e. that T universally belongs to *v*'s LA.[25] As Uriagereka (1999:255) points out, that c-command should map to precedence rather than subsequence under an ordering algorithm like the LCA may simply be a case of nature being presented with two equally valid solutions; since it only seeks "*an* optimal solution", not "*the* optimal solution", either option will do, and it is purely a matter of happenstance that UG happens to have gone with precedence. Similarly, either of the two choices of LA in (16) would do as computationally efficient a job as the other of exhausting the numeration and triggering cyclic spell-out under the PIC in (15); UG just happens to have opted for (16b), i.e. grouping {X, H} rather than {X, Z}, thus yielding the PIC_2 patterns of search space. Martian, as they say, may be different and pick the opposite strategy. The main conceptual advantage of (15)/(16) over previous formulations, then, is simply that it is no longer a question of picking a PIC. The PIC remains an invariant,

[25] Once reconceived as in (16b), PIC_2 may account for further empirical restrictions. Turning away from simple main clauses to embedded ones, so that W in (9)/(12)/(16) is now the embedded CP complement, the PIC_{LA} implies that matrix V is part of the embedded C's LA (just as T is part of *v*'s). As such, the matrix V in this case is not in the matrix *v*'s LA, and is thus in a separate LA from the matrix external argument DP. Since these DP and CP arguments are thus in separate LAs, the only argument XP available for merger as V's complement is the CP (V's phase-mate). The order of selection is thus uniquely and intrinsically determined, with the result that CP is barred from merger as the EA (i.e. in matrix spec-*v*). This may provide the key to an analysis of restrictions on CP EAs (cf. **That John likes pizza said Mary*). Indeed, since W in the simple main-clause cases considered above is the DP internal argument, V will be part of the W phase/LA in these cases too, insofar as D(=W) is a phase. This implies that IA and EA are never in competition for selection; rather, the composition of LAs always guarantees a unique derivational output (thus *John likes Mary* and *Mary likes John*, whilst the product of identical numerations, are composed of distinct subarrays and thus do not reflect optionality in external merge choices, contrary to suggestions I have made elsewhere (cf. Biberauer & Richards 2004)). Note, however, that this has no implications for the accessibility of IA (whether DP or CP) to matrix T (i.e. the PIC_2 pattern of search space), since it is still only the complement of W is spelt out at merge of *v*.

Strictly speaking, then, the LA under (16b)/PIC_2 contains only {X, H}, with {Y, W} a separate phase/LA. Selection of Y by H is not a problem since Y (and indeed W under "PIC_2") remain accessible to H (and X). Similarly, the LA under (16a)/PIC_1 should be revised to contain only {H, Y} (again, selection of W by Y is not a problem since W remains accessible to Y (and H) by the PIC). The difference between PIC_1-LAs and PIC_2-LAs can now be characterized as follows: PIC_2 obtains where LA comprises the phase head plus the head that selects it; PIC_1 obtains where LA comprises the phase head plus the head that it selects. This extends the PIC_1/PIC_2 LA schemata beyond the case of X's allegiance, to a generalized algorithm for assigning phase heads and non-phase heads pairwise to LAs. A further argument in favour of the PIC_2 (i.e. 'non-phase-head + phase head') schema over PIC_1 (i.e. 'phase head + non-phase-head') is then that only the former is able to distinguish between DPs in specifier and complement positions (i.e. left-branch versus main-branch DPs): only the former kind of DP lacks a non-phase-head LA-partner under PIC_2-type LAs, whereas they both do under PIC_1. Insofar as the islandhood of left-branch/specifier DPs can be reduced to this lack of a phase-mate (a task for future research), the existence of such extraction constraints (Subject Condition, etc.) would lead us to favour PIC_2 over PIC_1.

coherent, nonarbitrary, and thus explanatory principle, contrary to the criticisms of inscrutability and stipulation that have been levelled against it.

3.1.2 Concluding remarks: Escaping as *re*shaping – Fox & Pesetsky 2003

The preceding discussion (3.1.1) has gone to some length to argue not only that phases are a necessary and principled derivational construct but, moreover, that the criticisms and phase-like alternatives that have flooded the syntactic market in recent years are all misplaced and, in many cases, miss the point of having phases in the first place. The general conclusion is that, if phases exist at all, then they must exist in more or less the form that Chomsky proposes. I have gone through all the properties and assumptions behind Chomsky's phases, justifying them in light of the conceptual arguments that have confronted them, and dismissing the alternative conceptions of the phase, which I have shown to be conceptually inferior to Chomsky's version. In sum, phases are lexical subarrays, and thus closed systems for the purposes of external merge; they are statically-defined nonconvergent units corresponding to the 'propositional' functional heads C and *v*, and thus subject to some version of the PIC regulating both the timing of spell-out and the size of the spelt-out category. None of these properties is arbitrary, stipulative or inscrutable; rather, they all have the mark of necessity, as I hope to have clarified.

Nevertheless, this clarification has been achieved not via a wholesale acceptance of Chomsky's proposals; instead, it has been necessary to offer some minor modifications and improvements of my own, ones which allow a greater level of principled explanation to be attained within the conceptual framework of Chomsky's "meaningful cyclic computation". Thus, the distinction between weak and strong phases has been eliminated as redundant under the DbP version of the PIC ("PIC_2"), with v_{def} now able to be treated as a fully-fledged phase alongside transitive *v**. Further, a natural reformulation of the PIC (cf. (15)) has proven the PIC_1/PIC_2 dichotomy to be epiphenomenal, a function of the two logical possibilities for assembling lexical subarrays as sets of phase-head/nonphase-head pairs: either the phase head selects the nonphase head, or the nonphase head selects the phase head (cf. fn.25). Given the empirical arguments in favour of PIC_2 over PIC_1 (cf. (10) and (13)), our adoption of the former simply implies that LAs are composed of pairs of a phase head selected by a nonphase head (rather than vice versa). Thus, in real terms, T must be part of *v*'s

phase/LA rather than C's phase/LA. This will have important consequences in the next section, where the syntax of expletives will lend further support to the "PIC_2" approach.

Of course, the point of all the above has not been to vindicate Chomsky for its own sake. The vindication serves a more selfish purpose, since it is precisely Chomsky's view of phases that provides us with the analytical tool we need for explaining the central question of this chapter – namely, why the final movement step in passivization, unaccusative-raising and A-bar displacement is able to obviate the effects of the shape/directionality parameter in (2). Section 3.1.1 has provided conceptual arguments in favour of the Chomsky-phase; the very existence of shape-breaking movement now adds to the empirical support (independent empirical evidence for this view of phases was already provided by our analysis of weak-pronoun distribution in Chapter Two). Movement of α to a position external to the phase in which α is first merged liberates α from the purview of the linearization constraints imposed and regulated within that phase. This is because the c-command relations that feed the parameter in (2) are 'forgotten' as part of the general purging of derivational information implied by cyclic spell-out. In Chomsky's words:

(17) Φ [the phonological component – MDR] is greatly simplified if it can "forget about" what has been transferred to it at earlier phases; otherwise, the advantages of cyclic computation are lost. (BEA: 4)

Each phase is thus a separate linearization domain.[26] Therefore, only the c-command relations created within a given phase can be brought to bear on the legitimacy of a spell-out position within that phase. As far as final, spelt-out positions are concerned (i.e. the ones that cannot be invisible to PF given that they feed the overt realization of the copy in that position), we derive the following hypothesis:

(18) The c-command relation created by a movement operation M to a final position P (= head of the chain created by M) will only count for the purposes of linearization within spell-out unit S (= phasal domain) insofar as either P or the tail of M (or both) is contained inside S.

[26] Indeed, it was precisely on grounds of the need to linearize complex left-branches separately from the main branch in order to integrate them with the complete structure via the LCA that Uriagereka (1999) first proposed his own phase-like entity, the command unit.

The PIC ensures that movement out of a phase proceeds via the phase edge rather than directly targeting the landing-site. By forcing this touchdown, escaping a phase is predicted to go hand-in-hand with escaping shape since the subsequent movement operation from the phase edge to the final position, and thus the c-command relation it creates, is derivationally invisible to the lower phasal domain (by (18)), with which all its ties are severed by spell-out. Neither the launch nor the landing site is included in the lower domain, and so the resultant c-command relation cannot be expressed in terms of an ordering partner spelt out in that domain. Thus the difference between passivization (targeting spec-TP) and an illicit, HG-violating OS operation (targeting spec-*v*P) is that only in the former case is the movement operation to the final position entirely divorced from the linearization within the lower (VP) domain. The movement from spec-*v*P to spec-TP is entirely included within the higher phase, and therefore any O > V instruction thus created is not a member of the set of c-command relations provided to PF upon spell-out of VP (and subsequently 'forgotten about').

The workings of (18) and a fuller demonstration of how the transphasal derivations feed linearization will be presented in Chapter Four(:4.1), where the missing piece of the puzzle will be provided (namely, why movement to intermediate landing sites also does not count for linearization of the lower phase, despite the tail copy being within that domain). For now, I would like to make a brief excursus to consider an alternative conception of the relation between escaping a phase and escaping shape. In the approach that I am proposing, movement out of a phase via an intermediate (edge) position undoes shape by allowing the derivation to *forget* the ordering relations established in, and regulating linearization of, the lower phase. Fox & Pesetsky (2003), henceforth F&P, offer a different view of the role of phase edges in cyclic linearization, indeed one that makes precisely the opposite claim from that defended here. For them, movement via the phase edge undoes shape by allowing the derivation to *reset* the ordering relations that are established in the lower phase. This final (reordered) set of linearization statements is then fixed for the remainder of the derivation, thus constraining subsequent movement operations so that they preserve this final order. The effect is that movement and reorderings are free *within* a phase but barred *across* them, in diametric contrast to the view espoused here (namely that only phase-*internal* movements will be subject to the effects of shape-preservation/(2), so that movement *across* phases is unconstrained). Since their main empirical concern is the same shape-preservation phenomenon as that which is the focus of this thesis (i.e. OS/HG effects), it would be rather disconcerting if a completely opposite set of assumptions could account

for the same facts. Given that we share the idea that escaping shape implies escaping the phase (via the intermediate, edge position), we must therefore ask: is this the result of forgetting or resetting?

The F&P analysis of HG effects proceeds as follows. Firstly, they postulate the axiom in (19), their *Linearization Principle*:

(19) The linear ordering of syntactic units is affected by Merge and Move within a Spell-out Domain, but is fixed once and for all at the end of each Spell-out Domain.

These Spell-out Domains are derivational units that are sent to spell-out as soon as they are created. They thus "correspond roughly to Chomsky's notion of *phase*" (p.1); I shall therefore refer to them simply as phases. However, unlike for Chomsky, the exact categories that determine these phases are open to crosslinguistic variation. For Scandinavian, the lower phase is assumed to be VP rather than Chomsky's *v*P, as proves crucial to their account of HG effects. The order V > O is established at the end of the VP phase in (20a); therefore, movement of O out of this VP, such as to a position above the adverb, will create an ordering inconsistency in violation of (19). Thus the V must move as well (20b), in order to preserve the V > O ordering that was established the lower phase.

(20) a. *… O Adv [$_{VP}$ V (O)]
b. … V O Adv [$_{VP}$ (V) (O)]

Since this V > O ordering is inviolable, F&P would seem to face a similar problem to that presented at the start of this chapter – namely, *all* movement of the object out of VP should be thus constrained, and not just OS. Thus passivization, unaccusative-raising and *wh*-movement of the object, which all create an O > V(P) ordering statement in conflict with the V > O statement fixed at spell-out of VP, should not be possible. How, then, can a single language tolerate both shape-preserving and shape-breaking movement? F&P's solution is to allow the shape-breaking kind of movement to proceed via the phase edge (i.e. spec-VP in this case), as in (21).

(21) … O … Adv [$_{VP}$ (O) V (O)]

This creates an O > V ordering statement prior to the spell-out of VP. It is therefore the O > V ordering that is fixed at the end of VP and thus preserved for the rest of the derivation. Movement to the phase edge thus 'resets' the V > O ordering statement to O > V, so that it is O > V rather than V > O shape that is inviolable in these cases. The escape-hatch property of the phase edge is thus claimed to follow without the need to appeal to the PIC. Escape hatches are essentially now 'shape hatches' – by reshaping the lower phase, material in these positions is free to continue moving leftwards through higher phases since no ordering contradictions will then arise.

Empirically, the 'resetting' approach clearly makes a different prediction from the 'forgetting' approach which I proposed above. If the ordering statements of a lower phase are simply forgotten or lost to higher ones, then the final landing sites of items moved out of the lower phase are free not only to reverse the original relative ordering between them but also, crucially, to *not* reverse them – the derivation simply doesn't care what happens beyond the initial phase. If, however, the ordering statements are reset, as on F&P's analysis, then that reset order itself becomes inviolable. Thus the movements schematized in (21) are not only able to deliver a final O > V order, they must *not* deliver a final V > O order. F&P claim that this prediction is borne out in the form of what they call "anti-HG effects", giving the example of quantified-object raising (cf. Svenonius 2000) in Icelandic. This creates an O > V order that is incompatible with V2 (which would reinstate a V > O order).

Nevertheless, if we turn to OV languages such as German and Dutch, then the unconstrained interplay between scrambling and V2 would seem to bear out the looser predictions of the weaker, 'forgetting' approach. V2 clauses may feature a postverbal subject (i.e. a V > S ordering), which implies that the relevant spell-out domain must be the same as Scandinavian (i.e. VP rather than *v*P, otherwise the subject would be included in this domain, imposing S > V/O order – cf. F&P:4/9).[27] If VP is head-final, this then predicts that V2 should be impossible since the verb is required to violate the O > V order established in VP (V does not occupy the linearly-defined left-edge 'shape hatch' of VP). If VP is head-initial (with OV derived as on antisymmetrical analyses), object movement must target the VP-edge position in order to allow O > V order with a non-finite verb (scrambled or otherwise, cf. *Er hat (ein Buch) nicht (ein Buch) gelesen*);

[27] Note, then, that it is the entire phase that is subject to order-preservation for F&P, whereas, on the analysis developed in Chapter Two, only merge sisters are subject to the effects of the shape parameter in (2). This allows the verb and object to reorder freely with respect to the subject on my approach (cf. Chapter Two, fn.24) whilst maintaining that *v*P (and not VP) is the phase, as is desirable given the discussion of the C/*v* definition in sections 3.1.1.1-3.

this then predicts that V2 cannot cooccur with a scrambled object, which is clearly false (cf. *Er las das Buch nicht*).

Essentially, irrespective of whether OV is basic (head-parameter) or derived (antisymmetry), such languages pose a paradox for the F&P characterization of phase edges: the object must precede the verb at the left edge of the lower phase in order for scrambling to conform to (19), yet simultaneously the verb must precede the object at the left edge of this same lower phase in order for V-to-C movement (V2) to conform to (19).[28] Thus the F&P 'shape hatch' departs from Chomsky's PIC-imposed phase edges in at least one crucial respect: for F&P, the head of a phase is only accessible to the next higher phase if its specifier is empty (e.g. if the specifier material moves higher); for Chomsky, there is no such restriction – both the edge and the head of phase H are in the escape hatch and thus independently accessible to the higher phase (as is desirable given a relativized minimality in which XPs do not intervene for head movement). The escape hatches provided by the PIC are thus not isomorphic with those derived from (19), lending doubt to F&P's hope that their left-edge shape hatch "explains the facts behind Chomsky's *Phase Impenetrability Condition*".

It is really on the conceptual level, however, that the F&P 'resetting' algorithm falls short of the 'forgetting' approach. Not least, it implies a rather dubious view of the relation between spell-out and movement, with a phase being spelt out (and, indeed, linearized) *before* overt movement takes place from within that phase. This is incompatible with the Chomsky/Nissenbaum view of overt movement as simply movement that takes place prior to Spell-Out/Transfer (cf. BEA; it is, however, arguably compatible with Bobaljik's (2002) approach in which the overt/covert distinction is simply the result of PF privileging different copies). It thus also requires that the entire spelt-out domain remain accessible to the higher phase in order for its subconstituents to remain available for these movement operations, in accordance with (19). There is therefore no reduction in computational burden as far as the syntax is concerned, rendering F&P's phases quite pointless and thus an imperfection from the perspective of the SMT and principled explanation (cf. section 3.1.1.2). Chomsky's PIC has the mark of necessity precisely because it is not the entire phase that is spelt out; it is a direct consequence of the cyclic spell-out of nonconvergent units, and thus does not need "explaining" (as F&P:3 claim to do). There is no such necessity once the F&P view of phases is adopted, in which the entire phasal XP is spelt out. Attempting to

[28] The only way out for F&P (unless they add extra functional heads to the basic C-T-*v* clause structure) would be for them to assume the entire CP to be the only phase in OV Germanic, which would expose them to the same criticisms as those adduced in section 3.1.1.2.

'derive' the PIC from an approach that removes the very reason for having a PIC in the first place seems a rather futile exercise. Indeed, simply replacing the (natural) PIC with the (arbitrary, unnecessary) principle in (19) does not constitute an "explanation" of the PIC.

In fact, the F&P approach does not simply result in zero reduction in computational burden (by requiring the contents of spelt-out units to remain part of the active derivational workspace); it actually *increases* the computational burden by requiring the derivation to now keep track of the inviolable ordering relations established in previous phases and to apply them as a filter on all subsequent ones. Thus (19) only *adds* to the demands placed on active memory, rendering this conception of phases an intractable one from the computational perspective. Cyclic computation is rendered completely meaningless, offering no advantages over a phase-free system. As such, F&P's phases are little more than a descriptive device: there is no reason why they should exist other than to derive the word-order facts that they seek to account for. I therefore submit that Chomsky's phase system has the conceptual edge; consequently, if (as argued here) the same shape-preservation facts can be accounted for within Chomsky's approach ('forgetting'), then there would seem little reason to opt for F&P's alternative ('resetting').

On the approach advocated here, it is entirely to be expected that shape may be broken by moving out of a phase, since the logic of cyclic computation entails that, unless we make a special provision otherwise, there is no memory of the ordering statements (or ordering partners) of a given phase once that phase has been spelt out. It is therefore telling that the opposite, F&P approach requires the postulation of a special linearization principle in order to ensure transphasal memory. The very fact that the 'resetting' approach requires an axiom such as (19), then, points to a further conceptual advantage of the 'forgetting' approach – no such special rule is needed since the periodic disposal of derivational information is simply how phases work anyway. There is no *a priori* reason why shape information should be preserved across phases, something that must therefore be artificially imposed by (19); on the other hand, there is no reason why shape information would *not* be *discarded* across phases – this is simply the null assumption given the rationale for having phases at all.

Finally, the F&P approach to cyclic linearization fails to actually explain *why* some movement operations (OS) are subject to HG/shape-preservation whereas others (*wh*-movement, passivization) are not. Instead, it simply replaces this dichotomy with another one – there are now two types of movement, one which is unable to make use of

the left-edge escape hatch (i.e. OS), and the other which can. Since there is no independent, noncircular reason why the VP 'shape hatch' should be unavailable to OS but available to passivization (etc.), this amounts to simply restating the observed phenomena.[29] The stipulation that OS cannot proceed via the left edge of VP is little more than a stipulation of its shape-preserving property. The theory thus has no predictive power – given a particular movement operation, it cannot calculate whether or not it will be able to make use of the escape hatch other than by inspecting it to see whether or not it preserves shape.

There is no such circularity on the alternative approach developed here (i.e., where linear ordering is violable across phases but not within them). It predicts the shape-related disparity between OS and other movement operations on the basis of an independent property – whether or not the movement is phase-internal. There is therefore no need to treat OS as an exceptional type of movement, which is desirable given the formal homogeneity of movement under the generalized-EPP approach of MI/DbP. Since all movement is EPP-driven, it is unclear how C_{HL} could make the necessary distinction, as required by F&P, between movement that must proceed via the phase edge and movement that must target the phase-external landing-site directly (the latter a possibility that is, furthermore, not sanctioned by Chomsky's version of the PIC). Put simply, how could a lookahead-free C_{HL} know which type is which at the point in the derivation at which movement applies? In short, the shapeless phases of F&P do not shape up too well as a computationally viable theory of cyclic linearization and order-preservation effects.

We therefore include F&P amongst the ranks of interesting, yet ultimately untenable, alternative approaches to phase theory that have been proposed in the recent literature. Whilst attempting to clarify, explain or improve upon certain aspects of Chomsky's phase theory, they actually serve to render cyclic spell-out only less plausible and meaningful. We will therefore proceed with our slightly modified version of the MI/DBP phase system, with C and *v* the phase heads under the LA-based reformulation of PIC_2.[30] As we saw in section 3.1.1.3, the path has been cleared for v_{def}

[29] The *ad hoc* nature of escape-hatch unavailability for OS is also noted and discussed in Bobaljik's (2004) commentary on F&P.

[30] One further aspect of Chomsky's phase theory that has been criticised (by such authors as Müller 2003, Boeckx & Grohmann 2004, and Rezac 2004) is the appeal to end-of-phase evaluation of locality (and other operational constraints), adding undesirable representational residue to the derivational system. I agree with this criticism, and will address it properly in Chapter Four, where alternative analyses of the phenomena accounted for by phase-end evaluation will be provided. In short, the latter is rejected as unnecessary; i.e. countercyclic evaluation of MLC violations (etc.) at the phase level is *not* an implication of the PIC but a spurious elaboration of it.

to claim full status as a ('strong') phase, one that shares with the other phases not only propositionality but also the more substantial properties of IFM (the EPP-property) and domain-impenetrability (PIC-sensitivity).

However, arguing for the phasal status of v_{def} is only one half of the problem, as it is clearly not the same thing as arguing for v_{def}'s existence as a category in the first place. It is the latter that must now be established if the main claim of this chapter, namely that shape-breaking movement proceeds via an intermediate phase-edge, is to be extended to A-movement. Since passive- and unaccusative-raising reverse the V > O ordering relation in VO languages, it is essential for this analysis that a v_{def} phase head intervene between VP and spec-TP in these constructions, thus allowing the VO setting of (2) to be circumvented in the linearization of the raised IA. It is to this task that we now turn.

3.2 MOTI*v*ATING v_{def}

The Legate/Sportiche evidence for v_{def} (and its phasehood), mentioned briefly in section 3.1.1.3, will be bolstered in this section, where I will argue that the existence of *there*-type Expl implies that v_{def} must be present – there is simply nowhere else for Expl to merge other than (spec-)v_{def} under a consistent and logical application of PIC_2 and the conditions on the operation Agree.

The light-verb head *v*, Chomsky's adaptation of the Larsonian VP shell, is introduced in Chapter 4 of MP not only as a way to accommodate multiple internal arguments within a single verbal predicate (MP:315; cf. also Larson 1988, Neeleman & Weerman 1999), but also as a replacement for the conceptually dubious Agr heads (especially AgrOP) once widely assumed in minimalist checking theory, albeit "only for theory-internal reasons" (MP:349). Agr heads have neither PF nor LF properties (for the former, Agr heads only become 'visible' at PF when another lexical item moves into them and occupies their head or specifier; for the latter, they are projected on inherently uninterpretable formal features that will be deleted at spell-out and which are therefore absent at LF), rendering their presence unmotivable from the perspective of the interfaces, and thus arguably unlearnable given minimalist (FI-driven) acquisitional strategies such as those in Thráinsson 1996, Longobardi 2001, Roberts & Roussou 2003. Once we adopt the Probe-Goal-Agree system of long-distance feature-checking (see below), the final nail in the Agr-coffin is nailed home: the demise of spec-head

checking configurations renders Agr projections truly unnecessary since their function was primarily to provide exactly such a spec-head configuration for checking elements to move into.

Chomsky thus postulates a *v* head with the dual property of assigning the external θ-role (selecting the EA) and checking case and agreement features with the object (IA). In order to allow for object-raising (OS), the light *v* has the multiple-specifier property that Chomsky also assumes for T (the latter yielding transitive expletive constructions (TECs), or multiple-subject constructions (MSCs) in Chomsky's terms). Under the generalized-EPP approach of MI, this property is simply a function of the head in question bearing more than one EPP-feature, and is arguably the null assumption (as opposed to the 'one-spec-per-head' restriction imposed by the LCA on antisymmetrical approaches), cf. BEA:6. Although, in theory, this opens up the possibility of an unrestricted number of specifiers for a given head, in practice a head will only have as many specifiers as it has selectional features, which is subject to intrinsic constraints. For thematic selectional features (i.e. θ-roles), this number will be constrained by lexical specification (and is unlikely to exceed one); for nonthematic selectional features (i.e. EPPs), a head can only bear as many of these as it has arguments to agree with (given that Move is parasitic on Agree in the Probe-Goal system (see below), and unsatisfied EPPs violate FI), and again this number is unlikely to exceed one.

Nevertheless, when it comes to T, the MSC property, expressed as a parametric option in MP and MI, remains an undesirable stipulation for allowing certain languages to merge Expl to spec-TP whilst also raising the EA-associate. Unlike *v*, both T's specifiers are nonthematic (EPP-added) in this case, and thus their availability is not independently constrained by Agree/Select, as above. Add to this the fact that the IFM-property (by which EPP-features are added to functional heads) is only legitimately associated with phase heads (C/*v*), cf. MI:109, and the T-related MSC-analysis of TECs becomes increasingly untenable. The analysis presented below will eliminate this arbitrary property of T and reduce the TEC phenomenon to independently motivated specifers of *v*. Where phase head *v* is concerned, then, the multiple-specifier property is not a stipulation, and we take this property to be an entirely natural one.

The dual-function *v* has at least one empirical advantage over previous, split-IP/Agr-based accounts, and that is that both of the properties linked together by Burzio's Generalization (external θ, internal Case) are united under a single head. The correlation between the suppression of the EA and loss of accusative Case-marking on

the IA, as instantiated by passives/unaccusatives, can therefore be simply formalized as absence of the *v*-shell with these predicates. That is, passives and unaccusatives involve bare VPs, so that the source of both the EA and accusative case is simply missing. This is the approach assumed in MP(:316/352); cf. also the structural analysis of inchoative-causative alternations in Hale & Keyser 1993. However, an alternative exists under the revised case/agreement system of MI/DbP/BEA, in which functional heads are associated with unvalued φ-sets (probes) that may either be complete or incomplete (defective). In MI, only defective T is considered (T_{def}), but this is extended to passive and participial verbal heads in DbP, which are assumed to bear an incomplete φ-set (that is, they lack person). Like T_{def}, this φ-incomplete form of *v*, which we dub v_{def} and which Chomsky claims to be a 'weak' phase head (a claim we have rejected in 3.1.1.3), is unable to value Case on the IA goal-DP (since matching is incomplete; see 3.2.2 below); instead, checking/valuation is asymmetrical – the goal values v_{def}'s incomplete φ-set but remains active for probing by a higher head. In the case of a simple passive/unaccusative clause, this will be T, with which the IA enters a symmetrical valuation relation (i.e. valuation of both the φ-set on T and Case on IA). The φ-incompleteness of v_{def} thus accounts for the lack of internal Case-assignment (accusative) with Burzio predicates.

A second property of v_{def} is that it is athematic: it lacks the external-θ property of transitive *v**. This property, too, can be (indirectly) derived from the φ-incompleteness of this light verb. Since v_{def} is unable to value Case on the goal DP (IA), the latter must be valued by a higher head (T). However, if an EA were selected by v_{def} and thus merged into spec-v_{def}, this EA would be closer to T than the IA (by the usual, c-command definition of closeness) and thus intervene for the T-IA relation. That is, the T-probe would first match and value the EA, rendering T inactive for further probing. The IA's Case would therefore go fatally unvalued. The two properties of v_{def} (i.e. the Burzio properties of lacking both external-θ and internal-Case) thus fall out as consequences of the Probe-Goal-Agree system; their unification under a single head (both their presence under *v** and their absence under v_{def}) is therefore not arbitrary or unnatural, as is sometimes claimed. (Further, dissociations posing apparent exceptions to Burzio's Generalization are entirely to be expected given the logic of the system – see fn.60.)

Faced with these two alternative approaches to capturing Burzio's Generalization given a light-*v* clause structure (i.e. removal of *v**, as in MP, versus replacement of *v** with v_{def}, as in DbP), the obvious question is which one is correct.

Since the analysis of shape-breaking A-movement relies on an intervening phase head via which the raised IA can sever its ordering ties with the lower, VP spell-out domain, the onus is on me to show that the latter approach is correct – i.e. that these structures involve the presence of v_{def} rather than the absence of *v* altogether. We have already considered some of the empirical evidence that has been presented in the literature for a passive/unaccusative *v* phase (cf. especially Legate 2003), as well as the more conceptual one that led Chomsky to include passive/unaccusative *v* amongst the phases in DbP (albeit as a 'weak' phase), namely that this category is as much a 'proposition' as *v** (in the sense of a predicate with all θ-roles assigned).[31] In the following sections, we will supplement these empirical and conceptual arguments with additional ones from the syntax of expletives.

The tack is as follows: in order to demonstrate the existence of a particular projection (here, v_{def}P), one can do so either by offering examples of overt instantiations of its head (i.e. lexical items that project the v_{def}P),[32] or by demonstrating that its *specifier* is occupied/filled by certain other categories (cf. Cinque 1999). I pursue the latter approach here, and attempt to show that such motivation for v_{def} from its specifier is very clearly provided by Expl. In sections 3.2.1-3 I argue that existing accounts of the merge-distribution of Expl, which widely assume spec-TP to be the merge-site of Expl, are untenable under current theoretical assumptions. Not only is it impossible for T to be the site of merge-Expl, but all the indications are that the only possible merge-site must be a head lower than T, i.e. v_{def}. Since v_{def} lacks the EA-property of *v**, its specifier is nonthematic and thus a natural position for merger of Expl, a θ-less and itself defective/φ-incomplete dummy. Section 3.2.4 gives sample derivations of previously problematic Expl-related data and shows how the present theory can account for them in a simple and perspicuous manner. Section 3.2.5 then extends the account to the nonthematic specifier of *v** (as noted above, *v** has the multiple specifier property as the consequence of possessing both the EA-property, thus a thematic specifier, and the optional OS-property, thus also a second, nonthematic, EPP-added specifier). This specifier too provides a natural merge-site for Expl, yielding a restrictive and predictive new theory of TECs.

The conclusion, however, is not that v_{def} is present in *all* nontransitive clauses. There are cases where the 'absence-of-*v*' approach is the correct one. By the

[31] That some kind of light verb is present even with intransitive predicates (and not just transitive ones) has also been proposed and argued for in (amongst others) Harley 1995, Bowers 2002, Folli, Harley & Karimi 2003.

[32] Existential/copular *be* is a good candidate, as we will see below.

propositionality criterion for phasehood mentioned above, there is still a class of predicates that are not expected to be phases at all – that is, they *do* lack v_{def}. These are the raising predicates (*seem*, *appear*, *(be) likely*, etc.), which, like the modal verbs, lack argument structure and serve mainly to modify the proposition that they (c-)select. In LF terms, we can include these raising-predicate propositional modifiers amongst the class of modal operators, as sketched in (22) for the proposition *John likes Mary*. The raising counterpart of (22c), i.e. *John seems to like Mary*, is thus structurally and interpretively identical to the raising structure obtained with the athematic modal in *John ought to like Mary*.

(22) a. ¬(John likes Mary)
It is NOT the case that (John likes Mary)

b. ◊(John likes Mary)
It is POSSIBLE that (John likes Mary)

c. SEEMS(John likes Mary)
It SEEMS that (John likes Mary)

As modal operators, items like *seem* give rise to scope ambiguities of the familiar kind (e.g. *a woman seems likely to complain*, with or without the existential presupposition of a specific woman), a property that unaccusative/passive (and transitive) predicates do not share. For this reason, and others given in section 3.2.4, we assume that no light *v* is present in the case of raising predicates. Since, unlike with passives/unaccusatives, the raising-to-subject that takes place from the T_{def} complement of raising predicates does not involve the sister of the verb itself (but rather the subject of the embedded complement), its shape-breaking property is trivial from the point of view of our parameter in (2): there is no need for an intervening phase-edge in order to 'escape shape'. The absence of v_{def} from raising predicates is thus entirely in line with our analysis of shape-breaking A-movement.[33] Furthermore, as bare VPs, these predicates are predicted to lack the merge-Expl property (merge-Expl being a property

[33] Indeed, it may give us a PF/linearization-based rationale for the unavailability of passive/unaccusative-style complement-raising with raising verbs (i.e. **That John likes Mary seems*), since the raised CP here *is* the verb's sister (and thus ordering partner for (2)). If there is no intervening phase (v_{def}), there is no possibility for escaping the V>CP shape, unlike in the case of passive/unaccusative raising of V's DP-complement to spec-TP (which proceeds via spec-v_{def}). The insertion of *it*, forcing the 'extraposed' order *It seems that John likes Mary*, allows satisfaction of matrix T's EPP without violating (2) or, since the raised CP would be pronounced in situ by (2), FI.

of v_{def}), which allows a simple explanation of otherwise unaccountable data in section 3.2.4.

3.2.1 Merge-Expl: An unexpected asymmetry

My aim is to show that the merge-distribution of Expl implies the presence of a low specifier position within the *v*P-domain, and thus for the presence of a v_{def} projection with unaccusative/passive predicates. To do this, my first task is to argue that there is no *a priori* reason why spec-TP should be the (only) merge-site for Expl. This will then lead me to propose that, on the contrary, T is precisely the one functional category whose specifier is expected to *lack* the Merge-Expl property. The presence/absence of the Merge-Expl property for a given functional head must be shown to follow from deeper principles in a minimalist system, and thus conventional wisdoms (stipulations) such as spec-TP as the site of Merge-Expl (for satisfaction of T's EPP) must be challenged and rejected unless they can be properly (re)motivated. Let us therefore start at the beginning, with the following question: What, given minimal assumptions, are the possible Merge-sites for Expl?[34]

The best way to answer this question is by process of elimination. We can immediately exclude one class of positions: as a nonreferential, nonargumental category, Expl cannot merge into θ-positions, that is, those positions licensed by the selector features of lexical heads. This restriction, essentially (one half of) the GB Theta Criterion, is stated in MI(:103(6)) as follows:

(23) Pure Merge in θ-position is required of (and restricted to) arguments.

(23) places the lexical domain (i.e. VP and the thematic (EA-)specifier of *v*P) out of bounds for Merge-Expl.[35] It therefore leaves us with the functional domain as the

[34] A shorter version of the material in sections 3.2.1 and 3.2.2 also appears as part of my contribution to Richards & Biberauer 2004a.

[35] It equally serves to bar arguments from merging into non-θ-positions, i.e. those positions which are licensed by the selector features of functional heads (i.e. EPP-features), providing a fully local account for those cases where Move seems to preempt Merge of an argument (anti-MOM effects), as discussed in Groat 1999:39. Thus raising of John to the embedded spec-TP in *We expect* [*John to be a problem*] is not blocked by merger of (argumental) *we* in this (nonargumental) position. However, once we recognize a v_{def} phase in the embedded clause and accept the LA-based version of PIC_2 in (15)/(16b), it is likely that such anti-MOM effects simply reduce to the item in question (*we*) belonging to a different LA from the one that is in active memory at the embedded T probe/cycle. (See also the discussion of (5b/c), (6) above.) Since merger of a nonargument (Expl) into the V-selected θ-position can also be ruled out independently under the view of Expl to be presented below (to wit, Expl's activating Case feature would go unvalued by v_{def}, which by assumption lacks Person and so cannot match Expl's Person feature, and

domain of Merge-Expl. Assuming the minimal clause-level functional structure given by the three Core Functional Categories (CFCs), there remain three possible Merge-Expl sites: the specifiers of C, T, and *v* (ignoring the v^*/v_{def} distinction for the time being).

At this point, however, we encounter an unexpected empirical asymmetry. Of the three CFCs, only C and T seem to actually provide merge-sites for Expl; *v* lacks the Merge-Expl property. Consider (24-26).

(24) Merge to Spec-**C**P

a. 'V2-expletives'/'expletive topics'
[$_{CP}$ ***Það*** *klaruðu* [$_{TP}$ *margar mýs* [$_{vP}$ *ostinn* [$_{vP}$ *alveg* [$_{vP}$ t_{subj} [$_{VP}$ t_V t_{obj}]]]]]]
there finished many mice cheese-the completely
[Icelandic, from Alexiadou & Anagnostopoulou 2001: (41)]

b. '*Wh*-expletives'/'partial movement'
Was *glaubst du, welchen Mann sie liebt?*
what believe you which man she loves
[German, from Felser 2003: (17)]

(25) Merge to Spec-**T**P
'Expletive subjects'
[$_{TP}$ ***There*** T [$_{VP}$ *arrived a man*]]

(26) Merge to [nonthematic] Spec-***v***P
= n/a ?

There is a range of evidence to suggest that the Icelandic expletive *það*, as in (24a), is merged directly into spec-CP as a kind of 'expletive topic' when no other XP raises to the preverbal topic position (cf., amongst others, Holmberg & Platzack 1995, Bobaljik 2002, Bowers 2002), not least the fact that this element can never appear in the immediately postverbal, spec-TP position (see Richards & Biberauer 2004a for an account of this restriction). Its role seems simply to be to ensure that the V2 requirement is met; insofar as the latter is a PF/ordering condition, *það* is perhaps to be inserted in the phonological component (cf. Bobaljik 2002). The *wh*-expletives involved in partial-

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could not be valued by T since the argument whose merge position is thus displaced by Expl to spec-*v*P would fully intervene for T-Expl Agree), it may be possible to derive (23) fully from independent principles. We will therefore stick to the formulation in (23) for expository purposes only.

movement structures such as (24b) would also seem good candidates for direct merge into spec-CP, as they fail to exhibit the movement-related properties of the superficially similar '*wh*-copying' construction (see Felser 2003:551ff. for relevant discussion).

The expletive subject in (25), of course, represents the most familiar kind of expletive, and its merger directly into the subject position of the clause (i.e. spec-TP/IP) has long been a standard assumption in generative syntax. Under Government & Binding (GB) accounts, Expl is introduced into Spec-IP to satisfy the Extended Projection Principle, as originally conceived, which required that every clause have a (structural) subject in spec-IP at S-structure (cf. Chomsky 1981, 1982). This analysis was carried over into Minimalism and checking theory with only minor modifications – Expl is introduced into spec-TP for reasons of checking uninterpretable features, whether these be the Case feature on T (cf. Groat 1995, 1999), the Case *and* ϕ-features on T (Lasnik 1995), or purely the strong D-feature on T (the 'purest' implementation of the GB EPP, as in Chomsky 1995).

It is when we come to *v*P that the asymmetry emerges, as empirical evidence for a class of *v*P-expletives would seem to be entirely lacking. For instance, whilst conceivable in principle, we do not find structures of the form in (27), with a theoretical *v*P-Expl alternating with OS in (e.g.) Icelandic (cf. (24a)) in the same way that the TP-Expl in (25) alternates with raising of the associate subject.

(27) *[$_{CP}$ *Það klaruðu* [$_{TP}$ *margar mýs* [$_{vP}$ **Expl** [$_{vP}$ *alveg* [$_{vP}$ t_{subj} [$_{VP}$ t_{V} *ostinn*]]]]]]

Let us assume for the time being that this apparent hole in the typology is a real one.[36] This restriction on Expl-distribution appears in various forms in Chomsky's recent work. In both MP and MI, Merge-Expl is assumed and stated to be a property of T alone.[37] Thus, in MP(:362(196)), he writes: "Exp can only be in [Spec, T]"; in MI(:102(5a)), taking the structure [XP [(EA) H YP]], he states: "If H is *v*/C, XP is not introduced by pure Merge" – that is, pure merge to a functional head is restricted to H =

[36] I will return to refute this hole in section 3.2.4 below in light of my *v*P-Expl proposal. On the face of it, the absence of (27) need not be a problem if it is specifically spec-v_{def} that is Expl's home, as (27) instantiates a TEC and so would involve transitive *v**, not v_{def}. Nevertheless, since Icelandic is an OS language (i.e. one that licenses a second, nonthematic specifier of *v*P in HG environments), (27) should actually be possible on present assumptions with Expl occupying the nonthematic, EPP/OS-added specifier of *v**. See section 3.2.4.

[37] The two statements that follow, then, set aside the CP-expletives in (24), which, as they do not enter into expletive-associate relations (at least not of the kind we are interested in here), are arguably a different kind of entity from ('*there*'-type) Expl. Still, as Expl is separated from the T-associate relation under current theory (see 3.2.2, below), C's Expl property can no longer be conveniently ignored, a point to which I immediately return.

T. The question then becomes, can we give a principled explanation for *v*'s lack of the Merge-Expl property?

In MP(:364-5), Chomsky attempts to derive *v*'s lack of Merge-Expl from the impossibility of associate-raising to spec-*v*P at LF. Whether or not his reasoning goes through,[38] it fails to carry over to the Probe-Goal system of MI/DbP/BEA, where associate-raising (indeed, LF-movement generally) is replaced by the operation of long-distance Agree. In MI, on the other hand, the lack of Merge-Expl for C and *v* derives from their status as phase heads (MI:109); Merge-Expl is argued to follow as a property of *non*-phase heads, as follows. Assuming that EPP-features are added to phase heads only once the relevant phase is completed (that is, once the lexical subarray is exhausted), internal merge is left as the only option for satisfying any such EPP-feature, thus excluding external merge of Expl. This line of argumentation is promising, tying as it does the Merge-Expl property to an independent and indispensable corollary of the Probe-Goal derivational architecture – the phase (see 3.1 above). However, it would seem to undermine our hope of reducing Merge-Expl to a property of the v_{def} phase head. Fortunately, this is not the case as Chomsky's logic here fails to go through on a number of grounds.

Firstly, whilst it is true that *some* EPP-features are added only at the end of the phase (i.e. upon exhaustion of the current LA), this only applies to those that instantiate IFM, i.e. locally-determined successive-cyclic movement (MI:108). These EPP-features are only *optionally* associated with the phase heads in question; there are also EPP-features that are *obligatorily* associated with functional heads, and these include any EPP on a non-phase head (which therefore cannot be added by IFM, a property of phase heads only). Thus T's EPP-feature is obligatory, capturing the original EPP of GB (cf. "The EPP-feature of T might be universal", MI:109; "For T_{comp}, the EPP-feature is apparently obligatory", DbP:44(fn.17)). Obligatory EPP-features, which we may assume to be inherently associated with the relevant heads as part of their lexical entries, are thus present throughout the phase and must be satisfied immediately, i.e. during the probe-cycle of the head in question. If v_{def}'s EPP is obligatory, then it will immediately hijack any Expl in its subarray, ensuring that Expl is no longer available for merge by the time T is the probe/locus.[39] The only way we could prevent Expl from

[38] Tellingly, he concedes in his fn.138 that this would still only bar associate-raising of the *external* argument, i.e. raising from the inner to the outer specifier of *v*P, and not the raising of the *internal* argument to the latter position, so that (27) above should in fact still be possible.

[39] That is, MOM will force Merge-Expl already at the *v*-stage (probe/locus/selector), blocking the Move-IA option for satisfying *v*'s EPP. It follows from the *v*P-Expl analysis, then, that the true locus of MOM effects is *v*P, not TP. MOM may therefore simply reduce to the need to exhaust the LA (ultimately, a

merging to (nonthematic) spec-*v*P would be if we could independently exclude selection of Expl into *v*'s subarray. There is no principled reason for doing so, and under the reformulation of PIC_2 given in (15)/(16b) such a measure would be logically impossible, since T and *v* are part of the same LA. Any Expl that would have been destined for T must therefore be part of the same LA as *v*, which implies that the said Expl will already be available for merge at the *v*-stage (and so *must* merge there if *v* has an EPP). In effect, then, it is T, not *v*, that will lack the Merge-Expl property if we follow the logic of phases (and the PIC_{LA}) through properly. We will thus proceed on the assumption that v_{def}'s EPP is obligatory, i.e. associated with the v_{def} head as part of its lexical specification.[40]

Further, Chomsky's argumentation clearly runs into empirical problems, given that C does *not* lack the Merge-Expl property (cf. the data in (24)). In light of such evidence that external Merge can in fact apply to Spec-CP, Chomsky (BEA:25) concedes that T's Merge-Expl property (and *v*'s lack of it) cannot be derived from the phasal status of C and *v* after all and, it seems, admits defeat:

(28) The problem of accounting for the distribution of EXPL in some principled way [...] remains open. (BEA:25(fn.45))

The lack of Merge-Expl for *v* thus remains a mystery for Chomsky. Nevertheless, I contend that the phase-theoretic approach to explaining Expl's merge-distribution is the right one and should not be abandoned, for the reasons just stated (i.e. the logic of phases, in particular our PIC_{LA}, does indeed dictate where we should *a priori* expect

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requirement imposed by FI); alternatively, like (23), its effects may reduce to Expl's Case going unvalued if merged directly into spec-TP (cf. fn.35 and section 3.2.2 below).

[40] This assumption is justified on a number of independent grounds (i.e. apart from the need for *v* to intercept Expl, itself independently justified on the basis of the technical problems facing TP-Expl presented in 3.2.2). Firstly, movement to (through) spec-v_{def} is unlike OS in that it is not associated with 'new interpretations'. Thus the obligatory effect on (LF-)outcome that is associated with optional EPP-features (cf. DbP:34(60), Reinhart 1995) is absent, signalling that an *obligatory* EPP-feature is at stake. Secondly, if v_{def} is a phase (as argued in 3.1.1.3), then EPP-driven movement to spec-TP cannot proceed in one direct step (since PIC spells out VP before TP) but must proceed via the v_{def} phase edge (thus yielding anti-shape effects; see 3.1.2). Since T's EPP is obligatory, v_{def}'s EPP is necessarily always present too (effectively 'by inheritance', redolent of GB barriers); rather than add it each time by IFM, it is conceivable that this obligatorily-added IFM escape hatch on v_{def} would be (re)analysed by learners as an obligatory EPP-feature inherently associated with v_{def} in the lexicon. More generally, we can surmise that defective phase heads will always have an obligatory EPP-feature, as a property of 'good design' – since they are themselves unable to value and deactivate the goal with which they Agree (cf. (29e) below), such a feature is obligatory in order to ensure accessibility of this goal to higher probes outside of the phase, and thus convergence. (Interestingly, this conclusion is the exact opposite of Nasu 2001, who argues that the EPP is a property of *non*defective, φ-complete heads only. Not only does Nasu's position lack the logical necessity of the one sketched above, but there are also plentiful empirical arguments against it (see M. Richards 2004 for a brief commentary).)

Expl to be merged). All that is needed is a shift in perspective, such that it is not C's Merge-Expl property that undermines the phase-based approach to Merge-Expl but rather T's. Once we give up the long-held, deeply-entrenched view that Merge-Expl is a property of T (which no longer follows from anything; cf. above) and instead attribute this property to *v* (which *does* follow, as above), then the problem for a principled phase-theoretic account vanishes. Merge-Expl then emerges as a unifying property of phase-heads rather than of non-phase-heads.

Consequently, the data of the kind in (25) must have been misanalysed. What have traditionally been analysed as TP-expletives are really *v*P-expletives. I will show how the derivation of a sentence such as (25) proceeds under a *v*P-Expl analysis in section 3.2.3 (see (32)), where it will also be argued that such an approach immediately resolves a number of technical problems elaborated in the next section.

For now, though, let us just point out one (further) conceptual advantage of the present proposal. As we have seen (section 3.1.1.3), the MI phase is an LA that constitutes a separate domain ('closed system') for the purposes of external merge (hence MOM effects are restricted to the phase; MI:105-8). As domains of external merge, we might reasonably expect phase-heads to exhibit the Merge-Expl property – anything else is a departure from this null assumption. Nevertheless, external merge (of Expl) to a non-phase head cannot be excluded in principle, and so the 'domain of external merge' property is not a primitive characteristic of phase heads: it must be given content and/or derived. We saw above just how this property necessarily follows under the PIC_{LA} formulation of PIC_2, where *v* and T are LA-mates. Since the phase head is the first head to be merged in a given phase on this approach, any (nonthematic) selector feature lexically associated with that head will intercept Expl for its own satisfaction, thus bleeding the merger of Expl to the non-phase head on the next probe/locus cycle. Given this system, it would be much easier to derive the lack of Merge-Expl from T than from *v* – the latter would have to be stipulated, a distinctly suboptimal state of affairs from a minimalist point of view. The only way to make Expl available for satisfying T's EPP under the PIC_{LA} system is to assume the PIC_1 instantiation, that is, LAs in which the first head is the non-phase head, selected by the phase head (i.e. {C, T}, {*v*, V}). Then T will have first refusal on any Expl in the C-T LA.[41] Thus, for any LA containing a single instance of Expl, TP-Expl implies PIC_1 (and

[41] Note, however, that any Expl destined for C will now be poached by T, rendering CP-Expl of the kind in (24), and thus the unification of the Merge-Expl property with phase heads, impossible under PIC_1. Further, PIC_1 thus conceived would not bar *v*P-Expl, since the latter would be part of a different LA (the {*v*, V} one), its merger to *v* rather than V following from (23).

vice versa), and *v*P/CP-Expl implies PIC_2. Since PIC_2 is more empirically adequate than PIC_1 and is therefore to be preferred and adopted (cf. section 3.1.1.3), it follows that Expl can only merge to phase heads, contra Chomsky's position.

In short, my approach can be summarized as in (28). That Merge-Expl should be a property of *v* rather than T is *a priori* to be preferred as the optimal outcome given that phases are the domains of external Merge, in the sense derived above. Instead of the unexpected asymmetry between C/T and *v*, suggested by (24)-(26), we now have an entirely expected one between C/*v* (phase heads) and T.

(28)

	Merge-Expl	**Non-Merge-Expl**
Chomsky MP/MI	T	C, *v*
This thesis	C, *v*	T

There remains one final possibility for TP-Expl under PIC_2. If the T-*v* LA contains two instances of Expl, then the second Expl would, in principle, be free to merge into spec-TP. In the next section, I show that this (hypothetical) possibility is excluded in that it can never lead to a convergent derivation. That is, the claim of this section is strengthened from the opposite angle – not only can (and should) Merge-Expl be a property of *v*, as outlined above, but it *cannot* be a property of T given the workings of the Probe-Goal system. Direct (first) merger of Expl to spec-TP (irrespective of how it got there, whether trivially as under PIC_1 or in the form of a hypothetical 'double-expletive' construction under PIC_2) is simply not a licit option.

3.2.2 TP-Expl and the Probe Problem

As we have remarked above, MI marks a major conceptual shift in the analysis of feature-checking/agreement relations. Where earlier instantiations of checking theory relied on movement operations to feed the creation of local checking relations such as specifier-head, the MI approach divorces the Move component from agreement proper, with agreement feeding movement – the converse of what had gone before. On this approach, the 'long-distance' agreement effects familiar from expletive-associate constructions become primary, the *T-associate* agreement relation providing the template for a generalized operation of the form *Probe-Goal*, known as Agree. In dispensing with the need for "complex and unnatural" (MI:125) notions such as checking domain, Probe-Goal agreement allows a considerable simplification and streamlining of this central component of the computational system, with the additional

advantage of allowing the elimination of a separate LF-cycle and its associated redundancies (including the empirically and conceptually problematic notion of associate-raising to Expl at LF; cf. den Dikken 1995, Lasnik 1999).

Nevertheless, for all the conceptual and empirical advances that the Probe-Goal system brings, there remain a number of problems and inconsistencies involving the very type of structures that the theory is designed around, namely expletive-associate structures. In particular, perhaps due to the emphasis on the T-associate part of the picture, Expl itself simply refuses to fit into the Probe-Goal system as a TP-merged element, exhibiting such anomalous behaviour as being a probe that doesn't project and satisfying EPP-features via (external) Merge rather than Move. Clearly, if we are to fully accept the Probe-Goal system of feature checking and all its attendant benefits, then these problems, central to the definitive exemplar of long-distance agreement, must be overcome. Before examining in more detail the problems faced by the standard, prevailing accounts of Expl as merging directly into spec-TP, let us briefly review the core assumptions of the Probe-Goal-Agree system (MI/DbP/BEA) in which these problems arise.

Central to this framework is the operation Agree, which establishes a feature-checking relation between heads and effects deletion of uninterpretable features under matching. Agree is initiated by the uninterpretable features of a *probe*; these search for a corresponding set of interpretable (lexically-valued) features on a *goal*. Agree is said to obtain when this matching of feature sets results in valuation of unvalued features. Specifically, the conditions for valuation/Agree can be summarized as follows:

(29) Definition: **Agree(P**[robe]**,G**[oal]**)** if
- a. P *c-commands* G
- b. P and G are *active* (DbP:(3a))
- c. P matches G for feature F
- d. G is interpretable for F (DbP:6)

If all of (29a-d) obtain, then valuation occurs as in (29e):

- e. P values and deletes G if P is ϕ-complete;
  G values and deletes P if G is ϕ-complete

Agree thus replaces the arbitrary spec-head relation, previously central to checking theory, with basic c-command/sisterhood: the probe's search space is simply the existing structure to which it is merged. Displacement to the specifier of the probe is no longer a necessary component of the agreement/feature-checking relation; rather, any

such spec-head configuration requires a further trigger and is therefore secondary to (and parasitic upon) Agree proper. Specifically, Move (internal merge) of G to (spec-)P obtains only if P is associated with an EPP-feature ("OCC" in BEA), of which there are two kinds (as we have seen): obligatory and optional EPP-features, the latter of which must be motivated (for FI) in the form of extra interpretive effects at the (LF-)interface.

In BEA, Chomsky extends the non-primacy of the spec-head relation to the satisfaction of EPP-features (which in MI and DbP were simply selectional features that were satisfied directly by Merge/Select rather than probing features satisfied by Agree). That is, since spec-head relations are no longer primitive checking configurations, an EPP(-feature) on a head cannot be directly satisfied by merger of an XP to its specifier; instead, the system implies that the EPP can only be checked/satisfied by Move (internal merge), i.e. as part of a prior Agree relation between probe and goal. As Chomsky puts it:

(30) If there is no SPEC-head relation, then the EPP-feature OCC cannot be satisfied by [external – MDR] Merge alone. (BEA:11)
It [...] follows that external Merge does not suffice to check OCC. (BEA:12)

In other words, direct Merge of an element into the specifier of an EPP-bearing probe will fail to satisfy that EPP as the specifier is not in any relevant relation with the probe/head. Hence Move (internal Merge) is required to satisfy a probe's EPP, which in turn implies Agree (since Move is a composite operation comprising the components Agree + Pied-piping + Merge).

Finally, Expl in the MI framework is taken to be a simple head with a defective and uninterpretable ϕ-set, perhaps simply [uPerson] (MI:125, BEA:12), hence it is active for probing and raising (e.g. from the embedded spec-T_{def} in the complement of raising predicates, as in DbP's *There seem [(there) to have been caught several fish]*).

This leads us directly to the first problem with this system: namely, if EPP requires internal merge of G, how can T's EPP be satisfied by Expl externally merged into Spec-TP?[42] Moreover, how does T value Expl's uninterpretable Person feature in

[42] The problem is a familiar one, having arisen in earlier incarnations of minimalist checking theory. Thus Chomsky (MP:311-2) is forced to make an exception for the checking of T's strong D-feature by direct merge of Expl (checking relations otherwise require *non*trivial chains) – cf. Groat 1999:36-7. However, it was not a problem under the MI/DbP view of the EPP as a selectional feature distinct from and outside of the Probe-Goal-Agree system (cf. above), and arguably no longer arises under the revised assumptions of Chomsky 2004a/b, in which the EPP-property is reduced to a generalized "edge" (selectional) feature common to internal and external merge alike. The other problems discussed below still remain, however.

this position? Chomsky's solution (BEA:12; also MI:128) is to allow Expl to probe T from its merge-site, spec-TP, a possibility that follows since Expl, as a simple head, c-commands T (and can therefore probe it, at least by (29a)). Agree(Expl, T) thus values (and deletes) EPP on T and [uPerson] on Expl.

This solution only creates further problems, however. Firstly we have to accept that the EPP can be valued as a goal of Expl in the same way as any other uninterpretable feature (e.g. Case/agreement feature), a departure from the MI/DbP system in which Merge (Select) and Agree are crucially kept apart as the two elementary operations of C_{HL} (cf. MI:128, 132ff., 148:fn.89, and the fundamental conceptual difference between DbP's (pp.8/9) "$Locus_{Tv}$*" and "$Locus_{TV}$" alternatives), each involving distinct types of features (probes and selectors, respectively; cf. Collins 2002).[43]

Even accepting this departure (which I don't), the valuing of Expl's [uPerson] by T is not straightforward. Specifically, Agree(Expl, T) imposes a paradoxical requirement on T's matching ϕ-set. For the structure [$_{TP}$ ***There*** T [$_{VP}$ *arrived a man*]] (cf. (25)), there are two logically possible derivations:

(31) a. Agree(T, *a man*) precedes Agree(Expl, T)
or
b. Agree(Expl, T) precedes Agree(T, *a man*)

In either case, the Agree(Expl, T) operation will fail to obtain. (31a) is the expected derivation given a strictly step-by-step, probe-cyclic application of Merge/Agree. However, Agree(Expl, T) here fails to meet condition (29b), since T will be rendered inactive by the preceding operation Agree(T, *a man*). The alternative derivation in (31b) arises as a possibility if we adopt Chomsky's suggestion (BEA: 21-2) that operations are evaluated only at the phase-level, allowing a measure of phase-internal countercyclicity such as that implied by (31b). But Agree(Expl, T) now fails to meet condition (29d), since T's ϕ-set is unvalued (uninterpretable) until Agree(T, *a man*)

[43] Indeed, this fundamental dichotomy between Merge and Agree may yield an important empirical effect. If the features driving selection (e.g. categorial features) play no part in the Probe-Goal-Agree system, then we essentially predict that a head cannot Agree with its sister (since it selects it, and selection and agreement are complementary operations, by hypothesis). Since Move implies Agree on this system, we thus derive the general ban on comp-to-spec movement (i.e. movement of H's sister-XP to spec-H; cf. DbP:fn.16, Pesetsky & Torrego 2001, Abels 2003, Bošković 2003, Collins 2003, Kayne 2003), a ban that would not otherwise seem statable in terms of the PIC-based generalized-EPP system (cf. Abels 2003, who thus proposes an alternative view of phases under which this ban reduces to a general restriction on vacuous movement).

takes place. Agree(T, *a man*), therefore, both bleeds ((31a)) *and* feeds ((31b)) Agree(T, Expl), leaving us no way out, whichever order they apply (unlike Chomsky's (21) in BEA).

Even if we assume the weaker version of phase-relativized cyclicity of DbP(:18), such that only the valuation/deletion part of Agree (and not the Match component) takes place at the phase level (i.e. at the point of Spell-Out/Transfer), Agree(Expl, T) is still excluded. Whilst T in the (31a)-derivation would then be able to remain active ("visible") for (29b) even after Agree(T, *a man*), (31a) would now face the same problem as (31b), i.e. Agree(Expl, T) would fail to meet condition (29d), since T remains unvalued until the end of the phase. Unless we are willing to admit the existence of feature-chains, as in Frampton & Gutmann 2000, or to weaken condition (29d), perhaps in the manner of DbP's fn.56 (something we do not want to do – see Chapter Four:4.3), this problem would seem irresoluble in a strictly derivational system that assumes Expl to merge to T.

There is one further problem that cuts across all of the above, and that is Expl's status as a probe. We have already touched on one problematic aspect of this (cf. (31b) above): probing by Expl violates (featural/locus) cyclicity. If Expl and T are both probes, then Expl cannot be introduced to drive further operations until all the probe/selector requirements of T are satisfied (cf. our discussion of (4) in section 3.1.1.1). The effect of this is that operations must be triggered by the root node (i.e. the Extension Condition). However, Expl is not the root node here: it is contained in a category (TP) of which it is not the head/label (TP is not a projection of Expl, therefore T, not Expl, is the root node at the relevant point in the derivation).

That Expl is not the root node becomes clear if we consider what would happen if Expl, as a probe, were itself associated with its own EPP-feature. Then, movement of Expl's goal would have to target 'spec-Expl', an operation that would not extend the tree (but would instead make it "bushier" as a result of adjunction to a specifier). Indeed, given that Merge-Expl is viewed as a free alternative to Move-Goal on the standard, TP-Expl approach, Expl's hypothetical EPP could itself be satisfied via Merge-Expl, introducing another Expl-probe that could then itself be associated with an EPP-feature, which could in turn be satisfied by Merge-Expl, and so on *ad infinitum*. This computational absurdity (an infinite regress of expletives inside each other's specifiers) would be a considerable imperfection from a minimalist point of view, and strengthens the case for treating left branches as inactive/'opaque' (cf. Uriagereka 1999). Thus Expl may well be a head in Chomsky's system, but it is also a

nonprojecting ([+maximal]) category, unlike the root node. Since it is inactive for projection, it must also be inactive as a probe.

In light of such problems, it is clear that the standard position – *viz*. Merge-Expl as a property of T – is untenable under a serious and consistent application of the Probe-Goal logic. Given the desideratum (indeed, entailment under PIC_2; cf. previous section) that Merge-Expl should be a property of phase heads, there would be little reason to maintain the TP-Expl approach if a Merge-*v*P analysis of Expl's underlying distribution can overcome all of the aforesaid problems whilst accounting for the same (or greater) range of empirical facts.[44] This is indeed the case, as I demonstrate in the next section.

3.2.3 Raising a solution

We can now make clear our Merge-*v*P proposal and show how it allows Expl to be fully integrated into the derivational architecture of the Probe-Goal system. Expl merges not to spec-TP but rather to the obligatory, nonthematic specifier of v_{def}, which allows it to subsequently raise to T on the back of an Agree relation like any other formal subject. The assumption that Expl merges in spec-v_{def} allows us to cut the Gordian knot underlying all three of the technical issues discussed in the previous section, as it is now no longer necessary to assume that Expl is a probe. Since spec-v_{def} is in T's Agree (c-command/sister) domain, Expl can simply be probed and valued by T like any other nominal, i.e. as T's goal. And, like any other nominal, it is rendered active for goalhood by a Case feature (cf. Groat 1999). There is therefore no need to assume that Expl's defective ϕ-set is unvalued: its [Person] has default, third-person value, hence it is not a probe (we will provide additional evidence for Expl's [3person] specification in the next chapter).[45] Since it is not a probe, we avert the cyclicity problems associated with Expl's nonprojecting/[+maximal] status.

If Expl merges inside T's Agree domain (i.e. is contained inside T's sister), then the (supposed) EPP/external-Merge problem is also naturally overcome, since Expl now

[44] Nomura (2003) also (independently) argues for a Merge-*v*P approach to Expl-distribution on the basis of perceived problems with the BEA position, namely that the Agree relation between Expl (in spec-TP) and T involves residual spec-head agreement, and is thus an undesirable exception to the rule in (29a). However, this is clearly *not* what the problem is, since it is not T that probes Expl but Expl that probes T, under c-command, just as required by (29a). Indeed, Chomsky makes Expl the probe precisely to avoid a spec-head relation (which is no longer a primitive notion and so would imply movement of Expl from a lower position (cf. (30)), something which Chomsky's commitment to Merge-TP does not allow him to even consider). It is precisely because Expl is the probe, then, and not the goal for Chomsky that the real problems of the BEA account emerge, as described above.

[45] Note that imputing interpretable ϕ-features to Expl is not in conflict with Expl's nonreferential, empty semantics – after all, expletive *it* is standardly assumed to comprise a complete and interpretable ϕ-set, controlling third-person singular agreement, with no implications for its semantic dummyhood.

satisfies T's EPP via Move (internal merge), as required, in the same way that nominal arguments do. Indeed, given the core functional structure C-T-*v* and the requirement that Expl satisfy EPP(T) via Move, the only possible merge-site for Expl is (the nonthematic) spec-*v*P once θ-positions are excluded (section 3.2.1).

A similarly trivial solution is now available for the remaining problem of section 3.2.2, namely the conflicting requirements on T's ϕ-set implied by the Agree(Expl, T) relation in (31). Since Expl is (a) not a probe and (b) merges in spec-v_{def}, not spec-TP, no Agree(Expl, T) relation need ever take place. Instead, the derivation of a structure such as [$_{TP}$ ***There*** T [$_{VP}$ *arrived a man*]] proceeds as in (32), with Expl a Case-bearing goal that is valued by T via a canonical, fully legitimate Agree relation in step (32e). At that point, T values Case on Expl, but T's ϕ-set remains unvalued as Expl is ϕ-incomplete (cf. (29e)). T therefore remains active for Agree(T, *a man*) in step (32f).

(32) Sample derivation: [$_{TP}$ ***There*** T [$_{VP}$ *arrived a man*]] (cf. (25))

a. Merge(V, DP) →
[$_{VP}$ arrived [$_{DP}$ a man]]

b. Merge v_{def} →
[v_{def} [$_{VP}$ arrived [$_{DP}$ a man]]]

c. Merge Expl[46] →
[$_{vP}$ there [v_{def} [$_{VP}$ arrived [$_{DP}$ a man]]]]

d. Merge T →
[T [$_{vP}$ there [v_{def} [$_{VP}$ arrived [$_{DP}$ a man]]]]]

e. Agree(T, Expl) →
[$T_{[\phi,\ EPP]}$ ... $Expl_{[\phi,\ \sout{Case}]}$]

f. Agree(T, *a man*) →
[$T_{[\phi,\ EPP]}$ ... $DP_{[\phi,\ \sout{Case}]}$]

g. Merge(Expl, T) [i.e. Move] →
[$_{TP}$ there [$T_{[\phi,\ \sout{EPP}]}$ [$_{vP}$ *(there)* [v_{def} [$_{VP}$ arrived [$_{DP}$ a man]]]]]

Once properly characterized in this way as a Case-activated dummy argument, the untenability of the Merge-TP approach is only further compounded. Expl merged in spec-TP would fail to be c-commanded by a φ-probe (i.e. T or *v*) and thus its Case would remain fatally unvalued. Again, given the core functional structure C-T-*v* and

[46] Ignoring for expository purposes the Agree(*v*, *a man*) operation that would take place during the v_{def} probe-cycle (i.e. somewhere between (32b) and (32d)), valuing *v*'s defective ϕ-set and leaving DP's Case unvalued (cf. (29e)).

the requirement that Expl's Case be valued by a higher (c-commanding) probe, the only possible merge-site for Expl is (the nonthematic) spec-*v*P. This converges neatly with our conclusions from the previous section, where we saw that the PIC_2 conspires with obligatory EPP on v_{def} to ensure that any expletive contained in the T-*v* LA will be forced to merge in spec-v_{def}. (The hypothetical possibility of the said LA containing two Expls (cf. end of 3.2.1), the second of which then survives to merge in spec-TP above its Case probe, is now ruled out by the failure to value Expl's Case, as above).

Expletive-raising is, of course, already standardly assumed for such structures as (33a), cf. DbP:16-7(15a)/(18a). The present proposal simply generalizes such a raising derivation to all cases of Expl, including passive/unaccusative clauses such as (25)/(32) and existentials such as (33b).[47] Further, given the v_{def} hypothesis, Expl in (33a) actually starts lower in the embedded TP, identically to (33b), in the specifier of the v_{def} selecting the locative small-clause complement: (33c).

(33) a. [$_{TP}$ There [$_{VP}$ seems [$_{TP}$ *(there)* to be a man in the garden]]]
b. [$_{TP}$ There is [$_{vP}$ *(there) (is)* [$_{SC}$ a man in the garden]]]
c. [$_{TP}$ There [$_{VP}$ seems [$_{TP}$ *(there)* to [$_{vP}$ *(there)* be [$_{SC}$ a man in the garden]]]

The raising structure in (33a/c), of course, is the classic MOM-configuration. The v_{def} analysis loses none of the MOM logic; rather, it simply shifts the locus of MOM-effects from spec-TP to spec-*v*P. Thus **There seems [a man to be in the garden]* is barred because Expl merges in the embedded spec-v_{def}, thus blocking raising of *a man* to embedded (and thus matrix) spec-TP; instead, it is Expl that moves as the closest goal for both T's:[48]

(34) *[$_{TP}$ There [$_{VP}$ seems [$_{TP}$ a man to [$_{vP}$ *(there)* be [$_{SC}$ *(a man)* in the garden]]]

In effect, the v_{def} approach can be viewed as a Probe-Goal implementation of earlier movement/raising analyses of Expl, such as Hoekstra & Mulder 1990, Zwart 1992, den Dikken 1995, Moro 1997, Groat 1999, and Sabel 2000. However, the present account crucially differs from all of these (except Sabel 2000) in that it does not treat Expl as a predicate; rather, it maintains the Chomskyan tradition of treating Expl as a

[47] Following Stowell 1981, Hoekstra & Mulder 1990 and others, I take existential (unaccusative) *be* to take a (locative) small-clause complement (thus SC in (33) is categorially a PP in which *a man* is predicated of *in the garden*).
[48] See Richards & Biberauer (2004a) for further examples of *v*P-internal MOM-effects, in German and Afrikaans, and also (61) below.

meaningless, dummy argument, not a (dummy) predicate, and one which thus agrees with and raises to T like any other nominal/argument. Evidence for such agreement (and thus for the 'nominal Expl' over the 'predicate Expl' approach) is given in Chapter Four(:4.3.2.1); insofar as Expl contributes to LF at all, it is in forcing a narrow-scope reading of the associate, as in (35b), and thus its treatment as a deictic/locative predicate is dubious.[49]

(35) a. Someone must be *(someone)* in the garden
must >> someone
someone >> must

b. There must be someone in the garden
must >> someone
**someone >> must*

Not only does the Merge-*v*P analysis account for all the facts of the standard Merge-TP approach (without the technical difficulties of 3.2.2), it is actually empirically superior in that it allows many further previously unexplained properties of Expl's surface distribution to be straightforwardly derived – that is, not only the grammatical cases but the ungrammatical cases too. A particular weakness of the Merge-TP approach was its inability to account for the fact that Expl is restricted to unaccusative/passive predicates. Thus transitives and unergatives, as in (36), are incompatible with Expl (a well-known fact but one that remains a mystery if Expl is a

[49] As Hazout (2004:396) points out, expletive *there* may cooccur with a contradictory deictic, as in *There are too many people here*. Indeed, it may cooccur with a truly deictic *there*, e.g. *There there is a disco every Tuesday*, where it is clearly the first *there* (the true deictic) rather than the expletive *there* of which *a disco* is predicated.

Other problems with the predicative approach to Expl include the unexpected obligatoriness of the inverse copula with this supposed predicate (thus (i) cannot alternate with (ii) on the intended presentational reading, unlike the supposedly identical locative-inversion and copular constructions which freely permit both (iii)/(iv) and (v)/(vi), etc.).

(i) There arrived [$_{SC}$ a man *(there)*]
(ii) *A man arrived [$_{SC}$ *(a man)* there]
(iii) Into the room danced [$_{SC}$ John *(into the room)*]
(iv) John danced [$_{SC}$ *(John)* into the room]
(v) The culprit is [$_{SC}$ John *(the culprit)*]
(vi) John is [$_{SC}$ *(John)* the culprit]

Further, if an unergative becomes unaccusative in the presence of a small-clause complement (a claim that is at the heart of such analyses; see especially Hoekstra & Mulder 1990), then it is unclear why the Expl-headed SC is unable to do precisely this. Thus (vii) is bad, despite the predicted availability of the same structure as (i), given (iii).

(vii) *There slept [$_{SC}$ someone (*there*)]

Indeed, it is precisely the ungrammaticality of (vii) that motivates the unaccusative/unergative distinction in the first place (i.e. *someone* is the EA, not the IA (or SC subject), in (vii), as *ne*-cliticization and other Burzio tests demonstrate). The absence of (vii) is directly accounted for on the proposed dummy-argument/v_{def} analysis, cf. below.

dummy argument that merges into spec-TP to satisfy the EPP just in case the associate does not raise).

(36) a. *There ate a man an orange
b. *There will a man eat an orange
c. *There slept someone
d. *There will sleep someone

Predicate-raising analyses (cf. references above) are able to capture this restriction in the form of a stipulation to the effect that only unaccusatives select an SC complement. Those that treat Expl as a dummy [D]-element, however, are likewise unable to capture this restriction except by stipulation (DbP:20(25) would do the trick); that is, there is no principled reason why Expl should be in complementary distribution with a 'true' EA subject (i.e. not a derived IA subject), as it should simply be a case of merging Expl to spec-TP and leaving the associate EA in situ.[50]

The problem is really an artefact of an earlier way of thinking about Expl's IA-associate, which previously to the Probe-Goal system of feature checking was assumed to raise covertly (i.e. at LF) to the subject position occupied overtly by Expl. Under Probe-Goal, however, there is no longer any reason to think of the associate as an 'associate subject' – it stays put. The associate is therefore not simply the subject DP; rather, it is specifically just the IA (see also 3.2.5.1). If the subject is a true EA (i.e. selected by *v**) then it cannot be the associate; Expl is essentially incompatible with *v** (not least by virtue of (23), since *v**'s specifier is a θ-position). As Lasnik (1995:fn.16) points out, what is needed is some way to ensure that Expl is only introduced as the subject of those predicates that lack an EA. We now have a way of making precisely this distinction amongst predicate types: v_{def}. If Merge-Expl is a property of v_{def}, then it is *ipso facto* a property of that type of predicate that lacks EA. Insofar as *v** and v_{def} are in complementary distribution, so are EA and Expl. That Expl is unavailable in (36) is thus a direct consequence of the fact that these sentences involve *v**, not v_{def}.[51]

[50] Sabel's (2000) raising account, unlike the present one, is likewise unable to account for this restriction, as there would seem no reason why, in his terms, only IA DPs (and not EA ones) are able to split off the D-head as an expletive.

[51] We will refine this statement in the next section when we consider TECs in more detail. Note here, though, that an LA containing *v**, Expl and T (as under PIC_2; cf. (15)/(16)) could still, in principle, allow Expl to merge to spec-TP just in case *v** lacks an EPP (and thus nonthematic specifier), thus deriving the illicit structures in (36). Such a derivation will ultimately fail to converge, however, for the same reason given above for an LA containing two Expls – namely, Expl merged directly in spec-TP will fail to be probed by T, its goal-feature (Case) thus going unvalued.

In this way, the present Merge-*v*P approach to Expl within the Probe-Goal framework comes very close to that of Bowers 2002, who independently proposes a low Merge site for Expl (spec-Pr, in his terms) and offers an explicit account of the facts in (36). Bowers keeps Pr constant across all predicate types (i.e. he makes no distinction of the v^*/v_{def} kind); for him, Expl and EA are in direct competition for the same slot (spec-Pr), which is where they are both assumed to merge, hence their inability to cooccur, as in (36). Although similar in spirit, the present analysis and that of Bowers make subtly different predictions that can be tested in the domain of TECs. For the present approach, Expl is never in *direct* competition with the EA subject (since they are selected by different types of *v*, and/or occupy different types of specifier of *v* (nonthematic versus thematic, respectively)). Rather, since Expl occupies the nonthematic specifier of v_{def}, it is only in direct competition with a *derived* subject, i.e. a raised IA. This will become important in the next section.

In light of the above discussion, examples such as those in (37) might seem troubling for the Merge-*v*P theory of Expl (compare (36)).

(37) a. There is a man eating an orange
b. There will be a man eating an orange
c. There is a man sleeping
d. There will be a man sleeping

(38) a. *There will a man be eating an orange
b. *There will a man be sleeping

Here, Expl does cooccur with a transitive/unergative predicate (i.e. *v**, true EA). There is nevertheless a crucial difference between (37) and (36): (37) contains existential *be*, just like (33). As an unaccusative predicate (selecting, here, a verbal/participial SC), it has a v_{def} shell, which provides a merge-site for Expl. (38) then displays the same MOM-effect as (34): merge-Expl blocks raising of *a man* to/through spec-v_{def} (or, conversely, raising of *a man* deprives Expl of its merge site).[52]

Compare now (39).

[52] Likewise, **There will have a man been in the garden / eating an orange*. These restrictions all follow if MOM-effects obtain at the *v*P- rather than TP-level, as predicted under the v_{def} approach to Merge-Expl. (Nomura's (2003) claim that such Merge-*v*P approaches get rid of MOM-effects altogether is thus incorrect; they simply shift the MOM domain lower, to the 'lexical' domain of the clause, where it more naturally belongs given the composition of LAs proposed in 3.1.1.3.)

(39) a. There was a woman arrested
b. *There was arrested a woman
c. There will be a woman arrested
d. *There will a woman be arrested

(39a) represents the most natural order with expletivized passives in English. Other languages, like Italian, only permit the order in (39b). Chomsky (DbP:20ff.) accounts for this difference in terms of a phonological operation, *Th/Ex*, which shifts the IA leftwards in English but which is inactive in Italian. The (supposed) lack of interpretive effects associated with these different orders, (39a) versus (39b), is offered as evidence for the phonological status of this rule. Caponigro & Schütze (2003) offer a purely syntactic account of this alternation in terms of differences in participle-raising between Italian and English. Although I do not adopt the details of their analysis, I agree with their position that Th/Ex effects should be narrowly syntactic in nature (not least because of the conceptual problems associated with PF-movement; cf. Chapter Two). However, since the IA has clearly shifted from its postverbal base position, we should expect a MOM-effect of the kind in (34)/(38). That is, the shifted IA should occupy the position in which we are assuming Expl to merge, namely spec-v_{def}, and thus bleed merge-Expl. Since Expl and the raised IA nevertheless cooccur, the v_{def} approach makes a strict prediction: (39a) must involve a double v_{def} structure. In other words, (39a) must involve an existential structure no less than (33) and (37), as in (40), with existential *be* selecting a participial v_{def} complement (Chomsky's 'Prt').

(40) [$_{TP}$ There was [$_{vP}$ *(there) (was)* [$_{vP}$ a man arrested *(a man)*]]]

Th/Ex thus emerges as the passive counterpart of (37). This would seem to run counter to Chomsky's claim that Th/Ex implies no existential import (DbP:25ff.). There is, however, semantic evidence to support the existential structure in (40). Tellingly, Th/Ex is infelicitous with intensional predicates (i.e. those which inherently lack an existential presupposition for their argument), which would follow if Th/Ex involves an existential-*be* construction (thus asserting the existence of the displaced DP), but not if it is a PF-encapsulated operation:

(41) a. *There was a man sought (for the receptionist's job)
b. *There was a man understood (to have committed the burglary)

Syntactic evidence in support of the double-v_{def} structure for Th/Ex comes from the very fact that the unshifted alternative, (39b), is ungrammatical in English. Since two v_{def} phases now intervene between T and the in-situ IA, the latter is rendered inaccessible to T by the PIC, forcing IFM of the IA to the specifier of the lower v_{def} (where, by PIC_2, it then falls within T's search space).[53] That the IA is barred from moving to the higher v_{def}'s specifier (cf. (39d)) is then simply another MOM-effect: this is the specifier in which Expl must merge, thus blocking Move-IA.[54]

Let us now return to the syntax of raising constructions. As noted above (cf. (33a/c), Expl-raising out of the nonfinite complement (T_{def}) of a raising predicate is already a core assumption even on the standard Merge-TP approach to expletives (cf. MI, hence Chomsky's attributing an uninterpretable Person feature to Expl to render it active for such movement to matrix T under Agree).[55] Nevertheless, since direct merger into spec-TP is always a possibility on the standard approach, it faces notorious difficulties when it comes to accounting for the ungrammaticality of such examples as (42).

(42) a. *There seems to a strange man that it is raining outside
b. *There seem that a lot of people are intelligent
c. *There seem there to be three men in the room
d. *There seems a man to be eating an orange

[53] Clearly, this phase-internal movement inverts the V > O precedence relation established within VP and so should be excluded by the parameter in (2). This issue is resolved in Chapter Four(:4.2.5).

[54] The question of course arises as to why (39b) is grammatical in Italian (and French, Icelandic, etc.). One point worth noting is that those languages that allow (39b) orders (i.e. non-Th/Ex) all display participial agreement with the IA (to varying degrees, and only with the Th/Ex order in MSc), including (in Icelandic) case-agreement, which requires the lower v_{def} (Prt) head to remain accessible to probing by higher heads (matrix v* in the case of ECM). This would be impossible (by the PIC) if the intervening v_{def} were a phase, thus precluding the use of existential (unaccusative) *be* with passives in these languages. It should also be borne in mind, however, that at least some of these languages use different verbs for existentials and passive auxiliary. Thus whilst English uses *be* for both, French and German do not (*avoir* [*il y a…*] versus *être* in French; *geben* [*es gibt…*] versus *werden* in German). Since Th/Ex only obtains with existentials (if the above is correct), we have to be sure to compare constructions of the right type. Thus whilst French passives do indeed lack Th/Ex with Expl ((i)/(39b)), true existentials require the Th/Ex order ((ii)/(39a)), as predicted.

(i) *Il a été arrêté une femme*
(ii) *Il y a eu une femme arrêté**e*** [cf. Svenonius 2001b: (4a); Kayne 1989]

[55] However, the staunchest proponents of the Merge-TP approach are against *all* raising of Expl; thus Bošković (2002) rejects Expl moving even in the case of raising predicates, with Expl merged directly into matrix spec-TP as per unaccusatives/passives. His main argument stems from French *il semble* constructions, which do not show the expected restrictions on *il*-raising across an experiencer. However, since French *il* controls third-person singular agreement (unlike *there*), it is more appropriately treated as an *it*-type rather than *there*-type Expl, and accordingly merged in the *matrix* spec-v (cf. below).

The examples in (42a-d) have all been predicted to be grammatical at various stages of the development of the theory of expletives in the minimalist literature, and (42a-c), in particular, have been responsible for shaping its development. Whilst (42a/b), discussed in detail Groat 1999 and Lasnik 1999, cease to be a problem under the Probe-Goal system (*a strange man* and *it* in (42a), and *a lot of people* in (42b), are unavailable for valuing matrix T's φ-set by virtue of being inactive; see next chapter), (42c) remains a problem for the DbP system (Chomsky (MI:149:fn.93) dubs it a "perennial troublemaker") since matrix T should be able to probe and agree with both the embedded *there* and, due to *there's* φ-incompleteness, with *three men*; the matrix *there* is then simply inserted to satisfy T's EPP (presumably valuing its own [uPerson] in the manner described in BEA, which we have shown to be independently problematic in section 3.2.2). (42d) is essentially the same problem as (36a), that is, the standard approach has no (nonstipulative) way to rule out TECs in English (in the broadest sense of Expl-EA cooccurrence). Unlike (34), where the embedded predicate is unaccusative and thus the option of raising the IA to embedded spec-TP is ruled out as a MOM-effect, nothing would appear to rule out the merger of Expl to embedded spec-TP (in accordance with TP-MOM) and its subsequent raising to the matrix spec-TP, with the embedded predicate a transitive *v** whose EA remains in situ (thus yielding the ungrammatical **There seems [(there) to a man be eating an orange]* if not actually (42d) per se).

The v_{def} analysis proposed here, on the other hand, has a trivial explanation for all of (42a-d): there is no available merge-site for Expl in any of these examples (and specifically for the matrix Expl in the case of (42c)).[56] Since the embedded predicate is a transitive *v** in (42d), Expl cannot merge inside the raising complement (there is no v_{def}). Further, we suggested at the start of 3.2 that raising predicates are not propositional categories and so, by the saturated-LA criterion for phasehood (i.e. propositionality), they cannot be phases; they must therefore lack the v_{def} light-verb shell. The matrix clause in all four examples thus lacks a merge-Expl site since raising predicates, unlike similarly EA-lacking unaccusatives/passives, are (by hypothesis) bare VPs. Let us now consider some further evidence to support this hypothesis.

Empirically, the absence of Expl and thus the v_{def} phase head correlates with another property of raising predicates – the possibility of successive cyclic

[56] Likewise for the finite-clausal-complement counterpart of (42c), i.e. **There seem that there are three men in the room*. This is further excluded on the v_{def} analysis by the $PIC_{(2)}$, since now two phase heads (C and v_{def}) intervene between matrix T and *three men*, yielding an absolute locality effect (i.e. PIC-inaccessibility; cf. Chapter Four:4.3.2.2).

('unbounded') A-movement (cf. Bošković 2002, Epstein & Seely 2002, etc.). Thus (43b), the unraised counterpart of (43a), is grammatical, which implies that the in-situ IA in the most deeply embedded TP must remain within matrix T's search space in order for Agree(T, IA) to obtain. Clearly, this would be barred by the PIC if every clause contained v_{def} (a phase head).[57]

(43) a. A man seems [to be likely [to appear [to be believed …
… [to be *(a man)* in the garden]]]]
b. There seems [to be likely [to appear [to be believed …
… [to be a man in the garden]

There are also technical grounds for assuming raisers to lack any kind of *v*: unlike passives (which have a transitive, *v** counterpart) and unaccusatives (of which a subset show a similar alternation with a causative, *v** counterpart), it is arguable that raising predicates are without an active, φ-complete *v** counterpart. That is, they do not have a φ-set to defectivize in the first place (hence no v_{def}). At first blush, this assertion would seem to be at odds with the traditional insight that passivization of an ECM verb yields a raising predicate, as in (44).

(44) a. John believes [Mary to be intelligent]
b. Mary is believed [*(Mary)* to be intelligent]
c. John considers [there to be a problem]
d. There is considered [*(there)* to be a problem]

Since there is no θ-relation between the ECM verb and the embedded subject which it exceptionally Case-marks, the absorption of internal-Case and external-θ under passivization forces the embedded subject to look to matrix T for its Case-valuation, and T to probe that DP for its φ-valuation, exactly the same set of relations that obtains with a raising predicate like *seem*. That ECM verbs are clearly transitive (i.e. select an EA and value accusative Case, as in (44a/c)) would seem to imply the presence of *v**;

[57] Note that a further advantage of the Merge-v_{def} theory is that it allows us to take a stance as to whether or not non-finite T (i.e. T_{def}) has an EPP and thus whether or not *a man* raises directly to matrix spec-TP in (43a) or successively via each spec-T_{def}, an issue that has been subject to some debate in the literature (see, amongst many others, Bošković 2002, Abels 2003, who offer opposing opinions on the matter). Since spec-T_{def} is no longer required as Expl's merge-site, its EPP can be dispensed with as far as the v_{def} approach is concerned. More decisively, though, the residual possibility of Expl merging into embedded spec-T_{def} under PIC_2, whereby *v**, T_{def} and Expl would share an LA (cf. (15)/(16)), would allow the illicit (42d) to be derived, thus committing us to the view that T_{def} must indeed lack EPP in English.

substitution by v_{def} in the passive/raising case is then surely the null assumption, as for passives/unaccusatives generally.

However, there is clearly something wrong in the characterization of raisers as passivized ECMs (even setting aside those simple raisers like *seem* and *appear* which clearly don't have an ECM counterpart). The set of morphologically-passive raising predicates includes a number of members whose active counterparts are *not* ECM verbs:

(44) a. Mary is said / thought / claimed / felt / supposed … [to like mushrooms]
b. *John says /thinks /claims /feels /supposes … [Mary to like mushrooms]

The true generalization seems to be that raisers are formed from verbs of saying/knowing/thinking, i.e. bridge verbs. What all these verbs have in common is not that they have an ECM form in the active (cf. (44)), but rather that they have an active form which takes a CP (clausal) complement:

(45) a. Mary is said / thought / claimed / felt / supposed / believed / considered / expected / assumed / imagined … [to like mushrooms]
b. John says / thinks / claims / feels / supposes / believes / considers / expects / assumes / imagines … [that Mary likes mushrooms]

It is thus the CP-selecting form of the relevant verbs, as in (45b), that most plausibly feeds the formation of their respective passivized raising-forms in (45a). We can test that this is the case by taking an ECM verb that has no bridge-verb/CP-selecting counterpart, such as *want*:[58]

(46) a. John wants [Mary to eat her mushrooms] (ECM)
b. ?*John wants [that Mary eat(s) her mushrooms] (CP-comp)
c. *Mary is wanted [to eat her mushrooms] (raising)

Since passivization fails to yield a legitimate raiser (46c), which is unexpected if the valid ECM form (46a) provides the input for raiser-formation, we conclude that it is the CP-selecting property (lacking in (46b)) that is necessary for raiser-formation. This, in turn, allows simple raisers like *seem* and *appear* to be brought into the fold. Whilst there

[58] (46b) is marginally acceptable in formal written language, with or without the finite subjunctive, but is absent from spoken, colloquial varieties, certainly from my own.

is clearly no ECM counterpart for *Mary seems to like mushrooms*, there is of course a CP-selecting alternant for *seem*/*appear*, one that employs the *it*-expletive:

(47) It seems [that Mary likes mushrooms]

The fact that *it*-Expl appears with CP-complements, and *there*-Expl with DP-complements (cf. ***there*** *arrived* ***a man***), follows simply if CP is an illegitimate goal for the matrix, finite T. That is, CP lacks φ and Case, hence CPs (unlike DPs) can appear in 'caseless' positions, such as the complements of adjectives (Bošković 1995, Bowers 2002, Nomura 2003):

(48) a. I am afraid that John will leave
b. *I am afraid John

Consequently, an expletive with a *full* set of φ-features is required in order to value T's φ-set in (47), viz. *it*. Conversely, only a φ-*in*complete Expl will allow convergence in the case of a DP complement (cf. **it arrived a man*). Merger of *it* to the passive/unaccusative spec-v_{def} places a φ-complete goal between T and the IA-DP, intervening and deactivating T, thus bleeding Agree(T, IA) – the derivation crashes since IA's Case goes unvalued (this is the same reasoning that we gave above for the lack of the EA-property on v_{def}. See also Bowers 2002:197ff. for an almost identical rationale for the complementary distribution of *there* and *it* within his Merge-Pr theory of Expl).

However, unless we stipulate otherwise, the same logic must also apply to *v**. That is, the CP complement of the transitive bridge verbs in (45b) will fail to value *v**'s φ-set. Substituting v_{def} is not a solution, since these verbs are clearly transitive (they select an EA), and a defective φ-set is no better than a complete one if there is no available goal to value it. Rather, the EA-selecting *v* must entirely lack a φ-set in the case of a CP complement (the limiting case of defectiveness), so that the *v* doesn't probe at all (rather, it simply serves to introduce the EA). If so, then the only way to remove the EA-property of these verbs (i.e. to implement passivization) is to remove the φ-less *v* itself – there is nothing to defectivize (no φ-set to deplete and thus no Case-property to suppress), and any such replacement by (passive/unaccusative) v_{def} would reintroduce the problem of a φ-probe, albeit a defective one, that fails to be valued by its CP-complement. It would also be an empty gesture in that *v* was already defective in the

active form: the EA would not intervene for Agree(T, CP) in the passive form any more than in the active form (CP not being a φ-/Case-bearing goal, cf. (48)). Thus the logic for suppression of the EA-property on v_{def} in the presence of a DP-IA simply does not go through in the presence of a CP-IA. We conclude that C_{HL} must remove *v* completely in order to passivize a 'bridge' verb; the raising predicates that result are thus *v*-less, bare VPs that fail to provide a merge-site for *there*-type Expl.[59, 60]

We turn finally to one last example of an expletive construction that is predicted to be grammatical on DbP assumptions but which is unambiguously illicit. Consider (49).

(49) a. What did a man eat?

b. *What did there a man eat?

c. What did [$_{TP}$ there T [$_{vP}$ *(what)* [$_{vP}$ a man *v* [$_{VP}$ eat *(what)*]]]]

(49b), with the structure in (49c), represents a problem that goes beyond simply accounting for the absence of TECs in English (cf. the discussion of (36)), as it throws into question the fundamental Probe-Goal-Agree machinery of the DbP system. Attributing the original observation to Susi Wurmbrand, Chomsky (DbP:27-8, fn.53) discusses the problem inconclusively. The problem is how movement of *a man* to spec-TP across the intervening *wh*-trace in (49a) is able to take place given that the necessary Agree(T, *a man*) component of this movement operation is clearly blocked, as in (49b). Thus despite Agree alone being unavailable, Move (+ Agree) is still possible, casting doubt on the fundamental assumption that Agree feeds movement (rather than vice versa). Since (49a) is grammatical, there is no way to rule out (49b) on the DbP

[59] Presumably, the removal of *v* (rather than its replacement by v_{def}) is also responsible for the shift from a (propositional) finite CP-complement to a (predicative) non-finite TP-complement in the raising alternant (that is, it removes not only the verb's EA-selectional θ-relation but also its IA one too), a question I leave open here.

[60] Note that we can now view the alternation between '*seem* + CP' and 'raising-*seem*' as, respectively, an 'active' versus 'passive' form of the verb in the same way as the bridge verbs above. The 'active' form of *seem* is simply an unaccusative bridge verb with a φ-empty *v* that selects the quasi-argumental *it* as EA, whilst the 'passive' form removes the EA-property by removing *v*, leaving a bare VP only. (Alternatively, we could follow Nomura (and others) and take *it* to merge in spec-VP; nothing much hangs on this, though the spec-VP hypothesis is incompatible with our analysis of superraising in Chapter Four:4.3.2.2.) Note also that this φ-empty *v* is not another type of *v* (i.e. distinct from *v** and v_{def}). It is simply the formal embodiment of one of the logical possibilities that arises under the principled dissociation of the Burzio properties (here, a *v* that retains the EA-property whilst lacking internal-Case due to its lack of a φ-probe just in case V's complement type (i.e. CP) allows this retention). The inverse case (i.e. lack of EA whilst retaining a φ-complete probe and thus internal-Case) is also widely attested (cf. the 'accusative unaccusative' adversity impersonals of Russian and Ukrainian, discussed in Bowers 2002, Lavine & Freidin 2002 and elsewhere), a possibility that will arise just in case T's φ-set is not dependent on valuation by the IA in the absence of an EA (such as where a language allows a default valuation, as would appear to be the case in Slavic; see Chapter Four:4.3.2.1 on default strategies).

approach if Expl simply merges into spec-TP (just as DbP is unable to rule out TECs generally, as in (36)).

Under the v_{def} theory of Merge-Expl, the problem in (49) does not even arise. Rather, (49b) is excluded in the same way as the TECs in (36): the transitive *v** fails to provide the requisite merge-site for Expl. The impossibility of pure-Agree (i.e. without Move) of the EA is then simply a consequence of T's EPP going unsatisfied in the absence of both Expl and EA-raising; nothing rules out pure-Agree across the intervening *wh*-trace/object in principle, as Icelandic TECs with OS show – cf. example (ii) in Chapter Two, fn.24, repeated here.[61]

(50) *Það máluðu sennilega* T [$_{vP}$ *húsið vandlega* [$_{vP}$ *margir stúdentar* [$_{VP}$ t_V t_O]]]
Expl painted probably the-house carefully many students

The putative intervention of the *wh*-trace/object in outer spec-*v*P in (49) is discussed in greater detail in Chapter Four(:4.3.2.2). For now, we can conclude that the Merge-*v*P theory of Expl allows us to maintain with full force the central premise of Probe-Goal checking theory, namely the primacy of 'long-distance' agreement without movement.[62]

[61] Chomsky (DbP:29) asserts that the acceptability of (50) is "as expected", presumably on account of the fact that Icelandic independently allows T to Agree with a shifted (nominative) object with concomitant raising of the (quirky) subject across it (see Chomsky's discussion at DbP:27(45)). Extended to (50), this would mean that Agree with the in-situ subject is facilitated, in a manner not made clear (but presumably due to probe-/phase-relativized locality as in BEA:13), by T Agreeing with the shifted object. However, since (50) clearly involves a transitive *v** and, consequently, an accusative object (*husið*) and lack of object-agreement on the verb (*máluðu*), an Agree(T, Obj) relation feeding agreement with the in-situ subject is highly dubious in this case. Further, we will see in Chapter Four that T in the nominative-object constructions agrees with the quirky subject *before* it agrees with the nominative object, rendering this account untenable. Thus (50) should indeed be as bad as (49b) for Chomsky, counter the facts.

[62] The paradigm of agreement patterns across dative experiencers in Icelandic, as presented and analysed in Holmberg & Hróarsdóttir (2003), includes an apparently identical case of a Move/Agree dissociation across a *wh*-trace: pure-Agree across the A-bar trace of a dative DP is barred, cf. (i), but Move (+ Agree) is not, as in (ii). (These are examples (16b) and (5) in the cited article; see there for the full paradigm.)

(i) Hvaða stúdent finnst/??finnast *(hvaða stúdent)* tölvurnar ljótar
[which student]-$_{DAT}$ finds-3sg/??find-3pl [the-computers]-$_{NOM}$ ugly-$_{NOM}$

(ii) Hverjum hafa hestarnir virst *(hverjum)* [*(hestarnir)* vera seinir]
who-$_{DAT}$ have-3pl [the-horses]-$_{NOM}$ seemed to-be slow

Given (50), the cause of the degradation of plural agreement in (i) is unlikely to be intervention by the copy of the dative DP in spec-*v*P. Note also that the degradation in (i) (marked as "??") is still better than the wholly unacceptable (49b), and (i) is in fact fine with default agreement, as shown. This obviously makes an analysis in terms of T's EPP going unsatisfied in (i), as proposed for (49), untenable (especially if Icelandic T has only an optional EPP-feature, as is often suggested). See Chapter Four(:4.3.2.2) for further discussion of examples from this paradigm, and for further arguments against a (defective-) intervention-based analysis.

3.2.4 Interim conclusion

Summarizing this section so far, we have considered a range of conceptual (3.2.1), technical (3.2.2) and empirical (3.2.3) reasons for preferring a merge-*v*P approach to the base-generation of Expl over a spec-TP one. It allows Merge-Expl to become a property of phase heads (precisely as the PIC_{LA} and the logical conditions on external merge would predict it to be); it avoids the computational conundrums that follow if Expl must be treated as a probe; and it provides a simple account of why Expl only appears with certain types of predicate – passives/unaccusatives, i.e. those that embed VP under the v_{def} and not *v** category of light verb. All the evidence thus converges on a single conclusion: Expl merges to the single, obligatory, nonthematic specifier of v_{def}. We therefore have considerable support for the hypothesis that a phase head intervenes between T and the IA in the case of passives and unaccusatives, allowing their associated A-movement to escape the shape-effects of the linearization parameter in (2).

Two questions remain to be answered in the final subsection (3.2.5). Firstly, if v_{def} is the exclusive merge-site for Expl, how are TECs ever possible, since these involve *v** predicates? Whilst structures of the kind in (36) are illicit in English, they clearly exist in other languages, most obviously its close Germanic relatives, and so it cannot be correct to bar the cooccurrence of Expl and *v** in this way. Secondly, and related to the first question, we must now reconsider the apparent typological hole that was schematized in (27), repeated as (51).

(51) *[$_{CP}$ *Það klaruðu* [$_{TP}$ *margar mýs* [$_{vP}$ **Expl** [$_{vP}$ *alveg* [$_{vP}$ t_{subj} [$_{VP}$ t_{V} *ostinn*]]]]]]

If TP-expletives are indeed to be reanalysed as *v*P-ones, then the hole represented by (51) should not exist and structures of this kind should indeed be attested. Essentially, the two problems are the same, since (51) is itself a TEC and so cannot be excluded. In fact, the Merge-*v*P account implies that *all* (non-CP-Expl) TECs have the structure in (51), i.e. with Expl alternating with (raising of) the IA. This will prove beneficial, since the predicted patterns of *v*P-internal complementary distribution yield a neater and more empirically adequate account of the properties of TECs than alternative analyses (and not only the standard TP-Expl ones).

3.2.5 Transitive Expletive Constructions

3.2.5.1 Competing positions, competing generalizations

As is well known, TECs occur in many, but not all, of the Germanic languages. Thus Icelandic, German, Dutch and Afrikaans allow TECs (in main and embedded contexts alike; (52)-(55)), whereas MSc and English do not ((56)-(57)); the examples are based on those given in Vikner 1995 and Koeneman & Neeleman 2001.

(52) Icelandic

a. *Það hefur einhver borðað epli*

b. … *að það hefur einhver borðað epli*

(… that) there has someone eaten (an-)apple

(53) German

a. *Da/Es hat jemand einen Apfel gegessen*

b. … *daß da/*es jemand einen Apfel gegessen hat*[63]

(… that) there (has) someone an apple eaten (has)

(54) Dutch

a. *Er heeft iemand een appel gegeten*

b. ... *dat er iemand een appel gegeten heeft*

(… that) there (has) someone an apple eaten (has)

(55) Afrikaans[64]

a. *Daar het baie mense baie bier gedrink*

b. … *dat daar baie mense baie bier gedrink het*

(… that) there (has) many people much beer drunk (has)

(56) MSc (Danish)

a. **Der har nogen spist et æble*

b. *… *at der (har) nogen (har) spist et æble*[65]

(… that) there (has) someone (has) eaten an apple

---

[63] German Expl *es*, like Icelandic *það*, is famously barred from the spec-TP position (a particularly mysterious fact on the standard, merge-TP approach to Expl, since this is precisely the position in which it is supposed to be generated). I therefore follow Bobaljik 2002, Bowers 2002 and others in assuming *es*/*það* to be a CP-Expl (cf. (24) above), though see Richards & Biberauer 2004a for a more elaborate account of this restriction. That Icelandic, unlike German, nevertheless allows embedded TECs with Expl in this inversion position (cf. (52b) vs. (53b)) is simply due to Icelandic's status as a symmetrical V2 language ('general embedded V2' in Vikner's (1995) terms); thus *það* in (52b) appears in the second of a recursive CP. I return to *da*'s status as a *v*P-Expl below.

[64] Afrikaans is invariably claimed to lack TECs in the literature. Thus the examples in (55) are explicitly given as ungrammatical in Bowers 2002(:199) and Koeneman & Neeleman 2001(:31). However, I am assured by a native speaker that (55) is actually perfectly fine (Theresa Biberauer, p.c.). Afrikaans is thus no different from Dutch in respect of TECs.

[65] (56b) is bad whichever side of *nogen* the auxiliary appears (auxiliaries remain low in MSc non-V2 embedded clauses due to lack of V-/Aux-to-T movement).

(57) English (cf. also (36))

a. *There has someone eaten an apple

b. *… that there has someone eaten an apple

Whilst a number of different analyses of TECs exist in the literature, they can mainly be grouped into two classes according to the underlying generalizations on which they are founded. On the one hand, there are those that seek to derive TECs from Vikner's Generalization (see, e.g., Koeneman & Neeleman 2001), which states that TECs only occur if a language has V-to-T movement *and* V2. On the other hand, there are those that proceed from Bures's Generalization (cf. Koster & Zwart 2000), according to which TECs only occur if a language has OS.[66] Which (if either) is correct?[67]

It seems clear even on the basis of (52)-(57) that Vikner's Generalization (and those TEC theories that attempt to explain it) cannot be maintained. The dissociations between the TEC property and both V-to-T and V2 are complete, working in both directions:

(58) a. V2

V2	TECs	
✓	×	= MSc main clauses, cf. (56a)
×	✓	= German/Dutch/Afrikaans embedded clauses, cf. (53-55b)

[66] The theory of Bobaljik & Thráinsson 1998 occupies a kind of middle ground between the two. Whilst essentially their split-IP analysis supports the latter camp (since OS and TECs are simultaneously implied by the positive setting of their Split-IP Parameter), at least one half of Vikner's Generalization (namely V-to-T movement) is also a necessary property of TEC languages on their system (i.e. split-IP languages). They thus fall foul of the same dissociation problem given in (58b) below. (See M. Richards 2004 for more problems with the Bobaljik & Thráinsson approach.)

[67] Chomsky's (MP:286/354) own approach to TECs (/MSCs) is to assume an MSC parameter that allows EPP-on-T to be checked an extra *n* times (without erasing). Thus MSC languages, like Icelandic, exercise this option once (thus $n = 1$), and non-MSC languages (like MSc) exercise it zero times (i.e. $n = 0$). This, of course, simply stipulates the desired effect, and is allied to neither of the generalizations above; this is its greatest weakness, since it renders the account non-explanatory – the MSC property is linked to no other property of the grammars in question. (There is also the question of why languages never seem to exercise the option $n = 2, 3, 4\ldots$ times, requiring an additional stipulation that $n \leq 1$.) Under the Probe-Goal system of later minimalism, a more principled implementation of the multiple-checking approach is available: if T's φ-set is empty, then T will arguably remain active for probing multiple times (or able to induce purely Match-driven movement, as in Boeckx 2001, Kitahara 2002), as suggested by Chomsky in Miyagawa 2001(:309 and fn.25), cf. also (29e) above. However, whilst this may be plausible for Japanese multiple subjects (since Japanese entirely lacks verbal φ-agreement, in line with the conjectured empty φ-set on T), this is clearly much less tenable for Germanic TECs/MSCs since German, Icelandic, etc. display rich φ-agreement – Germanic finite T does not have an empty φ-set. Whilst multiple specifiers remain a crucial part of the analysis I offer below, I shift the locus of MSCs/TECs to the (independently supported) multiple-specifier property of *v**, not T, in accordance with the Merge-*v*P theory of Expl developed above. This in turn allows the MSC property to be tied to an independent property of the relevant languages – the OS property – thus in a sense reconciling and unifying Chomsky's MSC analysis with Bures's Generalization.

b. V-to-T

V-to-T	TECs	
✓	×	= French, cf. (59)
×	✓	= German/Dutch/Afrikaans embedded clauses, cf. (53-55b)

(59) **Il a quelqu'un mangé une pomme*
there has someone eaten an apple

Since Vikner's Generalization is a conjunction of two properties, the bottom row in either of (58a) and (58b) suffices to refute it. That is, OV Germanic refuses to conform. By Vikner's (2001:Chapter 3) own conclusions, there is no evidence in support of independent V-to-T in OV Germanic, and the comparative facts he surveys would suggest that these languages actually lack V-to-T (cf. Chapter Two:fn.23). Inconclusive though the V-to-T facts may be, however, the absence of embedded V2 in these languages is rather less controversial, and is directly confirmed by the auxiliary-final orders of their embedded clauses. For such reasons, Koeneman & Neeleman 2001(:Appendix) are forced to deny that German *da* and Dutch *er* in (53)/(54) are "genuine" expletives (and to deny that Afrikaans (55) is even grammatical, contrary to fact; cf. fn.64). They base this denial on the fact that (i) *da* (/*er*) is incompatible with a definite object, whereas "a genuine expletive has a special relation with the subject", i.e. should only interact with the EA, not the IA; and (ii) *da* (/*er*) can cooccur with a "genuine" expletive, i.e. *es* in German, as in (60).

(60) *Es hat da jemand einen Apfel gegessen*

[Koeneman & Neeleman 2001: 229 (5)]

Since we are treating *es* as a CP-expletive (fn.63), hence its absence from the spec-TP 'inversion position', we can immediately disregard (ii) as having any bearing on the status of *da* as a (*v*P-)Expl. We return to (60) presently (section 3.2.5.2).

Regarding (i), we saw in section 3.2.3 that the notion that the associate of *there*-type Expl is the subject is an artefact of pre-Agree analyses that were forced to assume LF-raising of the associate (to check those features on T not checked by Expl itself). Given the Probe-Goal system, Expl is not a placeholder for the associate at LF, and the

associate remains in situ. On this view, the 'special relation' between Expl and the logical subject simply does not exist. Rather, it is T itself that has this (valuing) relation with the logical subject: directly, via Agree (cf. MI:126, where Chomsky asserts that long-distance agreement is a "T-associate relation that involves features only and is *independent of the expletive*" (my emphasis)). Expl is therefore entirely divorced from the logical subject. That the DP with which it interacts (i.e. induces MOM and definiteness effects) happens to be the logical subject in the case of unaccusative predicates is purely incidental in the Probe-Goal-Agree system, and there is no reason to expect that this should be the case in TECs. Conversely, that which was purely incidental on the earlier, LF-raising approaches now becomes primary in the Probe-Goal-Agree system, namely the fact that the DP with which Expl interacts in this special way (i.e. its associate) happens to be the IA (direct object) in the case of unaccusatives. Thus under the Probe-Goal system, and the Merge-*v*P approach to Expl it implies (sections 3.2.1-3), the only reason that Expl's associate is the logical subject with unaccusatives is because, in this case, logical subject and IA coincide. Expl's special relation is not with the subject per se, but rather with the IA, in *all* cases (this will be borne out below, where we will see that IA-associates extend to TECs too).

The fact that *da* interacts with the object, then, is not evidence against its expletive status; rather, it is evidence precisely *for* it. Its status as a *v*P-Expl is further confirmed by the fact that these interactions include the same MOM-effects we observed for English *there* in (33), (34) and (39) above: Merge-*da* is blocked by raising of the IA (example from Richards & Biberauer 2004a, where the optionality of *da* in (61a) is also accounted for).

(61) a. *…daß (da) gestern ein Schiff versunken ist*
that (there) yesterday a ship sunk is
b. *… daß (*da) ein Schiff gestern versunken ist*
that (*there) a ship yesterday sunk is

Da of course also shares with *there* its morphological locativity, a property which seems to be common amongst *v*P-expletives. Like *there* (and unlike some pronominal expletives such as *it*), we can thus attribute a defective φ-set to *da*, which in turn follows if *da* has a Case-bearing DP associate (cf. our above rationale for the Burzio property (lack of EA) on v_{def}).

Since German and Afrikaans then clearly do involve genuine Expl and thus genuine TECs in non-V2 environments, we reject Vikner-based analyses and turn now to Bures's Generalization: the correlation between TECs and OS. That this is a more promising approach is immediately confirmed by table (9) in Chapter Two(:2.3.3), repeated here.

(62)	**Pronouns** (weak)	**Full DPs**	**Nonfinite main verb**
Mainland Scandinavian	*Obligatory*	*No*	*No* (HG)
Icelandic	*Obligatory*	*Optional*	*No* (HG)
German/Dutch/Afrikaans	*Obligatory*	*Optional*	*Yes*

As the shaded areas show, those languages that allow TECs, (52)-(55) above, correlate exactly with those that allow full-DP OS/Scrambling. No other property (V2, V-to-T, VO/OV) appears to play a role in the licensing of TECs. How, then, are we to account for the relation between OS and TECs?

Bobaljik & Jonas (1996) and Koster & Zwart (2000) offer interesting attempts to explain this correlation in terms of the nonavailability of spec-TP in non-OS languages. Assuming a split-Infl approach to clause structure with two separate subject-licensing positions, (Spec-)TP and (Spec-)AgrSP, the absence of TECs will follow on a Merge-TP approach to Expl wherever Expl and EA are forced to compete for the same position. Thus if both Spec-TP and Spec-AgrSP are generated in a language, then there is room for both Expl and the EA to cooccur – EA occupies spec-TP, and Expl merges above it in Spec-AgrSP. But if a language can generate only one of these positions (as Bobaljik & Jonas argue to be the case in non-OS languages), or if one of them is already occupied by some other XP (the raised VP in non-OS languages for Koster & Zwart), then only a single subject position remains available and so Expl and EA cannot cooccur – only one of them can be accommodated in the structure.

The idea that Expl and EA are in complementary distribution in non-OS languages is indeed the effect that we want to capture, but we would like to do so without the theoretical paraphernalia of these two papers, which both assume a richer functional structure (AgrPs) than the minimal CFC array of the MI/DbP system, and which both appeal to descriptive devices (equidistance, or Koster's (1999) "collective versus individual checking") which have no explanatory status in the current minimalist framework. Further, they assume a high position for Merge-Expl. The question, then, is whether the position that EA and Expl compete for is the Move/EPP-position of EA or the Merge/base-position of EA, or even if they truly compete for the same position at

all. The former approach (competition for spec-TP/AgrSP), that of the two papers reviewed above, is of course incompatible with the Merge-*v*P theory of Expl: since Expl must merge in spec-*v*P, for all the reasons given in 3.2.1-3, this 'competition', like the competition between Expl and raised associate (i.e. MOM), must take place at the *v*P-level – i.e., the second approach.

Are EA and Expl then in complementary distribution in the syntactic sense (i.e. competing for the *same* position within *v*P), or in the original, phonological sense of alternants that appear in *different* (complementary) environments? EA and Expl cannot be competing for the same specifier of *v** in the former sense, given (23). Regarding the latter sense, we have seen that, if Expl merges to spec-v_{def}, then it will never cooccur with EA (which merges to spec-*v**); Expl is, in effect, the EA of spec-v_{def}. This complementarity, however, is too strong since it would rule out TECs altogether (cf. above). Nevertheless, a further possibility arises given the multiple-specifier property of *v**. Whilst one of *v**'s specifiers is thematic and thus the host of EA, the other specifier, added by EPP to implement OS, is nonthematic, just like the specifier of v_{def}. By (23), then, there are two legitimate merge sites for Expl under a Merge-*v*P approach: spec-v_{def} (yielding Expl with unaccusatives) and the nonthematic, OS specifier of *v** (yielding TECs).

From this, the desired TEC effects immediately follow: EA and Expl are in complementary distribution in the latter ('phonological') sense – they occupy different, complementary types of specifier (of *v**), and they will only cooccur where *both* of *v**'s specifiers are projected. Since Expl merges to the nonthematic, OS specifier of *v** in TECs, the fact that TECs only occur in OS languages (i.e. Bures's Generalization) is trivially derived – it is the OS property that provides Expl with a merge-position in the first place. The correlation is thus captured directly and in surely the most minimal(ist) way possible (whereas the Bobaljik & Jonas and Koster & Zwart approaches can only capture it indirectly, and via additional theoretical machinery). That EA and Expl only compete for the higher subject position (spec-TP) in non-OS languages (and thus cannot cooccur) is thus epiphenomenal, since non-OS languages do not allow Expl to enter the picture to begin with. In short, Bures's Generalization provides further direct evidence for our Merge-*v*P approach to Expl distribution.

In terms of complementary distribution in the syntactic sense (i.e. competing for the *same* position), the Merge-*v*P analysis predicts that Expl in TECs will alternate not with the raised EA, as on Merge-TP approaches, but with the raised IA (direct object) just as in the v_{def}, unaccusative/passive cases. That is, Expl is in complementary

distribution with IA, not EA. This is because the raised IA targets the same specifier as that in which Expl must merge, yielding the same MOM-effect that we have observed numerous times above (most recently in (61)). The 'special relation' between Expl and the IA with unaccusative/passives should therefore extend to the transitive case too – that is, Expl's associate is the object, not the subject (recall that the only reason the associate is the subject in the case of unaccusatives is because IA and subject happen to overlap in precisely this case). In the case of TECs, we predict that OS will block Merge-Expl, and vice versa; this is borne out by the fact that TECs are infelicitous with a definite, specific, or nonfocussed IA, i.e. the modes of interpretation associated with the edge/EPP-position of *v** in OS languages:

(63) a. ? … *dat er veel mensen dat boek gisteren gekocht hebben* [Dutch]
… that Expl many people the book yesterday bought have
[Zwart 1992:489 (31)]

b. ? *De laatste tijd heft er niemand 'm gezien* [Dutch]
recently has Expl no-one him seen

c. ? *Die letzte Zeit hat ihn da keiner gesprochen* [German]
recently has him Expl no-one spoken
[Koeneman & Neeleman 2001:60(8b'), 58(2b')]

d. ?* … *dat daar baie mense die bier gedrink het* [Afrikaans]
… that Expl many people the beer drunk have
[Theresa Biberauer, p.c.]

The interactions with the object, then, and in particular Expl's incompatibility with a shifted object, are evidence for the Merge-*v*P analysis of Expl-distribution (and for treating German *da* as a 'genuine', *v*P-expletive).[68]

Examples (63b/c), which both involve a weak-pronominal associate, lead us to a further prediction. Since weak object pronouns must obligatorily shift in OS/Scrambling languages (see Chapter Two:2.5), they will never be acceptable in TECs. Therefore, those languages which only exhibit pronominal OS (i.e. lack full-DP OS) are predicted to lack TECs. The MSc languages bear this out. Whilst OS is obligatory with pronominal objects in MSc (in those environments in which OS is possible at all, i.e.

[68] The lack of such interactions in Icelandic, and in German with the *es* expletive (compare (63c) to the perfect *Es hat ihn die letzte Zeit keiner gesprochen*, ibid.), is due to the CP-Expl status of *es*/*það*, cf. fn.63, which therefore do not have an IA-associate (or, indeed, any associate, since CP-Expl does not take part in the T/*v* φ-system).

HG ones), full-DP OS is never licensed, due to lack of independent V-to-T (cf. Chapters Two and Four), cf. (64a).

(64) Danish

a. *Studenten læste (den/*bogen) ikke (bogen/*den)*
The-student read (it/*the-book) not (the-book/*it)

b. * … *at der har nogen spist et æble* (= 56b)
… that there has someone eaten an apple

EPP-on-*v** is thus only licensed for weak-pronominal objects, rendering the nonthematic (OS) specifier of *v** unavailable with full-DP objects (cf. (64b)). Since this specifier is also the merge-site for Expl, TECs are concomitantly ruled out with full-DP associates, i.e. *et æble* in (64b). TECs can thus potentially obtain only insofar as EPP-on-*v** is motivated, i.e. in OS environments, with Expl alternating with the shifted object. In MSc, this means that TECs would only be possible with weak-pronoun associates, since only weak pronouns may undergo OS. However, since pronominal OS is obligatory in the relevant environments (due to the hosting requirement), merge-Expl will always be blocked by the shifted pronoun, since OS and merge-Expl compete for the same position (nonthematic spec-*v**P). Thus TECs with pronominal associates, the only kind of TEC that could potentially occur in MSc, are barred for the same reason that TECs with definite, specific, nonfocussed and pronominal associates are barred in OV Germanic (cf. (63)) – these are illegitimate (or at least infelicitous) associates since they cannot remain in situ, but deprive Expl of its merge site if they shift.[69]

3.2.5.2 Conclusions

In sum, we attribute the Merge-Expl property to *v*'s nonthematic, EPP-added specifier (whether this is obligatory, as for v_{def}, or optional, as for *v**), in accordance with Expl's nonargument status – Expl cannot be merged into the θ-related, EA specifier of *v** (cf. (23)). As such, (*v*P-)Expl is able to freely cooccur with a true EA and thus yield a TEC

[69] Note, of course, that such associates are barred universally, i.e. not just in the case of TECs and the OS specifier of *v** but also in the case of unaccusative/passives and the obligatory spec-v_{def}. Since spec-v_{def} is not added by optional/OS-EPP (hence it is generated even in non-OS languages like English), this restriction must have another source in the v_{def} cases – interpretive effects at the interface are not at issue. I offer an account of these 'traditional' definiteness restrictions in Chapter Four(:4.3.2.1). Expl structures with v_{def} are of course perfectly fine in MSc, just as in English (cf. Danish *der er kommet en dreng*, 'there is come a boy', cf. (32)) – the object's interpretation is not dependent on OS here, since EPP-on-v_{def} is obligatory (see fn.40), providing Expl with a permanent merge-site (i.e. one that is not contingent on OS being available – cf. Bures's Generalization, which applies only to TECs).

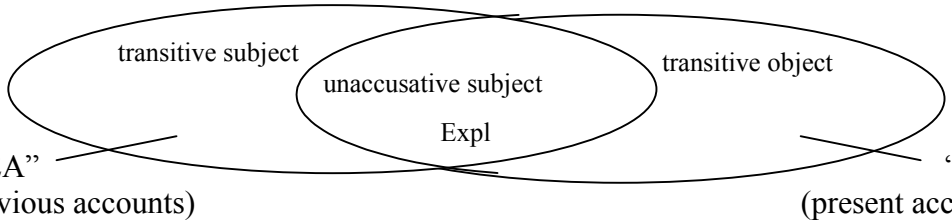
(since EA and Expl merge into different specifiers of *v**) just in case *v**'s optional, nonthematic, EPP-added specifier is generated – that is, only in languages that allow OS/Scrambling. Thus the apparent typological hole embodied by (51) is predicted to be filled on our *v*P-Expl analysis, and indeed it is – by TECs. Indeed, we have already seen a direct instantiation of the structure in (51): the German 'double-expletive' structure in (60), rendered possible since German possesses both a CP-Expl (*es*) and a true, *there*-type *v*P-Expl (*da*).

(51) *[$_{CP}$ *Það klaruðu* [$_{TP}$ *margar mýs* [$_{vP}$ **Expl** [$_{vP}$ *alveg* [$_{vP}$ t_{subj} [$_{VP}$ t_{V} *ostinn*]]]]]]

(60) *Es hat da jemand einen Apfel gegessen*

In this respect our *v*P-centric analysis of TECs departs not only from the standard Merge-TP accounts (whether these are based on Vikner's or Bures's generalizations) but also, crucially, from the Merge-*v*P/Pr account of Bowers 2002, for whom (60) should be impossible (as should any TEC involving a genuine, *v*P/Pr-merged Expl, thus (53)-(55) too). This is because Expl for Bowers is in complementary distribution with all subjects, whether derived (IAs) or otherwise (genuine EAs), as all occupy his spec-Pr. Given this direct competition between Expl and EA, Bowers is unable to accommodate TECs with a 'true', low-merged Expl: TECs are thus predicted (wrongly) to obtain only with CP-Expl, like Icelandic *það*. On the present approach, however, it is only *derived* subjects, as IAs, that are predicted to be in complementary distribution with Expl, as only these elements target the same specifier (spec-v_{def}); more generally, Expl alternates with (underlying) objects, not subjects – the same patterns of behaviour ('MOM') occur with unaccusatives and TECs alike (cf. (33), (39), (61), (63), etc.). This is captured on the present approach, which groups Expl and derived subjects together with direct objects as occupiers of nonthematic spec-*v*P (the IA-position), but resists explanation under all the alternative analyses reviewed above, which group Expl and derived subjects together with thematic (nonderived) subjects (the EA-position, e.g. spec-Pr for Bowers):

(65)



We thus conclude that it is the OS property alone that directly determines whether or not a language allows TECs, and that such properties as V-to-T and V2 (Vikner's Generalization) are irrelevant. Of course, whether or not a language allows OS may itself be a consequence of these other properties. Thus English lacks OS by virtue of lacking both V-to-T and V2 – as suggested by Chapter Two, loss of V-to-T in a VO language entails loss of full-DP OS due to the linearization parameter in (2) (cf. HG), and loss of V2 entails loss of pronominal OS since PF-cliticization to a phase-mate host is then available in situ, depriving *v**'s optional EPP of its singular, PF-related motivation here. However, as far as the loss of TECs from English is concerned, the contribution of V-to-T and V2 is only indirect. Neither V-to-T nor V2 directly implies TECs: whilst V-to-T and V2 are necessary conditions in a VO language (for OS, and thus TECs), it is OS itself that provides the sufficient condition for TECs to obtain (in VO and OV alike).[70]

3.3 CHAPTER SUMMARY

In this chapter, we sought to establish a phase-based explanation for why the final landing site of A- (and A-bar) movement is able to be linearized in those cases where it contravenes the parameter in (2). The shape-breaking property of passivization, unaccusative-raising and A-bar movement out of *v*P follows since a phase boundary intervenes between launch- and final landing-site of these movement operations – *v** in the case of transitives and, we proposed, v_{def} in the case of passive/unaccusatives. Escaping a phase implies escaping shape, since the ordering relations established in an earlier phase are 'forgotten' once that phase is sent to Spell-Out (as expected on the only meaningful conception of cyclic spell-out and phases, under which phases are units of derivational workspace and active memory, and spell-out empties the information cache amassed on each such cycle). Since neither the phasal status of v_{def}, nor even its very existence as a light verb selecting 'Burzio' predicates, are standard assumptions in the literature, the main task of this chapter has been to motivate both of these assumptions, upon which our analysis of the anti-shape property of

[70] Whilst TECs correlate with full-DP OS, there would appear to be a property that correlates simply with *pronominal* OS, namely the availability of impersonal passives. Thus only English (and French), which lack *all* OS (i.e. full-DP *and* pronominal), lack impersonal passives. I leave exploration of this suggestive link between pronominal OS and impersonal passives to future research.

passive/unaccusatives is clearly entirely dependent. To this end, section 3.1 provides arguments in favour of treating v_{def} as a 'strong' phase like any other propositional category in the sense of Chomsky's MI/DbP phase system, and, more generally, for Chomsky's conception of phases over the alternatives in the literature. Two modifications and improvements to Chomsky's system are proposed: (i) the abolition of the 'weak/strong' phase distinction, which was shown to be redundant; and (ii) a unified and simplified reformulation of the PIC ((15), repeated below) that is neutral between the versions given in MI ("PIC_1") and DbP ("PIC_2") and which reduces their empirical difference in terms of effect on search space to a basic, binary decision affecting the composition of lexical arrays (i.e. phases proper).

(15) *Phase Impenetrability Condition* (unified, LA-relativized: PIC_{LA})
[In phase α with head H, H selected by X] the domain of H is not accessible to operations outside LA_H; only H and its edge are accessible to such operations.

where LA_H = the lexical subarray defined by phase head H,
with **either** $X \in LA_H$ (= PIC_2)
or $X \notin LA_H$ (= PIC_1)

With v_{def} naturally accommodated as a ('strong', PIC-regulated) phase under (15), section 3.2 then proceeds to motivate v_{def}'s presence in passive/unaccusative structures (i.e. 'Burzio' environments) on the basis of its specifier. Spec-v_{def} emerges as the only possible merge-site for *there*-type Expl in Burzio environments in the Probe-Goal-Agree system of DbP/BEA. Compelling and wide-ranging conceptual, technical and empirical arguments converge on this one conclusion, which is independently supported by the empirically and explanatorily superior account of TECs that it entails.

In the final chapter, we turn to the question of *intermediate*, phase-edge landing sites and why they too are invisible for the purposes of shape-sensitive linearization in accordance with (2)…

Chapter Four

Intermediate landing-sites and the V2 problem: On defective intervention and the activeness hypothesis

This chapter explores the relation between activeness and the interfaces. Activeness is the property of uninterpretable features that enables them to initiate (as probes) and satisfy (as goals) the operation Agree, i.e. valuation under matching (cf. MI:123, 127ff., DbP:6(3a)). Probes are rendered active by their unvalued feature sets (φ-sets in the case of T/*v* probes and the Case/agreement system); goals are rendered active by means of special activation features ('Case'-features in the case of φ-probes and the Case/agreement system) associated diacritically with the matching interpretable feature sets that value the respective probes. Since unvalued features are uninterpretable at the interfaces (by virtue of their lack of value), they provide the driving force for Agree in the syntax – Agree effects their valuation, and thus ensures that Full Interpretation (FI, the interface-imposed economy condition) is met. Spell-Out operates cyclically to remove valued uninterpretable features from a PIC-defined subset of the syntactic object ('phasal domain') at the start of each new lexical subarray ('phase'), along with any other features inside that domain that have no further role to play in the syntactic derivation – i.e. those that are inactive. Any remaining active features inside that domain must be deported to the active part of the phase – its edge – in order to evade violation of FI. This is determined locally by the PIC at point of Spell-Out, with EPP-features added to the relevant phase head in order to implement displacement of the offending features to the active edge – IFM (cf. MI:108ff.), as in (1).

(1) [Once Ph is completed], the head H of phase Ph may be assigned an EPP-feature. (MI:109(24))

Active features are thus those that have unfinished business within the computational procedure; they are, by definition, incompatible with Spell-Out (hence their triggering the IFM rescue-strategy), and it is this resistance ('invisibility') to Spell-Out that proves key to resolving the empirical and technical issues that remain to be accounted for in the framework of phase-based cyclic linearization developed over the previous two chapters. Let us briefly review those issues by way of introduction.

4.1 INTRODUCTION: THE ANALYSIS IN THEORY

In Chapter Three we saw that the final landing site (and thus spell-out position) of the object-DP in crossphasal A- and A-bar movement is able to escape the effects of our parametrized linearization strategy (repeated here as (2)) by virtue of the very fact that the XP in question has escaped the phase in which it was first-merged and thus the shape preservation imposed therein by (2).

(2) *Parametrized LCA*

Merge(α,β) → {<α,β>, <β,α>}

a. VO = Ignore all O > V [i.e. {<α,β>, <β,α>} → {<α,β>}]

b. OV = Ignore all V > O [i.e. {<α,β>, <β,α>} → {<β,α>}]

Each phase is a separate linearization domain (cf. Uriagereka 1999, BEA:4, Fox & Pesetsky 2003[1]), with the consequence that the raised XP is essentially relinearized with its derived merge-sister (rather than linearized with its original merge-sister, as in (2)). The c-command relation created by movement to the final landing site, and which thus feeds spell-out in that position, forms part of the spell-out/linearization instructions of the higher phase (that containing the raised XP's final position), and thus not of the original phase. Hence this c-command relation does not feed into and is not subject to (2). This is schematized in (3).

(3) $[_{C/TP}$ DP … [T $[_{vP}$ (DP) [*v* $[_{VP}$ V (DP)]]]]]

When C is merged, VP (the phasal domain of *v*P) is spelt out and linearized. The set of c-command instructions that feed (2) and thus determine the linearization of any elements spelt out inside VP (e.g. inactive, unraised V) includes all and only those c-command relations with a link inside VP – i.e. those with a VP-internal launch-site (tail link) or landing-site (head link). This was stated in Chapter Three's (18), repeated here as (4).

[1] Albeit with a very different conception of what this means – Fox & Pesetsky impose the shape established in earlier domains on all subsequent domains, as discussed in Chapter Three:3.1.2.

(4) The c-command relation created by a movement operation M to a final position P (= head of the chain created by M) will only count for the purposes of linearization within spell-out unit S (= phasal domain) insofar as either P or the tail of M (or both) is contained inside S.

(4) follows since c-command relations, rather than the positions they create, are the units of spell-out (precedence instructions). Therefore, only *entire* c-command relations can count (or be discounted) for spell-out and linearization by (2), and not simply parts of them. The first movement out of a phasal domain will therefore count for linearization of that domain, since its launch-site (tail) is contained therein. Returning to the VP in (3), the relevant instructions for its linearization are therefore the symmetrical c-command relations created by Merge(V, DP), *viz*. {V > O, O > V}, and the O > V relation created by the intermediate movement of DP to the spec-*v*P phase-edge. The c-command relation feeding DP's final spell-out position (whether this position is spec-CP, as for A-bar movement, or spec-TP, as for passivization/unaccusative-raising) is thus entirely excluded from VP's linearization – neither its head (spec-CP/TP) nor its tail (spec-*v*P) is contained inside VP. This final c-command relation, then, is part of the instructions for linearization of the *next* phasal domain (i.e. TP in this case).

It is clearly crucial to this account, however, that the crossphasal movements represented by (3) proceed via the intermediate phase-edge (hence our lengthy and detailed attempt to motivate the presence and phasehood of v_{def} for passives/unaccusatives in Chapter Three). It is only by 'touching down' in the phase edge on the way to spec-CP/TP that the raised XP can derivationally register its exiting the lower phase (and thus create the final, entirely VP-shape-escaping, c-command relation). If the object XP were to move directly to spec-TP in the case of passivization (for example), then the tail of the c-command relation thus created would be contained within VP and thus still feed linearization of the VP by (4) (i.e., it would be visible for (2) and thus, in accordance with the VO setting of that parameter, would be counterfactually ignored (= spelt out *in situ*)).

In the case of A-bar movement (e.g. *wh*-movement to spec-CP), this intermediate touchdown is forced directly by the PIC (recall we are assuming a version of the DbP's "PIC_2"; cf. Chapter Three:3.1.1.3). At merge of C, VP is spelt out and thus the C-active *wh*-object will be moved to the *v*P-edge by IFM, as above. In the case of A-movement (passive/unaccusative-raising), this touchdown is not immediately ensured by PIC_2 (though it would be by PIC_1); however, since v_{def}'s EPP is obligatory (unlike

*v**'s OS-EPP), as argued in Chapter Three(:fn.40), and thus not added only at the end of the phase (upon spell-out of *v*) as part of the IFM rescue-strategy, it is present throughout the life cycle of the v_{def} locus as a lexical requirement of the probe and thus must be satisfied during the v_{def} probe-cycle (i.e. prior to merge of T). Thus intermediate touchdown is always guaranteed, if not by the PIC itself then by the nature of lexically associated, obligatory EPP-features. Movement out of a phase proceeds via its edge rather than directly, and it is this creation of an intermediate copy that allows escaping the phase to go hand-in-hand with escaping shape, and the final c-command relation (with the intermediate copy at its tail) to feed linearization at PF. Without this intermediate copy/chain-link, no legitimate PF-output could be attained: PF-realization of the final landing-site would violate (2); alternatively, PF could respect (2) and thus ignore the final landing-site, yielding VP-internal, *in-situ* spell-out of the XP, but this would then violate FI (since C's/T's EPP goes unsatisfied at PF).

The legitimacy of the final landing-site as a PF-position is thus due to the intermediate copy. But now we must answer another question, raised at the start of Chapter Three: what about the intermediate movement itself? How is *this* able to circumvent the effects of (2)? That is, we now need an account of why the O > V c-command relation created by the *intermediate* movement of the object (to spec-*v*P in (3)) does not contravene the VO-setting of (2). All we have done in the previous paragraph is shift the problems faced by the final spell-out position (in the absence of the intermediate copy) to the intermediate position: again, if movement to this position is ignored, as (2) dictates, then we get FI-violating, *in-situ* spell-out; if, on the other hand, it is not ignored, then (2) is violated in a VO language.

There is a simple way out of this seemingly impossible situation. The paradox arises since movement to spec-*v*P proceeds directly from within VP, and so the resulting c-command relation will be a member of VP's set of precedence instructions (cf. (4)), thus subject to the regulations of (2). The key is to exclude this c-command relation from the set of VP instructions. That way, intermediate movement need neither be ignored nor not ignored – it simply does not create a precedence instruction in the first place. Minimally speaking, only final copies (i.e. those occupying final landing-sites) *must* be visible to PF, since only these are actually realized at PF. Ideally, then, it is appealing and reasonable from the minimalist perspective to exclude intermediate copies (and the c-command relations they head) from the set of PF-instructions. In other words, nonfinal positions are invisible to PF (and thus to the PF-parameter in (2)). The

question is: can we formalize this invisibility intuition in a principled, nonstipulative manner?

Clearly, it is not enough to state that only final/overt copies count for PF and linearization, since the notion 'overt copy' is one that only becomes relevant at PF anyway. That is, a blind, lookahead-free syntax cannot know in advance that a copy will end up being pronounced at PF, and will therefore send *all* c-command relations indiscriminately to PF as potential instructions, thus leading to the aforesaid problem. In a system of cyclic derivation, the highest copy/position in a chain at any given stage of the derivation will count as 'final' until and unless that item is moved again, which the syntax cannot know until it actually happens. We therefore need a purely local, syntactic diagnostic of nonfinality, otherwise all positions (and the c-command relations that feed them) will be sent to Spell-Out and thus count equally for (2). This diagnostic will allow us to make formally explicit exactly what it means to not count for Spell-Out.

I would like to submit that we have exactly such a diagnostic readily present in our narrow-syntactic arsenal – namely the notion of activeness, as characterized at the outset of this chapter. A nonfinal position, syntactically speaking, is simply one that is active, and thus unable to be spelt out. Instead, the active item must enter into a (further) syntactic Agree relation as part of a subsequent phase. The earliest it will count as a final (= inactive) position, then, is at Spell-Out of the *next* phase. Thus activeness interacts with the PIC to determine the timing of Spell-Out of syntactic material.[2] Indeed, given a system of multiple, cyclic spell-out, activeness emerges as a conceptual necessity if syntactic expressions are to be interpretable at the interface – without it, Spell-Out itself would be impossible, since C_{HL} would have no way of knowing when an item is ready for interpretation (i.e. whether or not to apply IFM, Transfer, etc.).

Thus activeness plays two important roles. Firstly, in the syntax, it drives Agree operations, and thus the formation of syntactic dependencies. Secondly, at Spell-Out, it serves to mark an item with the instruction "don't spell out yet!", thus triggering IFM and successive-cyclic movement. Returning to the problem raised by (3), the c-command relation created by movement to the intermediate, phase-edge position (spec-*v*P) can now be locally identified as feeding a nonfinal position, and thus filtered out at the syntax-PF interface as irrelevant for linearization purposes. This identification is made possible on the basis that the head (top copy) of the O > V relation thus created is

[2] Svenonius (2001a), too, assumes activeness to be a crucial factor in determining the timing of spell-out, so that spell-out of X(P) is delayed until it is deactivated. However, he takes this to imply not only a delay to spell-out of X(P), but to the phase containing X(P) too – that is, phases are only spelt out when they are 'ready' (i.e. fully internally convergent), an idea I reject in Chapter Three:3.1.1.2.

still active – Agree(*v*, O) does not deactivate O in the case of passive/unaccusative-raising and A-bar movement (*wh*, V2, etc.). This copy is therefore of no interest to PF at this point (since it cannot be spelt out yet), thus it does not form part of the set of precedence instructions fed to PF for linearization by (2). It follows that such (sets of) precedence instructions will only include those where either the head link or tail link is a final position, i.e. inactive and thus relevant for the PF-computation of which copy to pronounce (which may proceed by (2) and/or via an algorithm such as Nunes's (1999)).

We are now in a position to tie up the remaining empirical loose ends left over from Chapters Two and Three, such as why English 'Th/Ex' orders do not violate the VO setting of (2), and why V-to-C movement (i.e. V2) is unable to license full-DP OS in MSc whereas V-to-T *is* (cf. Icelandic) – the "V2 problem" of the chapter title. This, alongside a fuller demonstration of how the other transphasal derivations set up in Chapter Three (i.e. OS and passivization) feed shape-breaking linearizations, is the task of section 4.2. With the main objectives of the thesis then completed, I will proceed in section 4.3 to offer some independent arguments for maintaining Chomsky's notion of activeness. Just like phases in Chapter Three, activeness is clearly crucial to the proposed analysis of object-displacement phenomena and (anti-)shape effects. And, just like phases, activeness (or Chomsky's version of it) has been disputed in the recent literature (see, e.g., Carstens 2001, Nevins 2004, Rezac 2004, who variously argue either to replace it or to eliminate it entirely); indeed, even Chomsky himself has considered weakening the activeness requirement on goals (cf. DbP:48:fn.56), and his Expl-as-probe solution to the problems raised by expletive distribution in Chapter Three(:3.2) implies exactly such a weakening if it is to work at all, as we have seen. The above analysis of activeness as Spell-Out instruction will therefore be bolstered by a number of arguments that demonstrate the central importance of activeness (in particular, the nonredundancy of Case-features) within the *syntactic* component. By taking activeness seriously, three deeply flawed aspects of the BEA/DbP system can be straightforwardly eliminated: defective intervention, trace invisibility, and phase simultaneity (4.3.2.2).

4.2 SHAPING AND BREAKING: THE ANALYSIS IN PRACTICE

Now that all the pieces of the analysis are in place, let us run through the derivations of shape-preserving and shape-breaking movement operations to show how the activeness

hypothesis (i.e. *in*activeness as a necessary condition for spell-out under the PIC), in combination with (4), works in practice. We will consider six derivations instantiating combinations of all the main possibilities (both phase-internal and transphasal movements, yielding both shape- and antishape-effects) to show why some are grammatical and others not, as summarized in (5).

(5)	**Phase-internal**	**Shape**	**Grammatical**
1. **VO passive**	×	×	✓
2. **Icelandic full-DP OS (with V-to-T)**	✓	✓	✓
3. **MSc full-DP OS (with V-to-C)**	✓	✓	×
4. **Scandinavian OS, non-HG environment**	✓	×	×
5. **English Th/Ex**	✓	×	✓
6. **OV V2 (V-to-C)**	×	×	✓

This table includes all the various cases that have arisen in the course of this thesis and which any theory of shape-preservation/OS must be able to account for. Despite the evident lack of correlation between shape-preservation and grammaticality amongst the phase-internal movement types (MSc OS of full DPs preserves shape yet is ungrammatical, whereas English Th/Ex inverts VO-shape but it still grammatical), the theory turns out to make all the right predictions for this full range of movement types and configurations across Germanic.

We now examine each in turn at the point of the derivation at which VP is spelt out by the PIC (which, in all the cases except Th/Ex, is when C is merged). For expository purposes, we refer to the set of c-command relations (precedence instructions) that determine VP's linearization as set L. It is L that feeds (and is evaluated by) the parameter in (2), the output of which is the revised set L' ('>' in set L' then signifies precedence rather than c-command). We will also indicate activeness of copies with a superscript '+', which can be taken to represent an (as yet) unvalued Case-feature where it appears on DP, and some C- or T-related activation feature where it appears on V.

4.2.1 VO passive

Passives (and unaccusative-raising) in a VO language yield a shape-reversing OV surface-order. This (and OV V2, 4.2.6) is our basic case of cross-phasal movement. As we saw in Chapter Three, a v_{def} phase-head intervenes between launch- and final landing-site (spec-TP); escaping a phase implies escaping the shape effects to which

that phase is subjected by (2). We have already shown how this particular case works under (3) above. In more detail, the structure that exists at the point of VP's spell-out is represented in (6a). The set L passed to PF for linearization of VP at this point does not include the c-command relation created by the final movement of the IA-DP to spec-TP, since no part of this c-command relation is contained inside VP (cf. (4)). Nor does it include the c-command relation created by the intermediate movement to spec-v_{def}, despite its tail link being the VP-internal V-comp position. This is because the head of this movement chain is active at its point of creation and thus cannot be spelt out – the c-command relation in question is thus irrelevant to PF and, since it does not create a potential spell-out/precedence instruction, it does not enter membership of set L.

(6) a. C [$_{TP}$ DP [T [$_{vdefP}$ (DP^{+}) [v_{def} [$_{VP}$ V (DP^{+})]]]]]

b. L = {V > DP, DP > V} via Merge(V, DP)

c. L' = {V > DP}; V spelt out *in situ*

The VO setting of (2) then deletes ('ignores') DP > V in L, leaving the final, revised set L' = {V > DP}. The inactive, in-situ V is thus able to be linearized inside VP to the left of the VP-internal base copy of DP, but, crucially, DP is not forced to be spelt out in this position since the DP > V relation created by its movement out of VP is not part of the original L and so does not feed (2).[3] The derivation of shape-breaking A-bar movement of the object (such as when it is a *wh*-DP) proceeds identically, except that *v** is substituted for v_{def} and the final position of the object DP is spec-CP, not spec-TP.

4.2.2 Icelandic full-DP OS

As argued in Chapter Two, full-DP OS correlates with independent V-to-T movement – Icelandic has both, whilst MSc has neither (generally speaking, setting dialectal variation aside). This V-to-T movement, which in turn is usually attributed in some way to the richer verbal-agreement system of Icelandic (cf., amongst others, Roberts 1993, Rohrbacher 1994, Vikner 1997, Bobaljik & Thráinsson 1998, Thráinsson 2003), shows

[3] Note that even though the lower, VP-internal copy is not *forced* to spell out in its base position, to do so would of course be trivially fine under (2). It is FI that stops it from doing so, as we saw in 4.1 – EPP on T/*v* would go unsatisfied at PF, a fatal outcome for obligatory EPPs. However, in the case of optional EPPs (those added for IFM and successive-cyclic A-bar movement), FI dictates only that they should yield some new interpretive effect (cf. DbP:34(60), MP:294(76)), whether that be at LF or PF. The possibility of in-situ spell-out (i.e. zero PF-effect) then arises as long as the movement (optional EPP-feature) in question delivers a new outcome at LF, such as feeding new scope/binding relations. This, of course, yields covert movement/QR.

up in true non-V2 environments (certain types of adverbial clauses, indirect questions, and relative clauses; cf. Vikner 1995, Thráinsson 2003) and hence is independent of V-to-C movement. It is the V > O relation created by this movement that allows a shifted DP to be linearized in the OS position (i.e. spec-*v**); unlike passives, the *v*P-edge position is a final, spell-out position in OS, and thus the O > V created by OS cannot be excluded from set L. Since transitive *v** is nondefective, Agree(*v**, DP) values DP's Case and thus deactivates it. Inactive DP in spec-*v** is therefore in its final, spell-out position, and even though this position is part of the higher phase by the PIC (and thus is spelt out with TP, not VP), the c-command relation that feeds it still counts for linearization of VP, by (4) – it is a member of L, cf. (7b).

(7) a. C [$_{TP}$ … V-T [$_{v*P}$ DP [*v** [$_{VP}$ (V) (DP)]]]]

b. L comprises {V > DP, DP > V} via Merge(V, DP) and
{DP > V} via Move-DP to spec-*v** (OS)
{V > DP} via Move-V to T

c. L' = {V > DP}

VP can therefore be spelt out as empty: DP is linearizable in its raised position thanks to the V > DP created by V-to-T movement (the tail of which is again VP-internal, and so it too is a member of L (by (4)) and thus takes part in the computation of L' by (2)). In other words, since V > DP from V-to-T is part of the same linearization set as the DP > V from OS, deletion ('ignoring') of the latter by (2) need not result in in-situ spell-out of the object inside VP; its derived position is rendered PF-legitimate and so need not be ignored.

4.2.3 Mainland Scandinavian full-DP OS

Unlike the Icelandic case just reviewed, MSc lacks independent V-to-T in non-V2 clauses. It also lacks full-DP OS. The question, then, is why the V > DP c-command relation created by V-to-C is unable to license the full DP in OS position (spec-*v**). This is the V2 problem; in other words, why is V-to-C insufficient for OS? The timing of spell-out under PIC_2 provides us with an answer. Since VP is spelt out at point of merger of C, any (Agree +) Move operations initiated by the C probe must necessarily follow VP's spell-out. The V > DP relation created by V-to-C, then, cannot feed linearization of VP (computation of L' by (2)) since it is not created until *after* VP has

already been sent to spell-out, by which point it is too late to save the undoing of OS by (2). V2's V > DP is thus not a member of L and so cannot legitimize the spelling-out of the object in the shifted position.

(8) a. * C [$_{TP}$ … T [$_{v*P}$ DP [*v** [$_{VP}$ V^{+} (DP)]]]]

b. L comprises {V > DP, DP > V} via Merge(V, DP) and
{DP > V} via Move-DP to spec-*v** – *ignored by (2)*

c. L' = {V > DP}; DP spelt out *in situ*

V remains active for movement to C (V2), and is therefore not spelt out with VP (we may assume it undergoes IFM to *v* at point of merge-C like any other active item inside the phasal domain, from which position it is directly accessible to C by PIC$_2$ and thus for direct, T-skipping V-to-C movement (cf. Chapter Three:3.1.1.3)). Crucially, though, the object-DP cannot be linearized in the spec-*v** position by (2). For full DPs, this is fatal since (2) is the only linearization strategy available for such items; hence the unavailability of full-DP OS in MSc. However, since the only consequence of violating (2) is failure to be linearized, any such violation is trivial if an alternative linearization strategy exists for the offending item. As we saw in Chapter Two(:2.5.3), weak pronouns are defective, non-autonomous prosodic words that require hosting at PF. They are therefore linearized as part of their host's prosodic word and not by the parametrized LCA (their LCA-determined linear position is that of their host, rather than that of their merge-sister); cf. MP:337. Spelling out a weak pronoun in the OS-position in defiance of (2) is therefore inconsequential, as these pronouns are not reliant on (2) for their linearization – they are independently linearized via word-internal reanalysis at PF.

Full DPs do not have this option. It therefore follows that pronominal OS is possible in a language even though full-DP OS is not, as is the case in MSc. Pronominal and full-DP OS are mutually independent since they rely on different PF-ordering strategies. In the case of pronominal objects, the in-situ spell-out that arises from observing (2) and thus ignoring the O > V relation created by OS would force the pronoun to be realized in its strong (stressed, conjoined, modified, animate) form (cf. 2.5.3). Weak pronouns in OS environments are therefore the direct consequence of overriding (2) and deploying the alternative, morphological linearization strategy, and it is this very outcome (deployment of an alternative strategy not available in situ, thus

leading to a weak realization also not available in situ) that motivates the optional EPP-feature on *v** (and thus the OS operation) in the first place.

4.2.4 Scandinavian OS in a non-HG environment

We now consider those environments in which V-movement does not occur at all (in Icelandic and MSc alike), i.e. the environments in which OS violates HG. How does (2) actually derive these (anti-)HG effects? (9a) schematizes the relevant structures at point of VP's spell-out, whether the lexical V is finite (as in MSc simple-tense embedded clauses) or non-finite (as in Icelandic and MSc V2 compound-tense clauses). This configuration is structurally identical to that in (8a), except now the V is inactive for all V-movement (including V-to-C) and will thus be spelt out in situ.

(9) a. C [$_{TP}$ … T [$_{v*P}$ DP [*v** [$_{VP}$ V (DP)]]]]

b. L comprises {V > DP, DP > V} via Merge(V, DP) and
{DP > V} via Move-DP to spec-*v** – *ignored by (2)*

c. L' = {V > DP}; V and DP spelt out *in situ*

As in (7) and (8), the object-DP is inactive in its raised (OS) position and so the c-command relation thus created (head link in spec-*v**, tail link inside VP) will count for spell-out – it is a potentially valid, final linearization instruction, and thus a member of L. However, like in (8), ignoring of this c-command relation by the VO-setting of (2) leaves no way for the inactive DP to be spelt out in its derived position (this position is not part of a valid, legible V > DP relation given the lack of V-movement to T), and so the tail link must be spelt out (in violation of FI in an OS/+EPP derivation). Unlike (8), though, this in-situ spell-out will this time obtain for pronominal as well as full-DP objects. This is because the alternative, word-internal linearization strategy available to weak pronouns (or, more specifically, the OS-EPP that feeds it in (8)) cannot be motivated in (9) – the unshifted, C-/T-inactive verb is spelt out inside VP thus enabling the same PF-cliticization and thus word-internal linearization to be implemented in situ. Since OS is therefore unnecessary in order to obtain this outcome (i.e. PF-cliticization and the resultant weak realization of the pronoun), the EPP-feature on *v** that would drive OS is unmotivated, in violation of FI – no *new* (i.e. otherwise unavailable) interpretive outcome (at either interface) is yielded by its presence in the derivation.

Thus OS in non-HG environments is barred across all of Scandinavian (Icelandic *and* MSc) for all types of object (full-DP *and* pronominal): for full-DP objects, OS is unlinearizable; for pronominal objects, OS is unmotivable.

4.2.5 English Th/Ex

In Chapter Three(:3.2.3(39)/(40)), we offered a syntactic analysis of Chomsky's 'Th/Ex' structures, i.e. the preverbal (re)ordering of the IA-associate in English passive-expletive constructions that results from 'halfway' movement of the IA to spec-v_{def} rather than all the way to T. In particular, we proposed a 'double-v_{def}' structure in which existential *be* selects a participial v_{def} as its small-clause complement (cf. DbP's PrtP), as in (10).

(10) $[_{TP}$ There was $[_{vdefP}$ *(there) (was)* $[_{vdefP}$ a man $[_{VP}$ arrested *(a man)*]]]]

At first blush, this structure would seem to go against everything that we have said so far. Raising of *a man* to the specifier of the lower v_{def} is not only phase-internal, but its spec-v_{def} landing site is also its final, spell-out position and must surely therefore count for linearization of VP (as a member of L). Further, since the V *arrested* remains in situ, this is also a non-HG environment, like (9), so we cannot license the derived position of *a man* by way of V-movement (as we could in (7)). Finally, to make matters worse, it would seem that (10) goes against the activeness hypothesis which we are claiming to play a central role in these derivations and their interactions with Spell-Out. Specifically, we would seem unable to take the same tack as for the analysis of shape-breaking passives in (6) and claim that *a man* is active in spec-v_{def} (hence invisible for spell-out/(2)), for the very reason that this *is* the spell-out position of *a man*. If it is active there, then how can it be spelt out there given our activeness hypothesis ("don't spell out if active")?

There is, however, no inconsistency or contradiction here once we consider the logic derivationally, that is, from the perspective of the timing of deactivation under the PIC. A final position must simply be inactive at the point at which it is spelt out. It is not the positions per se that are final or nonfinal (i.e. there is no primitive notion of spell-out position or non-spell-out position); rather, whether a position counts for spell-out or not is determined by the activeness of the item that occupies it, and this activeness is of course subject to change in the course of the derivation as a result of

subsequent Agree operations. An 'active' position, then, will only count as nonfinal for as long as the item inside it remains active: subsequent deactivation of that item may turn the same position that was nonfinal for the purposes of a previous phase into a final position for spell-out of a later phase. Th/Ex in English instantiates exactly this scenario, thus bearing out the predictions of the PIC and the activeness hypothesis.

For (10), then, the phase-head that triggers spell-out of VP by the $PIC_{(2)}$ is the higher v_{def} – this v_{def} is thus the equivalent of C in (6)-(9) and (12). At this point, represented in (11a), the head that deactivates Case on the IA-DP (*a man*) has yet to be merged (namely, T). Raised DP is thus still active and unable to be spelt out; the O > V c-command relation that it heads is therefore not a potential spell-out/precedence instruction for PF and so does not assume membership of L.

(11) a. v_{def} [$_{vdefP}$ DP^{+} [v_{def} [$_{VP}$ V (DP^{+})]]]

b. L = {V > DP, DP > V} via Merge(V, DP)

c. L' = {V > DP}; V spelt out *in situ*

Linearization of VP in Th/Ex'd passives therefore proceeds identically to that in standard, fully-raised passives, as in (6). Only later, after VP has been spelt out, is T merged and the IA deactivated via Agree(T, IA). Since T's EPP is satisfied via Move of Expl (which is external-merged into the specifier of the higher v_{def}), the IA remains in the lower spec-v_{def} after its deactivation, which therefore becomes an inactive position: the IA is spelt out there at merger of C, by PIC_2, as part of the phasal domain of the higher v_{def}.

4.2.6 OV Verb-Second (V-to-C)

Finally, we turn to the case of shape-breaking movement in OV languages, that which moves the lexical verb to a position preceding its merge-sister object. This is the OV side of the "V2 problem", though here the issue is not the relation between V2 and OS/Scrambling per se (as it was in 4.2.3) but more generally why the VO orders derived by V-to-C (whether that O is in the scrambled, OS position or not) do not fail linearization by (2). Unlike all the cases reviewed above (which involve VO languages), it is the raised V, rather than the raised O, that is the offending item in these cases.

V2 anti-shape effects are just the OV counterpart to passivization in VO (i.e. 4.2.1/(6)). Since the offending item (V) moves to a position outside of the original phase

in which it is merged, shape-breaking is simply a consequence of escaping the phase. The raised V in C is relinearized with its derived sister (TP), just as the passivized DP in (6) is relinearized with its derived sister (T').[4] As mentioned in Chapter Three:3.2.5.1, the case against independent V-to-T in OV Germanic, whilst not conclusive, is stronger than that in favour of it; the differing 'richness of morphology' criteria of the authors cited in 4.2.2 variously predict that the OV languages should and should not have V-to-T. Since direct movement of V to a *final* (i.e. overtly realized) T-position would fail to be linearized by the OV setting of (2), we may assume that OV Germanic, like MSc, lacks independent V-to-T. Consequently, no verb-movement takes place until after C is introduced and thus VP spelt out; V-to-C (and the Agree relation that feeds it) occurs too late in the derivation for any V > O relation it creates to be a member of L. Whereas this is bad in the case of MSc OS (since the absence of the V2-created V > O relation from L prevents linearization of the raised object), it is precisely what renders cross-phasal V-to-C movement trivial in an OV language.

(12) <u>*With Scrambling*</u>

a. * C [$_{TP}$ … T [$_{v*P}$ DP [*v** [$_{VP}$ (DP) V^{+}]]]]

b. L comprises {V > DP, DP > V} via Merge(V, DP) and
{DP > V} via Move-DP to spec-*v**

c. L' = {DP > V}

(13) <u>*Without Scrambling*</u>

a. * C [$_{TP}$ … T [$_{v*P}$ *v** [$_{VP}$ DP V^{+}]]]

b. L = {V > DP, DP > V} via Merge(V, DP)

c. L' = {DP > V}

As with (8), merger of C will induce IFM of V to *v* where it is directly accessible for probing by C. In both the scrambling and nonscrambling cases, any final V > O relation will necessarily be entirely excluded from VP/L by (4), just like the final O > V relation created by passivization in (6). The nonfinal V > O relation created by the intermediate V-to-*v* movement (with V remaining active in *v*) does not form part of

[4] The fact that the only constituent that cannot be raised to form the pre-V2 XP in spec-CP is TP, which would yield V-final-*qua*-V2 orders (e.g. **[Der Student das Buch nicht gelesen] hat* t_{TP}), follows as a derived-shape effect – V (in C) cannot be reordered with respect to its new merge-sister, with the result that V>TP shape is preserved. Thus what may seem on the surface to be another instance of a general ban on comp-to-spec movement (here, TP-to-spec-CP) may once again derive from deeper principles, in this case linearization (see Chapter Three:fn.43).

L, for the now familiar reasons, though this is trivial from the point of view of the object – even if this intermediate V > O did form part of L, the object (scrambled or otherwise) would still be linearizable in preverbal position since it is V > O relations, not O > V ones, that are ignored in OV languages. Only direct V-to-C (i.e. not via *v*) would be a problem in the OV case, since, by (4), this movement relation would then have to be ignored at PF (just like direct movement from V-comp to spec-TP in the case of a VO passive); however, such direct movement is independently excluded by the PIC in this case.

This concludes the main task of this thesis – to give a principled, PF-based analysis of the patterns of Germanic OS/Scrambling that accounts for the shape-preservation property of these phenomena whilst simultaneously explaining the lack of shape-preservation with standard A- and A-bar movement. In the final section I offer some compelling syntactic arguments that lend independent support to the activeness hypothesis on which our OS/Scrambling analysis has been based and thus, in turn, to the view of the syntax-PF interface that has emerged from it.

4.3 THE IMPORTANCE OF KEEPING ACTIVE

The previous section can be taken to provide motivation from the PF-interface for Chomsky's notion of syntactic 'activeness': DPs (= interpretable φ-sets) are rendered visible for Agree by activation features (specifically, Case-features in the case of the φ-/A-system)[5] which in turn act as a PF-instruction regulating the timing of Spell-Out (active DPs cannot be spelt out). As a property of the narrow syntactic computation (i.e. one to which the syntactic operation Agree is crucially sensitive), the effects of activeness are also expected to feed into, and be detected at, LF: Case/activation-features, like all uninterpretable formal features, must be valued in the syntax and deleted at Spell-Out, or else the derivation will fail to converge at LF (it will breach FI). Activation, then, implements the Case Filter of Chomsky 1981, Vergnaud 1982: it is a requirement on DPs (goals) such that they *must* enter into Agree with a probe (just as probes, for their part, *must* enter into Agree and be valued by a goal). Insofar as Case-

[5] The activeness hypothesis applies to all Agree operations in the probe-goal framework, not just φ-/A-relations. As we saw in Chapter Three:(29b), activeness is a general condition on probes and goals and part of the definition of Agree. Thus MI:128 extends the probe-goal implementation of A-movement to A-bar movement, with (e.g.) an uninterpretable activating [wh]-feature on *wh*-phrases that renders their 'Q-set' visible to the Q-probe on C. Our exposition here will focus on Case and the φ-/A-system, but can be taken to cover Agree in general.

Filter effects are real, then activeness (or something like it) is an indispensable part of the theory, allowing us to maintain our above analysis of shape effects in movement operations, which makes crucial use of this notion via the idea that active (intermediate) positions are invisible to PF/Spell-Out.

We will see in section 4.3.2 that this is indeed the case – i.e., that there is an entire class of phenomena, which we can term 'Case effects', where the only reason for nonconvergence is the Case-feature on a DP going fatally unvalued. Case is therefore nonredundant and non-eliminable. Let us first consider some of the claims and arguments *against* the 'activeness hypothesis' that have nevertheless been raised in the recent literature. The proposed alternatives fare little better (if not worse) and are either unnecessary or reliant on undesirable complications of the theory.

4.3.1 Filtering out Case?

Marantz (1991) was amongst the first to point out the redundancy of (abstract, structural) Case in driving movement operations. Thus, in Expl-less Burzio environments such as (14), the obligatory raising of the DP-associate follows simply from the requirements of T (namely, the EPP), with no recourse to Case theory (i.e. presumed requirements of the associate itself) being necessary.

(14) a. *e* arrived a man
b. *e* was sold the porcupine [Marantz 1991: 17]

Lasnik (1995/1999) presents compelling arguments for the same conclusion (i.e. that the associate in expletive constructions "does not move for Case reasons", p.91), strengthening the case from the opposite angle – that is, there are cases where *only* the requirements of T can explain (un)grammaticality since Case on the associate has already been checked/satisfied. Examples (42a/b) from the previous chapter, repeated here, demonstrate this point.

(15) a. *There seems to a strange man that it is raining outside
b. *There seem that a lot of people are intelligent

Case on *a strange man* in (15a) is checked internally to the experiencer PP (presumably valued by the P-head); Case on *a lot of people* in (15b) is likewise already satisfied (by

embedded finite T). Since the associate DPs in question are thus happy, it cannot be the Case Filter that accounts for the ungrammaticality of (15). Instead, it must be T's own requirements that are going unsatisfied here: the Case-valued DPs are somehow inert, in the sense that they are unable to act as associate and check/value T's φ-features. Thus, just as DPs must enter into Agree relations to have their Case-features valued (i.e. the Case Filter, if it holds), so must probes (here, the unvalued φ-set of T) have an associate/goal in order to value their own uninterpretable features. Lasnik dubs this latter requirement on probes/T the "Inverse Case Filter" (Bošković 1997:134, Rezac 2004:335).

Two important implications can be drawn from the Inverse Case Filter/(15), both of which are adopted and adapted into the probe-goal checking theory of the MI/DbP framework (see, especially, MI:127). Firstly, Greed is an inadequate formulation of the rationale for checking operations: it is not properties of the goal (i.e. Case) that drive operations but rather those of the probe ("Suicidal Greed").[6] Secondly, only DPs with active (unvalued) Case-features are available as associates/goals for the valuation of (φ-)probes. This provides the basis of Chomsky's 'activeness hypothesis', a direct implementation of the idea that Case- and agreement-checking go hand-in-hand as two sides of a single coin (cf. Schütze 1997:126, Martin 1999:16, Rezac 2004:Chapter V). Thus, there can be no φ-checking without Case-checking ((15), (16a)) and no Case-checking without φ-checking ((16b) below). Moreover, since Case-features exist only to activate interpretable φ-sets (DPs) and have no independent status of their own, they do not exist in isolation (e.g. as probes in their own right). One consequence of this we have already seen – Case does not drive operations (there is no 'Greed'). However, it also entails that there is a maximum of one Case-feature per DP/φ-set. Additional Case-features cannot be added to a φ-set, for the very reason that they are an inherent, integral part of that φ-set (we may thus view them as φ-diacritics). It then follows that, once its Case has been valued, a DP cannot enter into further Move/Agree operations, as in (16c).

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[6] Probe-driven Agree has the additional advantage of avoiding the lookahead problem of Greed, and is therefore independently preferable on computational grounds (MI:127). Essentially, in probe-goal terms, goal-driven Agree would require the feature in question (Case) to 'know' in advance that a Case-valuing head will be merged at a later stage of the derivation and, moreover, to be able to detect this merger (both nonlocally and countercyclically) in order to be able to delay initiating its Agree relation until that probe is merged. Search space under goal-driven Agree is thus 'upwards' into nonexisting structure; search space under probe-driven Agree is simply the existing structure at the point at which the probe is merged. Note, however, that the Case Filter itself does not entail Greed. That is, the requirement on DPs that they undergo Agree (= value Case) does not entail that the goal/DP itself must initiate that Agree relation. As we saw in Chapter Three(:3.1.1.1), probes and goals must operate on different cycles – probes obey strict cyclicity (Collins's Locus Principle), whereas goals need only converge at the phase level (hence the phase-phrase dichotomy). See Frampton & Gutmann 2002:97ff. for a different view.

(16) a. *There seem [several people are in the room] (cf. MI:129 (47d))
b. *There seems [to be friends of yours in the room] (cf. MP:287 (60))
c. *Several people seem [*(several people)* are in the room]

It is clear, then, that the role of Case under the activeness hypothesis is marginalized to a property of goals only. In Chomsky's own words, "operations are not induced by Case-checking requirements", and so "structural Case is demoted in significance"; instead, "what matters primarily are the probes, including φ-features of T, *v*" (MI:127). Nevertheless, this marginalization is not the same as redundancy: Case cannot be eliminated completely. Case may well be probe-redundant, and has indeed been eliminated from probes: its Move- and Agree-driving effects reduce to the probe's EPP- and φ-features in the manner suggested by Marantz above. But it is clearly not goal-redundant, as (15) and (16) show. To eliminate Case entirely (i.e. from goals as well as probes) would be to render goals permanently active, but the activeness hypothesis (cf. (16)) demonstrates that this cannot be right. Case clearly has a role to play in the computation of LF: the Inverse Case Filter (or rather, violations of it, as in (15)) cannot be fully implemented without some kind of Case/(de)activation mechanism.[7]

The question, then, is whether Case/activation-features are the best way to achieve this. Two recent proposals have criticized various aspects of Chomsky's activeness hypothesis. Carstens (2001) challenges the notion that goals are deactivated under Agree with a φ-complete probe (essentially, the 'maximum one Case-feature per DP' corollary, (16c)) and argues instead that Case-features should be reinstated as an intrinsic property of probes. Rezac (2004) sees activation features as a stipulation beyond the ideal scenario where only the properties of probes (and not those of goals) should matter for Agree, and argues that Case-features do not exist at all (replacing them, instead, with case shells). Thus one author would like more Case-features (adding them back to probes), and the other would like fewer (removing them even from goals). I will now briefly consider some of their main arguments, concluding that the existing system (Chomsky's Case/activation-features) remains the preferable one from the minimalist perspective.

[7] Note that the PIC would seem unable to rule out the derivations in (15)/(16), as raising-*seem* is a bare VP (cf. Chapter Three:3.2.3). Thus only one phase boundary (embedded CP) intervenes between matrix T and the embedded subject DP, allowing Agree(T, DP) by the $PIC_{(2)}$; cf. DbP:45(fn.29). However, see 4.3.2.1 below for a reconsideration of the PIC's role here.

4.3.1.1 Case probes (Carstens 2001)

The idea that a DP becomes inactive for further Agree once it has valued the (φ-) features on a probe and thus had its Case-feature deleted encounters an obvious problem in the face of multiple-agreement facts, such as Romance participle agreement, (17).

(17) *Elle **est** disparu**e*** [French]
She-$_{3FemSg}$ is-$_{3Sg}$ disappeared-$_{FemSg}$

Here, the same DP appears to enter an Agree relation with more than one functional head, giving rise to overt concord on each head (T and v_{def}/Prt). Chomsky's notion of φ-completeness is a maximization strategy ("Maximize matching effects", DbP:15(14)) that solves this problem by ensuring that a goal can only delete its Case if it agrees with a φ-*complete* probe (cf. (20), below). In the French example above, the participial $v_{(def)}$ has only Number and Gender; its lack of Person thus renders its φ-set incomplete, so that the argument remains active for further Agree with T (which has Number as well as Person, and is thus φ-complete).

However, Carstens argues that Bantu languages exhibit multiple-agreement facts that undermine Chomsky's notion of φ-completeness (and therefore the entire activeness hypothesis). The Swahili examples in (18)-(19) show both number *and* person agreement on each agreeing head, hence each head must be φ-complete (in the sense just given) and should therefore render the goal-DP inactive, contrary to the agreement facts.[8]

(18) a. *Juma a-li-kuwa a-me-pika chakula*
Juma $_{3sg\text{-}past}$-be $_{3sg\text{-}perf}$-cook 7food
"Juma had cooked food"

b. *(Mimi) Ni-li-kuwa ni-ngali ni-ki-fanya kazi*
($_{1sg}$-PRON) $_{1sg\text{-}past}$-be $_{1sg}$-still $_{1sg}$-$_{perf}$-do 9work
"I was still working" [Carstens 2001:150(5)]

[8] The numbers in front of nominals in the glosses (e.g. '7food', '9work') indicate gender (noun class); likewise, subscript '7agr' indicates gender agreement. Class 17, in (19b), is that of the (null-)expletive subject.

(19) a. *chakula ki-ta-kuwa ki-ki-pik-wa jiko-ni*
7food $_{7agr\text{-}fut}$-be $_{7agr\text{-}prog}$-cook-$_{passive}$ 5kitchen-$_{loc}$
"The food will be cooked in the kitchen"

b. *ku-li-kuwa ku-me-nyesha mvua*
$_{17agr\text{-}past}$-be $_{17agr\text{-}perf}$-rain 9rain
"It had rained"

c. *mtindi u-li-kuwa u-me-m-vaa Abunuasi*
3brew $_{3agr\text{-}past}$-be $_{3agr\text{-}perf\text{-}3}$-wear
"Abunuasi was drunk" [Carstens 2001:150(7)-(9)]

Carstens concludes that φ-completeness is therefore irrelevant for Case-valuation/deletion; instead, certain functional heads must be endowed with intrinsic Case-assigning features (as on earlier incarnations of checking theory), which renders φ-completeness (and thus activation features on goals) redundant. However, this conclusion is, I believe, premature, as none of the data in (18)-(19), strictly speaking, argues against φ-completeness. All we need to do is recognize that φ-completeness is a relative notion; that is, what counts as φ-complete varies from language to language (a suggestion also made in Nasu 2002).

In MI:100ff., Chomsky outlines a theory of features such that UG provides a universal inventory of formal features **F** from which each language(-learner) makes a one-time selection of a subset [F]. This subset then defines the range of features that play an active role in the operations of the language in question; all other features are discarded. Thus crosslinguistic variation in the feature inventories deployed by different languages is a fundamental part of Chomsky's system. A plausible hypothesis is that the selection of [F] determines not only which features a given language may make use of in generating its expressions ("mapping of F to Expl"), but also which features constitute a complete φ-set for T and *v* in that language – i.e., which features are associated with each of the CFCs and serve to render them active as probes. Thus, for French (and, likewise, English, Icelandic, and maybe Indo-European generally), we may assume that only person and number constitute φ-completeness for T and *v*; gender is inert (as confirmed by its lack of semantic contribution on nominals, and thus its uninterpretability at LF, unlike person and number, which are interpretable on DPs). The participle-agreement facts in (17) still follow exactly as on Chomsky's account, but now we are able to bring Bantu into the fold too.

Two facts about Carsten's Bantu examples (cf. above) are particularly telling here. Firstly, in each of these examples, the verbal heads either show multiple agreement for person and number (cf. (18)), or for gender (noun class) and number (cf. (19)) – but none of them shows multiple agreement for person *and* number *and* gender. Secondly, "gender" in Bantu is of the 'noun class' type (Cartens 2001:151), that is, it identifies particular kinds of entities according to their inherent properties. It therefore arguably bears LF-interpretable properties. Together, these two facts suggest that the Bantu φ-set comprises gender as well as person and number (as all three are interpretable on nominals). Multiple agreement for a subset of these φ-features is therefore entirely in line with the φ-completeness approach to Case-deletion (φ-completeness in Bantu languages being more 'complete' than φ-completeness in Romance). We therefore have no need to elevate Case to the class of probing features, and can maintain the activeness hypothesis unchanged.

4.3.1.2 Case shells (Rezac 2004)

In his technically penetrating and empirically wide-ranging examination of the Agree operation, Rezac (2004:Chapter V) argues that activation features should be eliminated as an extra and unwanted complication of the MI-system. Only probes, i.e. unvalued feature sets, should drive operations, and these should be sensitive only to valued feature sets, not to activation features. Instead, he proposes that the effects of deactivation (as seen in the Inverse Case-Filter violations in (15)/(16) above) should be implemented by means of a case shell, essentially a layer of functional structure that is a copy of the unvalued probe at the point of Agree. This case shell, akin to the K(ase)P of Travis & Lamontagne (1992) and others (see also Neeleman & Weerman 1999), is introduced immediately above the goal DP as a consequence of Agree. Since it comprises a copy of the unvalued probe (φ-set), this shell will intervene for any subsequent Agree relations that attempt to probe the same DP again, blocking Agree with that goal and thus effectively implementing the deactivation effect: a goal (feature) can Agree only once, i.e. cannot be Case-valued by more than one probe (cf. (16)).

A further advantage of this approach over Chomsky's activation features is that it allows goal features to be deactivated individually – that is, if a given probe P agrees with a goal G only for Person, then only Person on G is deactivated; its Number remains active for valuing a subsequent probe. This provides a very neat and compelling analysis of partial (or displaced) Agree effects in Basque (and other languages – Béjar & Rezac 2004 show how the φ-probe can be decomposed still further, within the

hierarchy of person features). Whilst I follow Rezac and Béjar & Rezac (and Anagnostopoulou 2003) in assuming decomposition of the φ-probe (so that Person and Number may be separately valued on a φ-probe like T), I would like to maintain that at least some partial-Agree effects are better analysed (and explained) by retaining Chomsky's notion that only a φ-complete probe can value/deactivate a goal (that is, there are cases where partial Match/Agree does not suffice), an idea we have defended in light of Carstens' attack in the previous section. That is, only the second clause of the condition on Agree given in (29e) in Chapter Three, repeated here as (20), should be weakened (and rejected), as there is a class of phenomena that can be united under the banner of 'Case effects' as long as we maintain the first clause in (20); these are the topic of section 4.3.2.1.

(20) i. P values and deletes G if P is φ-complete
ii. G values and deletes P if G is φ-complete

Returning, here, to the idea of case shells as an alternative to Chomsky's Case/activation features, I would like to raise three points that potentially cast doubt on Rezac's claim that they provide a simpler, more natural account of Agree-visibility and the activeness hypothesis. The first is that this account relies heavily on defective intervention (DI), whereby unvalued features (or deactivated valued features on the Case approach) intervene without themselves being a potential goal for Agree (i.e. without themselves being able to value the probe in question). Case shells prevent a valued/interpretable DP/φ-feature (= +φ) from being accessed a second time precisely by inducing a DI/minimality effect, blocking Probe-Goal Agree despite the fact that they can only Match the probe, not value it, by virtue of their being unvalued (= '−φ'):

(21) $P_{-\varphi} \ldots [K_{-\varphi} [DP_{+\varphi}]]$ → Match(P, K), *Agree(P, DP)

It seems to me that if anything is an undesirable and unnatural aspect of the MI Probe-Goal-Agree system, then it is not activation but DI (and the Match/Agree distinction it implies). Ideally, either a feature is visible as a potential goal (i.e. active) or it is not; further distinctions (e.g. visible for Match but not for Agree/Value, and worse, visible for Match and Move but not for Agree/Value, as we will see in the next section) are surely a departure from optimality. DI is the root cause of a number of opaque and counterintuitive complications of the MI/DbP system, as we shall see, and if we can

possibly do without it, as I believe we can once we take activeness seriously (see below), then it is DI that should be eliminated from the system. Replacing Case-features with generalized DI is to elevate DI to the status of a core property of the system, and is (of course) incompatible with my claim below that there is no such thing as DI.

Of more immediate concern is the fact that Rezac's case shells, as he admits (p.344), only implement the *Inverse* Case Filter. As such, they do not get rid of Case (and thus the need for Case-features) altogether. The Case Filter proper must still be enforced: i.e., in Rezac's terms, a DP must have a case shell assigned to it; in more general terms, a DP must enter into an Agree relation. This remains an ineliminable requirement on goals: we will see evidence for the Case Filter in action in the next section, and Rezac himself (p.333-4) offers a summary of Bošković's (1997:140ff.) evidence that the Case Filter cannot be reduced to the Inverse Case Filter (i.e., Case is a nonredundant property of goals; cf. discussion of the activeness hypothesis/(16) above). However, by deriving only the effects of the Inverse Case Filter (cf. (15)), the case-shell approach only serves to render the Case Filter more mysterious and unnatural. Failure to add a case shell would seem inconsequential (the DP would simply remain active, its φ-features interpretable at LF). The Case Filter thus becomes something additional, something that has to be stipulated on top of the Agree relation itself.

The Case/activation-feature approach, on the other hand, is able to derive both the Case Filter *and* the Inverse Case Filter with just a single mechanism – the unvalued feature on the goal. Once valued, the DP has no further business entering into Agree relations (hence the Inverse Case-Filter effects); if it remains unvalued into LF, then it will crash like any other uninterpretable feature (FI). Goal-features may well complicate the ideal picture of Agree in which only probes should count, as Rezac asserts, but given the empirical necessity of implementing both the Case Filter and the Inverse Case Filter, it is surely preferable to reduce them both to a single device rather than treat them as entirely unrelated phenomena (each requiring a separate stipulation rather than a unified one).

This brings us to our final point. It is not even clear that goal-features *are* a departure from the optimal picture of Agree and the MI-system. The very existence of Case-Filter effects challenges the idea that goals should play no part in defining licit Agree operations. The MI picture is thus already as ideal as possible – Case has been marginalized as far as it can be, i.e. to being a diacritic on interpretable φ-sets, and as such is unable to trigger Agree operations. Thus it is already the case that, as far as driving operations is concerned, the probes are all that matters (cf. MI:127). The Case

requirement on goals simply ensures that interpretable feature bundles have some role to play in the computation of LF (in a manner akin to the Visibility Hypothesis of GB). From the minimalist perspective, the role they play in identifying legitimate (e.g. non-adjunct) goal-DPs may well reduce to natural and necessary interface conditions. Since FI is trivially satisfied by (argumental) DPs (as their φ-sets are interpretable), the only way to ensure that their presence in a derivation is licensed (and not superfluous), and/or to distinguish them from adjuncts, is to add to them a formal imperative that does *not* satisfy FI, i.e. an unvalued feature. More to the point, a lookahead-free syntax should ideally operate *only* on uninterpretable (unvalued) formal features – it can neither know nor care about (LF-)interpretability, and thus the null assumption, contra Rezac, is actually that interpretable/valued feature sets are *invisible* to the syntax (i.e. indistinguishable from pure semantic and phonological features and therefore equally irrelevant to syntactic computation). Agree is thus impossible unless we have a feature that renders interpretable φ-sets visible to the syntax – such a feature now simply follows from FI and the SMT (though the logic is denied if we assume DI). That we happen to call this feature 'Case' is more an historical artefact than anything else; the point is, its activating effect is necessary (both empirically *and* conceptually) and an irreducible primitive of the system, and, furthermore, it predicts the existence of both Case-Filter and Inverse Case-Filter effects at a single stroke. The case-shell alternative only paints half the picture and is arguably more stipulative (and less minimalist) because of it.

In the remaining sections, therefore, we will pursue Chomsky's Case-feature implementation of the activeness hypothesis, arguing that the phenomena that it accounts for, and the simplification of the theory that it attains, go much further than Case-Filter effects (Inverse or otherwise), thus consolidating its status as a principled and irreducible property of goals.

4.3.2 Taking activeness seriously

Section 4.3.1 has shown that there can be no question of getting rid of Case/activeness entirely. Whilst special activation features are redundant on probes (which are rendered independently active by virtue of their unvalued feature sets), goals (i.e. interpretable feature-sets) require something extra to render them active/visible and ensure their participation in an Agree relation. Case-features are the simplest, most minimal way of achieving this, allowing both the Case Filter (= non-adjunct DPs *must* act as goals…)

and the Inverse Case Filter (= … but may do so only once) to be simultaneously derived as two sides of the same, Case-feature-shaped coin. Authors who would seek to do away with Case-features face two problems. Firstly, they predict that DPs should be permanently active, able to enter unlimited Agree operations, contra the facts in (15)/(16). Whilst new technology can be introduced to reinstate these 'Inverse' effects (such as Rezac's case shells), there still remains the second problem: Removing unvalued Case/activation-features on goals removes a source of crashing, that is, the effects of the Case Filter proper.

Bošković (1997:140ff.) shows that such effects are real and cannot be reduced to violations of other conditions or requirements (see Rezac 2004:333ff. for discussion). Rather than rehearse these arguments again, I would like to show in this section that 'Case effects' (that is, instances of nonconvergence where the only source of crashing is Case going unvalued) are even more pervasive than has perhaps been previously thought, and that a potentially wide range of phenomena not previously connected can be unified under a class of Case effects – namely, partial-Agree effects.

We have already seen one example where the effect of Case is visible as the sole culprit for (potential) nonconvergence. In the opening of 3.2 in Chapter Three, we suggested that the lack of the EA-property on v_{def} (i.e. one half of Burzio's Generalization) follows from the Case Filter. EA would intervene for Agree between T and the IA, and since T is the only φ-complete probe in such derivations, the IA is reliant on Agree(T, IA) to have its Case valued. We then derived the complementary distribution of *it*-Expl and *there*-Expl (the former restricted to CP associates and the latter to DP associates) from the same Case-effect (see discussion below (48) in Chapter Three). Since *it*-Expl has a full complement of φ-features, (22) is barred for the same reason as EA with v_{def}; namely, *it*-Expl intervenes for Agree(T, IA), blocking valuation by T of IA's Case (see also Bowers 2002:197ff. for a similar story).

(22) *It arrived a man

The tendency for the *there*-type *v*P-Expl to be a morphological locative (rather than a third-person pronominal)[9] thus follows from the Case requirement of the DP associate with which this type of Expl is paired – Expl must be 'φ-transparent' in order to allow T to remain active after Agree(T, Expl) for Agree(T, IA) to then obtain. Such

[9] Thus Afrikaans *daar*, Danish *der*, Dutch *er*, German *da*, etc., all emerge from the discussion in Chapter Three:3.2 as *there*-type *v*P-expletives, whilst Icelandic *það*, German *es*, etc., are V2-merged CP-expletives.

Case-Filter effects can be taken as direct evidence for the non-redundancy of Case as an unvalued feature on goals.[10] Let us now turn to some less obvious examples.

4.3.2.1 Quirky expletives and split Agree: Expl as the minimal unit of activation

The patterns of verbal agreement in a subset of Icelandic quirky-subject (QS) constructions, namely those in which QS appears with a nominative object, have received much attention in the literature since they were first described and analysed by Sigurðsson in the early nineties (see, especially, Sigurðsson 1996, Taraldsen 1995, and Boeckx 2000). The paradigm is illustrated in (23)-(25), showing the three types of syntactic environment in which Dative-Nominative structures occur: those where QS is the dative-experiencer argument of so-called 'psych verbs' (cf. Belletti & Rizzi 1988), (23), and raising predicates, (24), and those where QS is the passivized indirect object (goal/recipient) of ditransitive verbs, (25).

(23) a. *Henni leiddust strákarnir / þeir*
Her-$_{DAT}$ bored-$_{3pl}$ the-boys-$_{NOM}$ / they-$_{NOM}$

b. * *Henni leiddumst við*
Her-$_{DAT}$ bored-$_{1pl}$ we-$_{NOM}$

c. * *Henni leiddust við*
Her-$_{DAT}$ bored-$_{3pl}$ we-$_{NOM}$

d. * *Henni leiddist við*
Her-$_{DAT}$ bored-$_{3sg}$ we-$_{NOM}$

(24) a. *Mér höfðu fundist þær vinna vel* [11]
Me-$_{DAT}$ had-$_{3pl}$ found they-$_{NOM}$ to-work well

b. * *Mér höfðum fundist við vinna vel*
Me-$_{DAT}$ had-$_{1pl}$ found we-$_{NOM}$ to-work well

[10] This Case-based rationale for lack of EA on v_{def} and lack of *it*-Expl with DP-associate would still go through under the phase-relativized locality of Frampton et al 2000, which, as adapted in BEA:13, allows a head to probe any goal in its PIC-accessible domain as long as any interveners (i.e. closer potential goals) are rendered inactive by that head itself. Then, Agree(T, IA) could precede Agree (T, Expl/EA), as both IA and Expl/EA Agree with the same head (T) and both are within that head's search space (by PIC_2). In that case, it would simply be Case on Expl/EA that goes unvalued, rather than that on IA, as T would be rendered inactive by Agree with the φ-complete IA. Nevertheless, the cases presented in 4.3.2.1-2 argue against such phase-relativized locality: minimality remains strictly 'Attract Closest'.

[11] Default third-person singular is preferred in these biclausal structures (Sigurðsson 1996), in which case first/second-person nominatives are acceptable. This option is much less accessible in the monoclausal structures (1)/(3). See also fn.21.

(25) a. *Henni voru sýndir þeir*
Her-$_{DAT}$ were-$_{3pl}$ shown they-$_{NOM}$
b. * *Henni vorum sýndir við*
Her-$_{DAT}$ were-$_{1pl}$ shown we-$_{NOM}$

As is evident from the contrast between the a-examples and the others in each case, these dative-nominative constructions exhibit two well-known restrictions (cf., i.a., Taraldsen 1995, Boeckx 2000, Sigurðsson 2001, Anagnostopoulou 2003, Béjar & Rezac 2004, Rezac 2004):

(26) a. The nominative object can only be third person.
b. Agreement with the nominative object is partial (number only).[12]

Boeckx (2000) equates restriction (26a) with the Person-Case-Constraint (PCC; Bonet 1991/4), which, following Rezac 2002, Anagnostopoulou 2003, I take to be a co-licensing constraint that occurs where two arguments agree with the *same* functional head (in this case, T – hence the nominative-valued Case on the object/embedded subject). The PCC can thus be schematized as follows:

(27) [Probe … DAT … NOM/ACC] → *NOM/ACC-$_{\mathbf{1/2}}$

Where a single probe/head licenses two DPs, one the inherently case-marked indirect object/QS and the other bearing structural Case, the latter cannot be first- or second-person. The PCC would seem to be a robust fact about UG, appearing (with minor modifications) in Romance (Boeckx 2000), Basque, Greek (Anagnostopoulou 2003), Breton and Finnish (Rezac 2004), amongst many others.[13]

It is not my aim to summarize here the previous analyses of Icelandic QS-PCC effects. Suffice it to say that I follow Sigurðsson, Taraldsen, Anagnostopoulou, Rezac and others in pursuing a syntactic explanation of the restrictions in (26); morphological approaches, such as Boeckx 2000, leave too much unexplained. Boeckx argues that full agreement with the nominative object takes place in the syntax, but that this cannot be

[12] Note that even this much agreement is precluded in certain configurations, such as when the quirky subject remains in situ in the presence of expletive *það* (cf. Holmberg & Hróarsdóttir 2003, Chomsky 2004a) – a separate issue, though we return to discuss this issue in 4.3.2.2 below; see also fn.16.
[13] Thus, to give an oft-cited example from French (cf. Boeckx 2000:364(41)):
(i) *Jean le/*me lui a recommandé*
Jean it/me him has recommended

realized fully at PF. However, this seems an inadequate account of the facts in (23)-(25), where it is clear that it is not just (the expression of) first-/second-person agreement *morphology* that is barred but the first-/second-person DP itself. Thus default (third-person singular) agreement, as in (23d), cannot rescue the first/second-person object, suggesting that the nature of the restriction underlying the PCC is on the formal, syntactic licensing of the object itself, not (just) on the (PF-realized) agreement. The failure of the b-(c-/d-)examples to converge at LF is indicative of a failure in Agree (and thus a violation of FI), rather than a clash in agreement. Instead, then, we seek to derive the ban on first/second-person objects (i.e. the PCC, (26a)) from the hypothesis that the nominative DP is unable to fully Agree with T in the syntax, as per Anagnostopoulou 2003 [A03], Béjar & Rezac 2004 [B&R].

Both A03 and B&R ultimately derive the Icelandic PCC-effect as a Case-Filter violation, hence the relevance to our discussion of Case/activation features. Following Chomsky (MI:128, 149:fn.90), they assume a system of split φ-feature checking which allows T's unvalued Person to be deactivated (by QS) separately from T's Number feature, which then probes the nominative DP on its own. That is, Person and Number on T are separate(ly valued) φ-probes, essentially a Probe-Goal/MI implementation of Sigurðsson's and Taraldsen's separate Person and Number Agr heads (cf. A03:336, fn.77). Since only Number survives to probe the object, any Person-feature on that object will fail to be matched. For A03, such partial Match is insufficient to value Case on the DP (cf. (20i), and DbP:(3b)), thus leading to a Case effect of the kind we expect from Chomsky's system of Case/activation features. B&R assume a separate axiom, the Person Licensing Condition (PLC), to implement the effects of the Case Filter (cf. Rezac's (2004) rejection of Chomsky's Case/activation features). The PLC simply states that Person features must enter into Agree, but the effect is the same – failure to match Person on the object leads to crash.

However, one further stipulation is required in order for these approaches to derive the PCC-effects in (23)-(25): namely, an exception has to be made for third person (a precedent set in Boeckx 2000:366). For A03, third person is *lack* of person rather than a lexically specified value, therefore only first- and second-person DPs are assumed to have person features. Consequently, personless DPs (i.e. third-person DPs) are able to get away with being probed by Number alone: Match is full, and so Case-valuation obtains. For B&R, third person is the unmarked value; the PCC-effects then follow if their PLC (Case Filter) requires only *marked* (i.e. first/second) person features to enter into Agree.

Clearly, making an exception for third-person DPs in order for them to evade the effects of the Case Filter is hardly better than stipulating the PCC itself. It simply restates the fact that third-person DPs are different from first- and second-person ones, which is the very behaviour that we are trying to explain (cf. (26a)). Can quirky agreement with quirky subjects actually be derived in a more principled manner? I believe it can, once we identify the root cause of the problem, which is not the relation between T's Number and the nominative DP, but rather the preceding relation between T's Person and QS. As we shall see, the nature of this latter relation is quite incoherent and obscure in the existing accounts, a problem that they inherit from the MI treatment of QS on which they are based. The need to make special provisions for third-person DPs disappears once we recognize the proper role played by QS in these derivations. To this end, let us reconsider the logic of activeness, applying it consistently and confining ourselves to canonical and transparent Agree relations.

Chomsky (MI:127ff.) suggests that the QS is able to Match T's φ-probe (but unable to value it – thus QS is a 'defective intervener'); as a result of this Match relation, T's Person/φ-probe is either deleted, giving default third-person singular agreement, or defaults to third-person only, leaving the Number-probe active to continue probing alone (hence the observed number agreement with the nominative DP in (23)-(25)). In this respect, QS exhibits similar behaviour to Expl, which is likewise able to knock out the Person-probe of T, yielding default third-person agreement and allowing for the possibility of having only number agreement with the associate. This, Chomsky argues, can be observed in the so-called "list-reading" type of expletive construction, as in (28); see MI:149:fn.90.

(28) Q: Who's still here?

a. A: There is/*am only me

b. A: There remains/*remain only me

c. A: There is/are only us

Thus Expl and QS induce an identical anti-agreement effect on T, resulting in partial agreement with the nominative object in Icelandic QS-constructions, and in partial agreement with the associate in English list-constructions.

This is essentially the mechanics of QS-induced anti-(Person-)agreement adopted in the analyses of A03, B&R and Rezac 2004. All of them (like Chomsky) leave tellingly unspecified the exact nature of this mysterious 'matching-to-default'

relation between T and QS, and all rely on stipulations to make it work. It seems clear that the T-QS relation in question is not Agree, as T is always 'valued' to default third-person, irrespective of the person specification of the QS: *henni* in (23) may be replaced by any person of QS (e.g. *mér* (=1sing), *þér* (=2sing); *okkur* (=1pl); *ykkur* (=2pl), etc.). The φ-set on QS is no less LF-interpretable than that on any other DP/goal, and so the uniform third-person agreement cannot be the result of Agree with QS's fully specified, fully interpretable φ-set. Further, there is the question of why the T-QS relation affects only Person. As evident from the list just given, QS exhibits the full range of number values too, yet the T-QS relation does not delete or knock out T's Number like it does T's Person. A03(:269) gets around this problem by stipulating that QS has a defective φ-set (i.e. Person only), though, as just noted, its number features are not so much absent (i.e. defective) as simply invisible for the purposes of T-QS Match. Rezac (2004:50) opts for a different solution: T's Person and Number are not merely valued separately (as per A03 and my own proposal below); rather, they probe separately too, with Person stipulated to probe first, i.e. before Number – hence only Person is affected by the T-QS relation. On all these approaches, then, we are left with an obscure new operation, which we might call 'Absorb' (after Rezac 2004:305: "The *π*-probe [= Person-probe – MDR] is absorbed"; also pp. 312, 319, 322, 326). As a result of Absorb, T's Person is valued to default (cf. Rezac 2004:323, 338, etc.), though not by the QS itself, which is inactive for Agree/valuing. Absorb is something less than Agree but more than Match; it thus remains something of a fudge unless it is made fully explicit what exactly its properties (conditions) are and why it is precisely QS and Expl that induce Absorb rather than Agree.

Indeed, QS and Expl do not constitute anything like a natural class on the assumptions of the MI system. Expl, as we saw in Chapter Three(:3.2.2), is taken to be a minimal probe, i.e. [uPerson], with T its goal; yet QS acts as goal, not probe, in *its* Absorb relation with T. Expl has a defective, uninterpretable φ-set, whereas QS has a full, interpretable φ-set that must be stipulated to be number-invisible (a probe-related stipulation for Rezac, a goal-related one for Anagnostopoulou). Expl merges in spec-TP (on standard assumptions), yet QS is an argument merged in spec-*v*P. Finally, their failure to induce proper valuation/Agree (as defective interveners) is the result of different conditions going unmet. Thus, in terms of the definition of Agree given in (29a-d), repeated from Chapter Three, the T-Expl relation fails to meet (29d), as both probe and goal are unvalued, whereas the T-QS relation fails to meet (29b), as QS is (by assumption) inactive for proper Agree.

(29) Definition: **Agree(P**[robe]**,G**[oal]**)** if
a. P *c-commands* G
b. P and G are *active* (DbP:(3a))
c. P matches G for feature F
d. G is interpretable for F (DbP:6)

In short, it is entirely unexpected on the standard approach that Expl and QS should both induce anti-agreement (i.e. Absorb). In particular, Expl cannot be a defective intervener for the T-IA relation (as QS is claimed to be) if it merges into spec-TP, i.e. above T. Merging Expl to spec-*v*P (v_{def}) instead, as proposed in the previous chapter, is a step in the right direction for unifying Expl and QS (as then Expl and QS have an analogous merge site, between T and IA), but there still remain all the other disparities between them (e.g. the differences in their φ-specifications) that render their shared behaviour opaque. Moreover, the Absorb relation that characterizes this shared behaviour remains incoherent and obscure.

The root cause of all these problems, I contend, is the insistence and acceptance of these authors that the T-QS relation cannot be one of proper Agree (and is therefore something else, i.e. Match/Absorb), which is itself a direct consequence of assuming that defective intervention (DI) is a real phenomenon.[14] DI is the conceptually dubious notion that inactive nominals (and then only non-trace ones) still induce intervention effects (MI:123,127,129; DbP:4,27). Thus, in the configuration $\alpha > \beta > \gamma$ (with both β and γ a match for α), β will block Agree(α, γ) even if it is inactive and therefore not itself a potential 'attractee' (i.e. valid goal). This therefore introduces an additional distinction (and thus complication of the Probe-Goal system), that between 'visible' and 'active', and, correspondingly, between Match and Value (Agree). All interpretable φ-sets are visible to φ-probes, but only active ones (those with an unvalued Case/activation feature) can actually value that probe, i.e. Agree. DI thus weakens the very notion of activeness (and thus the case for having Case in the first place) – ideally, a DP should either be a potential goal or it should not, and inactive nominals should be just that: inactive, for goalhood and intervention alike. Not only is DI conceptually dubious, but it is also empirically suspect too. All the cases that are attributed to the class of DI-effects in MI/DbP/BEA can be perfectly well explained by independent principles, as we shall see. Let us start, then, with QS, a core case of DI in the literature

[14] Chomsky and Rezac are both proponents of the DI-hypothesis; however, Anagnostopoulou (2003:239ff.) suggests that T-QS Agree does in fact obtain in at least a subset of QS constructions (those in which T is able to Agree across an in-situ QS; see 4.3.2.2 below), and so DI is not at stake in those cases. I argue below for an even stronger position, namely that DI does not exist at all.

(MI:128, Rezac 2004). Not only does its treatment as a defective intervener underlie all the 'Absorb'-related issues outlined above, but it also leads to a confusing muddying of the activeness hypothesis.

The key to making sense of QS (and the T-QS 'Absorb' relation) lies in Chomsky's characterization of QS as "inherent Case with an additional structural Case feature" (MI:127; DbP:43:fn.8). As things stand, this statement makes little sense (as Rezac 2004:339 also notes). Adding structural Case (i.e. the φ-activation feature) to an inherently case-marked DP, such as the dative experiencer in (23)/(24), would surely render the QS not just 'visible' for Match/Absorb with T, but fully active, allowing QS's complete and interpretable φ-set to value/Agree with T. Such a characterization of QS, then, only serves to render the Absorb relation even more unexpected and obscure. Further, there is the question of *why* structural Case should be added to inherent case like this (that is, the very question of why QS should exist in the first place). Since the addition of structural Case does not result in an active QS (and thus a [T-QS] Agree operation that would not otherwise have been possible), it would seem unmotivated on familiar FI grounds (i.e. the idea that symbols must make a difference: MP:294(76), 377; DbP:34(60), etc.). It is precisely DI that renders this addition of structural Case incoherent and unmotivated: since Match/Absorb doesn't require activeness but can be satisfied by inactive DPs (i.e. DI), there is no need to add structural Case to make the QS visible to T (for, e.g., Match-driven Move à la Boeckx 2001, Kitahara 2002).

In fact, it is not only the "addition of structural Case" part of Chomsky's definition of QS that DI renders incoherent; it serves equally to obscure the notion of *inherent* case upon which this definition is premised. Chomsky (MI:129) illustrates DI with the examples in (30).

(30) a. *There seem [several people are friends of yours]
b. *Friends seem [that it was told *(friends)* [that Mary would be late]]

(30a), like (16a), shows that inactive *several people* cannot enter into Agree with matrix T. However, it still serves to block Agree between matrix T and the lower DP, *friends of yours*.[15] Superraising, as in (30b), is now also reduced to the class of DI-effects: like (30a), inactive *it* cannot Agree with matrix T, but nevertheless intervenes to block Agree (and Move) between matrix T and *friends*. However, this picture of inactive

[15] Since the latter is a predicate nominal rather than an argumental DP, however, it is not clear that *friends of yours* would actually be a valid goal here (i.e. that predicative nominals have Case/activation features). Still, (30b), based on MI:129(47d), makes the case for DI without this particular quibble.

intervention (already a departure from the ideal of 'invisible for Agree, invisible for intervention', which would now seem untenable in light of such evidence for a Match/Agree, visible/active distinction), is complicated further by the absence of DI effects with inherent-case DPs. Thus the inherently-case-marked DP inside the English PP-experiencer in (31a) is completely inert, even for Match, allowing matrix T to Agree across it to the embedded subject (*John*). The 'bare' dative subject (QS) in Icelandic (31b), on the other hand, differs minimally but significantly in that it is visible to T, thus blocking raising of the more distant embedded subject (*Jóni*) across it (31c).

(31) a. *Her seems (to) t_{her} [John to like horses]

b. *Henni virðist* t_{henni} [*Jóni líka hestarnir*]

c. **Jóni virðist henni* [$t_{Jóni}$ *líka hestarnir*] [cf. MI:130(51c)]

Thus QS is a defective intervener, behaving just like the embedded subjects in (30), despite being an inherent-cased DP like the English (PP-)experiencer in (31a). The question is, which of these two cases is basic – the DI effect with inactive nominals, as in (30) and (31b), or the lack of DI with inherent-case DPs, as in (31a)? Because of the DI assumption, Chomsky is forced to treat inherent case (i.e. total φ-invisibility, for Match and Agree alike) as the special case. Thus, in MI:fn.87, he adopts a suggestion of McGinnis (1998) that inherent case serves to completely conceal the DP's φ-set. Like the relation 'Absorb', this mysterious 'Conceal' operation effected by inherent case is an *ad hoc* wildcard that falls short of truly explaining the relation between case-type and agreement effects. It is this obscure, DI-premised notion of inherent case on which Chomsky's characterization of QS as "inherent Case with an additional structural Case feature" is based.

Whilst it may seem that structural Case can then be viewed as putting back what inherent case takes away, this is still not the full story, as the added structural Case creates a QS that is neither a fully active nominal, able to partake in Agree (cf. above), nor is it a simple defective intervener like the embedded subjects in (30). The latter are only visible for Match (which blocks Agree with a lower DP); however, as evident in (31b/c), QS is visible for Move as well as Match, quite unlike the defective interveners in (30). And although it 'defectively' intervenes for movement of *Jóni* to matrix spec-TP, it does not (number-)intervene for Agree(T, *Jóni*), as demonstrated by the partial

agreement facts in (24).[16] We therefore have to make yet a further distinction, amongst the class of defective interveners, to accommodate the QS type of DI.

In sum, an unquestioning acceptance of the reality of DI leads us to a muddled and internally inconsistent four-way distinction (including *three* different subdistinctions of inactive DP) that serves to undermine the conceptual neatness of the entire Probe-Goal-Agree system (and, in particular, renders the role of activation features increasingly obscure):

(32) a. Active DP (visible for Agree) = e.g. nominative object, (23)
b. Inactive DP (visible for Match only) = e.g. Expl (DI), (30b)
c. Inactive DP (visible for Match *and* Move only) = e.g. QS (DI), (31b/c)
d. Inactive DP (visible for nothing at all) = inherent case, e.g. (31a)

If, on the other hand, we take the *lack* of DI with inherent DPs (i.e. (31a)) to be basic, then a much simpler picture emerges, one in which the notion of 'inherent Case with an additional structural Case feature' is actually meaningful. If the lack of DI in (31a) is basic, then we have to deny that DI exists at all (i.e. the ungrammaticality of (30), superraising, etc., has an independent explanation – see 4.3.2.2 below). As suggested above, I take the null, *a priori* assumption to be that Agree is all there is (i.e. there is no active/visible distinction, and thus none of the further subdistinctions in (32)): inactive nominals do not intervene. On such an approach (the strong conception of activation), inherent DPs, merged as inactive due to internal/local case-valuation (such as by the preposition in (31a)), are the simple case and so do not need further explanation; instead, QS becomes something 'extra', in line with the idea that QS is inherent case with an extra structural Case feature. Why, then, would structural Case be added to an inherent DP?

The answer is the one already mentioned above, the one to which DI approaches cannot appeal – structural Case makes a computational difference in that it allows an otherwise unavailable Agree relation to obtain between the QS and T. This is the only possible rationale from the minimalist perspective (i.e. FI and 'effect on outcome'). In this case, the Agree relation enabled by adding structural Case to the dative subject allows the satisfaction (valuation) of T's morphological requirements (φ-probe, EPP).

[16] Intervention for Agree (i.e. DI) apparently does obtain if QS remains in situ, cf. Holmberg & Hróarsdóttir 2003, Rezac 2004:326(385), and fn.12 above. In these cases, either the judgements do not seem robust enough to draw any theoretical conclusions from (as in the number-sensitive amelioration effects reported by Holmberg & Hróarsdóttir), or other explanations may be available: see 4.3.2.2 below.

As we saw in (31a), inherent-cased DPs are inactive and thus inert to Agree. Since Icelandic (unlike English, etc.) has dative subjects (cf. Zaenen et al. 1985), there will be cases where the inherent (dative) DP is the only argument available for satisfying T's requirements, such as under passivization of a quirky argument (cf. (25), (33a)) and with intransitive psych-verbs (33b).

(33) a. *Stelpunum var hjálpað*
The-girls-$_{DAT}$ was-$_{3sg}$ helped
b. *Mér leið vel*
Me-$_{DAT}$ felt-$_{3sg}$ well

By abandoning DI and, by extension, Match-driven Move (cf. (32c)), we return to the strong hypothesis of MI that Move comprises Agree + Piedpipe + Merge; that is, Move implies Agree (cf. discussion of (49) in Chapter Three). Therefore, in order to satisfy T's requirements (in particular, its EPP), the inherent-dative DP must be made T-active. That is, EPP-driven movement to spec-TP is parasitic on Agree with T, and this requires QS to be active. This, in turn, requires a Case/activation-feature to be added to the dative DP. We can now make sense of Chomsky's quotation: structural Case is added to inherent case in order to reactivate the inherently case-marked DP for probing by finite T. This may seem an obvious conclusion, but it is one that only follows from the premises (i.e. the inactiveness of inherent DPs, and the need to satisfy T's morphological requirements) if there is no such thing as DI.

So, a structural Case feature is added to the inert/inactive dative DP, which is then able to Agree with T. This still leaves the problem of why only third-person agreement results from this purported Agree operation (i.e. (26a)). Again, a natural answer emerges once we apply the logic of the activeness hypothesis consistently. As shown in (16), Case-features have no independent status as standalone features (i.e. there are no Case-probes and no matching for Case) – instead, they are associated with φ-sets, and there can be only one Case-feature per φ-set (otherwise they could be added indefinitely to the same DP, effectively rendering that DP permanently active and thus negating the very purpose of Case/activeness). Since they exist only as φ-diacritics, it follows that Case-features cannot be added in isolation; rather, they come part-and-parcel with interpretable φ-sets. This, in turn, implies that the structural Case added to QS cannot simply be attached to QS's existing, previously deactivated φ-set, but must instead be attached to its own (interpretable) φ-set. Adding Case to QS, then, implies

adding a cased φ-set. Minimally, this dummy φ-substrate will be a defective φ-set, say [iPerson], with a default specification, i.e. [3person]. We thus arrive at (34).

(34) QS = inherent case + **[3Person]$_{Case}$**

In short, we have derived the *minimal unit of activation* for goals and goalhood: the cased φ-substrate [3Person]$_{Case}$.

Now, I argued in Chapter Three(:3.2) that Chomsky's characterization of Expl as a [uPerson] probe is untenable for a number of conceptual, technical and empirical reasons. Instead, I proposed that the only way to fully naturalize Expl into the Probe-Goal system is to take Expl to relate to T as T's goal. This goal is merged low into the thematic domain (spec-*v*P) like any other probed nominal, and is a defective φ-set rendered T-active by a Case-feature: i.e., [3Person]$_{Case}$. In other words, our above reasoning has led us to the conclusion that the 'structural Case feature' added to QS is *formally identical to an expletive*. Expl is the minimal possible goal, and thus also the minimal unit of (goal-)activation: [3Person]$_{Case}$.[17] We may therefore characterize QS as inherent case rendered active by an expletive 'shell':

(35) QS = inherent case + Expl

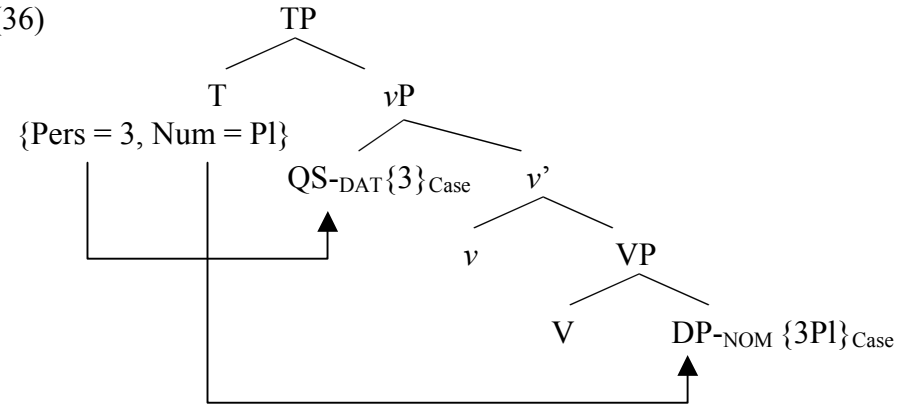
Let us call this QS-reactivating Expl a *quirky expletive*. The quirky expletive provides an immediate and transparent explanation for the previously obscure commonalities in the behaviour of Expl and QS (cf. discussion below (28)) – namely, they are both identical (= 'Expl') for the purposes of T and the T-initiated Agree relation into which they enter. (See also Chapter Three:3.1.1.3 for discussion of PIC$_2$-related configurational similarities between QS and Expl.) Further, the partial-agreement effects induced by this relation are now similarly transparent. The 'default' third-person valuation of T is not the result of some ill-defined Absorb operation with a DI-visible but Agree-invisible QS, but is simply valued as such by the default [3person]-specification of the quirky expletive – a full, canonical Agree operation.

[17] Note that Chomsky's [uPerson] now emerges as the minimal unit of activeness for *probes* (cf. MI:125). Probes, of course, are independently active by virtue of their unvalued feature(s) and thus have no Case/activation requirement, unlike goals (indeed, each feature of a probe is independently active by virtue of its lack of value, allowing Person and Number to be valued separately, contra (20ii); see below). Since both QS and Expl must relate to T as its goal (cf. main text), it follows that [uPerson] will be inadequate to render QS/Expl active for probing by T: Agree between T and [uPerson] on QS/Expl would fail to meet condition (29d), and this [uPerson] would render QS/Expl probe-active rather than goal-active.

Third-person agreement, then, results from the added Case-feature itself. There is no need to stipulate that the QS itself has a defective, number-suppressed φ-set (as A03 is forced to do); rather, it is simply the quirky expletive (QS's activating shell) that does, a function of its status as the minimal unit of activation. Agree, then, is not partial (i.e. number only, and with the nominative object alone), but rather *split*: T's Person is valued by QS, and T's Number by the nominative object. Finally, the four subdivisions of activeness/visibility in (32) collapse into just the minimal, natural two expected from activation theory: active DPs, which now include Expl and QS; and inactive DPs, which include both inherently case-marked DPs and the frozen defective interveners in (30).[18]

With the above analysis in place, the PCC effects in (23)-(25) now follow directly from the Case Filter, much in the manner of A03 and B&R, but without the associated stipulations. Consider (36), which represents the derivation of (23).[19]

(36)



The closest accessible (active) goal to the T-probe is QS in spec-*v*P. Since the quirky expletive renders QS active only for Person, it is T's Person that is valued by QS, as {3}. At this point, T's φ-set is {Pers=3, Num=ø}. The PCC effect then follows simply from the *nondistinctness* condition on Match/Agree ("Match is non-distinctness rather than identity", BEA:13). An object with a lexical value of 1-/2-person is distinct from the T-probe's 3-person, and therefore fails to be matched by T. Since Agree(T, Object) thus fails, Case on the object remains unvalued, yielding nonconvergence at LF – a Case effect.

This brings out a crucial difference between probes and goals, alluded to above (20) and in fn.17: each unvalued feature on a probe is individually active, by virtue of

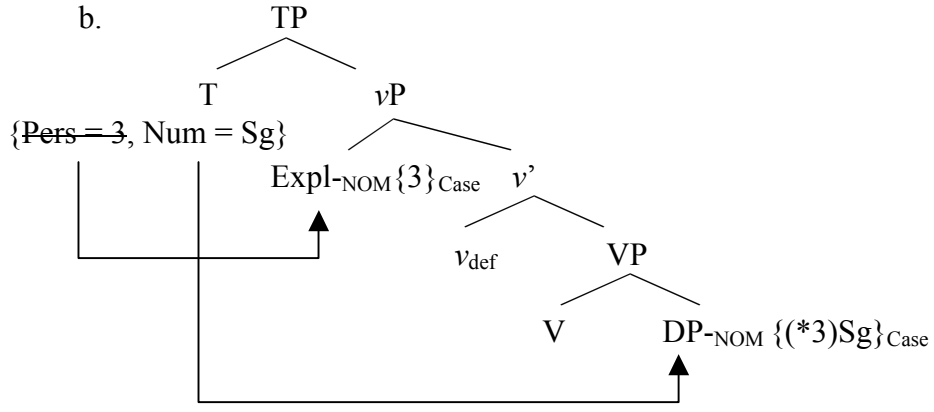
[18] The apparent 'Match-visibility' of the latter will be reanalysed and dismissed in 4.3.2.2 as simply following from the PIC as redefined in Chapter Three (that is, with v_{def} a phase).
[19] I leave it unspecified in (36) whether the QS-selecting *v* is *v**, as in DbP, or v_{def}, as in Belletti & Rizzi's "ditransitive unaccusative" analysis of psych-verbs; this is immaterial for present purposes.

its unvalued status. Hence the minimal probe is simply [uPerson] or [uNumber]. The features on goals, however, are not individually active as they are rendered active as a unit, by a single Case-feature (though see Rezac 2004 for counterevidence from Basque and other languages. We have offered arguments against his alternative to Case-features in 4.3.1.2 above). Since each probe-feature is individually active, the null assumption is that they should be able to be valued individually, just as T's Person is in (36). Thus we reject clause (20ii) of Chomsky's φ-completeness (maximization) condition on Agree. However, since each interpretable φ-set (goal) is activated as a whole by a single Case-feature (hence the Inverse Case-Filter effects in (15)/(16)), so each goal must also be *de*activated as a unit – that is, clause (20i) *is* predicted to hold. Partial-Agree effects such as the PCC in (36) can be taken to bear this out: Case on DP must be valued by a φ-complete (i.e. fully matching) probe. Number alone will not suffice, and the consequence of Agree with a partially deactivated probe is a Case (Filter) effect.

Further evidence for partial-Agree-induced Case effects as a corollary of (20i) and the theory of Case/activation features is provided by the Expl counterpart of the QS-PCC effects in (23)-(25)/(36). The 'quirky-expletive' analysis of quirky subjects and quirky agreement, in combination with the Merge-*v*P approach to Expl developed in the previous chapter, immediately predicts that 'pure' Expl should likewise induce a partial-Agree effect that can be detected by Case crash in the absence of full Match with the reduced (defectivized) probe. I would like to propose that this is indeed the case and that, specifically, this provides us with a formal syntactic explanation of definiteness effects in existential and presentational Expl-associate constructions, such as that in (37a). Definiteness effects are thus derived as in (37b), emerging naturally as the pure-Expl equivalent of the PCC Case-effect observed with QS.

(37) a. There arose a/*the problem

b.



It seems a universal fact that indefinite DPs are (interpretively) third-person. (Semantically, first- and second-person serve, by definition, to identify discourse-*salient* participants such as speaker and addressee.) Specification of a third-person value on indefinites is therefore redundant, independently predictable by their very indefiniteness. The logic of underspecification is such, then, that first- and second-person values are specifiable only on definite/specific DPs – indeed, only personal pronouns may realize these values. It is therefore reasonable to assume that Person is a property of definite DPs only: indefinites lack a lexical value for Person by virtue of the redundancy/predictability of this feature. The definiteness effect in (37a) now follows in the same way as the PCC-effect in (36), i.e. as a Case effect, if the independently active Number probe on T continues to probe separately from Person after the latter is valued to {3} by Agree(T, Expl). Thus English differs minimally from Icelandic in that valued probes are individually deactivated and so do not count for (non-)distinctness purposes in subsequent Agree operations. Consequently, only indefinite DPs will be a full match for the surviving probe (Number); the T-probe has been defectivized by Agree(T, Expl), which values and deactivates its Person component. Definites, unlike indefinites, have a Person value which will fail to be matched by Number alone. Agree(T, Object) therefore fails, with the result that Case on the (definite, Person-bearing) object remains unvalued, yielding nonconvergence at LF – another Case effect.[20]

PCC and definiteness effects thus both belong to the class of partial-Agree effects (Case effects). The PCC can, in turn, be viewed as a person-sensitive definiteness effect. Whilst this proposal (especially the treatment of the definiteness restriction as a partial-Agree-induced Case-Filter violation) remains somewhat tentative, the novel unification of definiteness- and PCC-effects throws considerable light on their shared properties (most notably, the environments of definiteness effects in English are identical to those of the Icelandic PCC effects, i.e. (23)-(25): unaccusatives, raising constructions, and passives).[21] It also promises to unite many other disparate

[20] This is essentially the same account as Anagnostopoulou (2003) gives for the Icelandic PCC-effects. However, three differences should be made clear. Firstly, she assumes that third-person is absent from *all* DPs, not just indefinite ones. Since third-person on definite DPs is not independently predictable, {3} is not a redundant value on all DPs, and so Anagnostopoulou's position does not follow from the logic of underspecification like the position defended above. Secondly, the [3person]-valuation of T is default on her analysis, a consequence of the ill-defined Match/Absorb operation rejected above. Finally, Number for her is *suppressed* on QS (i.e. it is defective), by stipulation, whereas on my proposal Person is added, transparently, by Case (the quirky expletive).

[21] Note, too, that neither the PCC-effect in (23)-(25) nor the definiteness effect in (37) can be rescued by default agreement (cf. (23d), setting aside those Icelandic speakers who *do* allow default agreement in (23)-(25) with first- and second-person objects: Sigurðsson 1996). Indeed, the above analysis makes quite a fine-grained prediction as to when default agreement is available as a rescue strategy (and when not). Since a default realization of T as [3sing.] is simply a default valuation of T's features when these would

phenomena, previously thought to be unrelated, under the banner of Case effects that arise from Agree with a partially deactivated probe. Thus in Richards (2005) I show that the Russian genitive of negation can also be unified with (36)/(37) as an unexpected case form on internal arguments that is associated with an unexpected semantic restriction on their interpretation (indefiniteness/nonreferentiality). The interesting result is that Case can yield interpretive effects (albeit indirectly) despite its status as a purely uninterpretable feature – a surprising outcome that simply follows from (and fully exploits) the logic of the Probe-Goal system (i.e. defective heads and partial Agree). Furthermore, this analysis of definiteness effects in (37) would not be possible under a standard (i.e. Merge-TP) approach to Expl. Only a low merge-position for Expl (i.e. spec-*v*P, as proposed in the previous chapter) predicts that T will Agree first with Expl before Agreeing with the associate, allowing the definiteness restriction to reduce to split Agree.[22]

In sum, neither QS nor Expl is a defective intervener. Rather, they relate to T via a fully legitimate, transparent Agree operation. PCC effects (and related phenomena) are direct evidence *for* valuation of T to [3person] by QS/Expl, rather than a mysterious anti-Agree effect between T and QS/Expl that just happens to result in absorption of T's

---

otherwise go unvalued, default morphology serves only to rescue violations of the *Inverse* Case Filter (i.e. the probe's requirements). It is therefore futile whenever an unvalued *goal*-feature is (also) at issue. That is, unless the Case Filter is independently satisfied, default morphology will not be able to avert a crash at LF. Default morphology is thus impotent for rescuing the PCC in (36), or the definiteness effect in (37), as Case on the DP object/associate still goes unvalued. Only if the Inverse Case Filter *alone* is at stake, then, and not the Case Filter proper, will default valuation suffice to rescue a derivation. This is correctly predicted to occur wherever there is simply no goal/DP present in the derivation (and thus no question of a Case-Filter violation), such as where the only argument is a PP, as in (i), or where a nominative object is case-valued by some independent mechanism, such as arguably the emphatic (objective) pronouns in the list constructions in (28) or the in-situ nominative in (ii), which Rezac (2004:326ff.), following Schütze 1997, argues to be nominative-valued by an optional or last-resort infinitival φ-probe on T_{def}, and which Anagnostopoulou (2003:239ff.) also argues not to Agree with the matrix (finite) T. (Example (ii), from Schütze 1997:108, is discussed further in section 4.3.2.2 below.)

(i) *það logaði á kertinu*
Expl flamed-3sg on the-candle [Rezac 2004:342(405b), from Sigurðsson 1992]

(ii) *Mér virðist/*?virðast [Jóni vera taldir [líka hestarnir]]*
Me-$_{DAT}$ seem-3sg/*3pl John-$_{DAT}$ to-be believed to-like the-horses-$_{NOM}$

[22] Furthermore, this analysis of definiteness effects is unique in allowing the *v*P-Expl in TECs, as analysed in Chapter Three:3.2.5, to induce a simultaneous definiteness restriction on the subject and object alike (an observation made, but left unexplained, in Koeneman & Neeleman 2001:58). For the object, we proposed that Expl renders definite objects infelicitous by blocking their raising to the nonthematic spec-*v*P (the OS/Scrambling position); but Expl is now also predicted to interact with the subject (EA) too in exactly the manner schematized in (37). That is, since Expl is merged to the outer (nonthematic) specifier of *v**, it is closer to T than is EA in the inner spec-*v*P. Thus Agree(T, Expl) precedes Agree(T, EA); as a result of the former, T's Person is valued to {3}, leaving only Number to probe the EA and value its Case. This yields a PCC/definiteness effect on the EA, exactly as in (36)/(37), giving us a handle on such data as (i)/(ii):

(i) **Es hat/habe (da) ich (da) ein Buch gelesen* [German]
Expl has/have (Expl) I (Expl) a book read

(ii) **Daar het die mense baie bier gedrink* [Afrikaans; Theresa Biberauer, p.c.]
Expl have the people much beer drunk

Person-probe and its convenient realization as [3person] (an unlikely constellation of coincidences). It is only by taking activeness seriously and thus rejecting DI (rather than taking DI seriously and rejecting strict activeness) that activation features emerge as a natural, minimal and logical implementation of Case theory, one that allows a simple and transparent characterization of the structural/inherent/quirky trichotomy.

4.3.2.2 Further implications: Defective intervention, trace invisibility, and phase simultaneity

In this final section I would like to adduce some further desirable consequences of taking activeness seriously and eliminating the DI canard. Once the Gordian knot of DI is cut, an entire web of unnecessary complications and stipulations becomes untangled, allowing us to dispense with both trace invisibility (i.e. the unexpected lack of DI-effects with nonovert copies) and phase simultaneity (the representational residue of phase-end evaluation of locality constraints).

In the previous section we considered the advantages of treating the T-QS and T-Expl relations as full Agree rather than DI/Match, i.e. of treating QS/Expl as real, active, Agree-interveners rather than defective ones. We thus eliminate one central case of DI. What, then, about the other cases? As it turns out, there are only two other cases of DI discussed in MI and DbP. One of these we have already seen – superraising, as in (30). The other was alluded to in (49) in Chapter Three. Let us now reconsider each in turn.

Superraising, as in (38), is claimed in MI:129 to be barred as a case of Move, and thus Agree, across a nondefective (φ-complete) defective intervener: *it*.

(38) a. *Friends seem [$_{CP}$ that it was told *(friends)* [$_{CP}$ that Mary would be late]]
b. *John seems [$_{CP}$ that it is likely [$_{Tdef}$ *(John)* to win]]

This nondefective defective intervener, unlike QS/Expl in 4.3.2.1 (which is a defective defective intervener and thus only intervenes for Person), blocks matching of *any* of T's probe features with *friends* (38a) or *John* (38b), but is itself inactive and so not a goal for T (hence **It seems (that) was told friends that Mary would be late*, etc.). However, this DI story for the illegitimacy of superraising is redundant once defective (passive/unaccusative) *v* is accepted to be a ('strong') phase, as argued extensively

throughout Chapter Three.[23] Thus the CPs in (38) are not the only phases in these structures, which are more accurately given in (39).

(39) a. *Friends seem [$_{CP}$ that it was [$_{v}$P … [$_{VP}$ told *(friends)* [$_{CP}$ that …]]]]

b. *John seems [$_{CP}$ that it is [$_{v}$P … [$_{AP}$ likely [$_{Tdef}$ *(John)* to win]]]]

The inaccessibility of *friends* and *John* to matrix T can thus simply be reduced to PIC-inaccessibility (rather than DI-induced φ-inaccessibility). Two phase heads, C and *v*, intervene between matrix T and the illegitimate goals, which bars their association under both versions of the PIC.[24] There is thus no need for DI once we adopt phase theory.[25]

The one remaining case of (supposed) DI in Chomsky's theoretical framework is perhaps the one that has given rise to the most discussion in the literature, and one which potentially has many ramifications for locality and cyclicity theory (cf. Müller 2003 for some discussion and one possible line of enquiry). It is, however, another non-starter. The (non-)problem is this: how is T able to probe across the shifted object in spec-*v*P in (40) [cf. DbP:26(42)]?

(40) a. [$_{CP}$ What did [$_{TP}$ John T [$_{v}$P *(what)* [$_{v}$P *(John)* [$_{VP}$ read *(what)*]]]]]

b. [$_{CP}$ John read [$_{TP}$ *(John)* T [$_{v}$P the book [$_{v}$P *(John)* [$_{VP}$ *(read)(the book)*]]]]]

In (40a), Agree(T, *John*) should be blocked by the φ-features of the *wh*-object; similarly, in (40b), which we can take to represent an OS language like Icelandic, the shifted object is likewise closer to T than *John* is, and its φ-set should similarly intervene for Agree(T, *John*). The obvious, and simplest, reason for the lack of intervention by the raised object is that the shifted *what* and *it* have had their Case-feature deactivated by *v* as part of the Agree(*v*, Object) operation that fed their

[23] It is thus telling that the DI-based analysis of superraising appears in MI, which predates Chomsky's embracing v_{def} as a phase (albeit just a weak one) in DbP.

[24] Note that this remains the case even if the raising predicates in (38)/(39) would normally lack a *v*P-shell, as argued in 3.2.3. This is because, as also argued there, the CP-selecting forms of *seem* (etc.) are non-raising, propositional-attitude predicates with a *v*P-shell that introduces the *it*-Expl. The presence of *it* in (39b) then either implies that the complement must be CP (and not T_{def}), or else is itself responsible for the nonconvergence (the raising predicate introduces *there*, not *it*, for reasons also given in that section. Conversely, (30a) is ruled out because non-raising *seem* introduces *it*, not *there*: (30a) indeed converges with *it*).

[25] The converse, however, is not true. Thus Rezac (2004:339) must still crucially appeal to phases and the PIC in his DI-based analysis of the φ-invisibilty of inherent case (i.e. to account for the lack of DI-effects with the latter; cf. (31a) and Chomsky's claim that inherent case conceals DP's φ-set, an arbitrary and unnatural complication that the DI-free approach in 4.3.2.1 eliminates).

displacement to spec-*v*P. Therefore, they are simply (φ-)inactive, and thus invisible to T, given that Agree requires a DP to be active if it is to act as goal. However, the DI-hypothesis renders this simple solution unavailable. As Chomsky puts it:

(41) But that [i.e. the object's inactiveness – MDR] is unlikely to be the reason for allowing the probe to pass over it to find in-situ *John*: **inactive nominals induce intervention effects**. (DbP:27; my emphasis)

Thus DI, the inactive-intervention hypothesis, is the sole reason for not taking activeness seriously here and letting it do the job it is most naturally designed to do. The question, then, is what evidence we have for the statement emphasized in bold in (41), i.e. DI. The answer is QS/Expl and superraising – i.e. the very cases we have already considered and rejected as DI-effects. Since Chomsky offers no other cases of DI in MI/DbP/BEA, there is no longer any reason to accept the claim in (41). Apparent cases of DI have been misanalysed and can be attributed to independent factors; there is therefore no reason to assume that the inactive raised-objects in (40) intervene for Agree(T, Subject), and we can maintain the strongest form of the activeness hypothesis.

Having dispelled DI, it is no longer necessary to dig ourselves into a deeper hole to explain how Agree(T, Subject) actually does obtain in (40), as Chomsky is forced to do. There are two halves to this hole. The first is trace invisibility: once *what* in (40a) moves to spec-CP, or *it* in (40b) undergoes a supposed phonological displacement operation (dubbed 'Disl'; DbP:30), the copy of the object left in spec-*v*P is empty (a "trace", defined as a copy devoid of its phonological features; DbP:23). It is then stipulated that "inactive trace disallows Match" (DbP:24, 28; also MI:131, MP:301-4); that is, traces are specially excluded from the class of defective interveners.

The second half of the explanation is to assume that locality (in particular, the MLC) is not a constraint on cyclic operations but is instead evaluated only at the phase level. Therefore, Agree(T, Subject) is allowed to apply cross the intervening object because, by the time the CP phase in (40) is spelt out and evaluated, the object has already moved on, leaving an inactive trace in spec-*v*P which does not intervene for Agree(T, Subject), thus retroactively legitimizing this operation and giving the effect of countercyclicity. Both of these assumptions – trace invisibility and phase simultaneity – are necessary for Chomsky's analysis of (40), and both are conceptually problematic.

The notion that traces, i.e. inactive copies, do not intervene is of course completely trivial in a theory *without* DI – traces do not intervene precisely because

they are inactive; only active elements are interveners. That is, we already have a perfectly good mechanism for rendering items syntactically inert (namely, activation features), and if we take this mechanism seriously then DI should not exist and 'trace invisibility' is entirely unremarkable (i.e., it reduces to inactiveness). This is the opposite of the DI-based approach, which assumes DI to be basic/unremarkable and thus predicts that trace invisibility should not exist. Instead, it has to be stipulated that Match is sensitive to phonological features (or that it can look ahead to the PF-interface and thus 'know' that an item will move further and so is not the head of its chain, i.e. is not an intervener).[26] Invisibility of traces at the interfaces should be irrelevant for the syntax, and it is *syntactic* invisibility that is surely required if traces are to be invisible for Match/DI.[27] There is thus no way to coherently distinguish a trace from a nontrace in the narrow syntax; therefore, all copies of an interpretable φ-set should count equally as defective interveners (see also Rezac 2004:52, who makes a similar point). The lack of DI-effects with traces is thus a refutation of DI itself. Without DI, no such trace-nontrace distinction needs to be made for inactive elements: they are all equally non-interveners, by virtue of their inactiveness.

In fact, in a theory without DI, the issue of trace invisibility often does not even arise to begin with. This is the case with the Icelandic QS-constructions investigated in the previous section, which, as we saw, have also been taken to instantiate DI in the literature (cf. MI, Rezac 2004, and others). Unlike the case in (40), however, DI with QS involves the *same* functional head relating to both the defective intervener and the lower active DP (in (40a), it is C that displaces the intervener, and T relates only to the lower DP [subject]). That is, we have the configuration in (42), which is of course also the PCC configuration (cf. (27)), where DP_1 = QS and DP_2 = nominative object.

(42) [Probe … DP_1 … DP_2]

[26] Recall from our analysis of Th/Ex effects in 4.2.5 that activeness (of an item in position X) does not imply nonfinality (of position X), and so proponents of trace invisibility could not appeal to the (C-) activeness of the (φ-)intervener as providing a local diagnostic for its (eventual) tracehood.

[27] Rezac (2004:51ff.) offers a different approach for deriving trace invisibility, involving an operation of Trace Conversion (replacement of copies by φ-less determiners). Since this is also an interpretive procedure (albeit an LF one rather than a PF one), it seems to me that it inherits most of the same problems as Chomsky's – that is, conversion at LF will not bleed Match/DI in the syntax any more than spell-out of phonological features at PF will.

The argument for trace invisibility (and thus DI) would, on the face of it, seem stronger in such cases. Compare (43a) and (43b), discussed in MI:130(51).[28]

(43) a. Mér þóttu *(mér)* [þær vera duglegar]
Me-$_{DAT}$ thought-$_{3pl}$ they-$_{NOM}$ to-be industrious
b. Mér virðist/*?virðast *(mér)* [Jóni líka hestarnir]
Me-$_{DAT}$ seem-$_{3sg/*3pl}$ John-$_{DAT}$ to-like horses-$_{NOM}$

Chomsky claims that the lack of plural agreement with the nominative object *horses* in (43b) is a DI-effect: the embedded QS *Jóni* is a defective intervener, unable to value matrix T's φ-set but still able to intervene for Agree(T, *hestarnir*). On the other hand, such plural agreement with the embedded nominative does obtain in (43a). The difference between (43b) and (43a), then, is that the would-be defective intervener in (43a), *mér*, is displaced by T (Match-driven move), leaving a trace/copy which, by the trace-invisibility stipulation, no longer acts as a defective intervener for Agree(T, *þær*). The idea that displacement of (defective) interveners results in an expansion of search space (a downwards expansion in this case), due to trace invisibility, is developed in great detail in Rezac's (2004) theory of cyclic displacement.

On the DI-less theory of QS and PCC-effects presented in section 4.3.2.1, the issue of trace invisibility does not even arise in (43a). The QS is not a defective intervener but a fully active [3person]-DP (quirky-expletive shell), and relates to T via a fully transparent Agree operation which values T's person feature to {3}. Intervention by QS, then, is nondefective. It induces Agree on T, and thus QS is displaced as a result of Agree, not of an imprecise Absorb/Match relation (we thus retain Agree as a necessary component of Move, a core assumption of the Probe-Goal-Agree system of MI that is weakened by DI/Match-driven Move). The split-agreement effect is thus evidence for QS's *non*defective intervener status. Agree(T, QS) renders QS inactive in the normal way (i.e. by valuing its Case-feature), and it is simply this Agree-induced inactiveness of the intervening copy that renders it transparent for the subsequent Agree(T, *þær*) operation across it. Trace invisibility is thus evaded entirely, reducing to the uniform Agree-invisibility of all inactive elements (i.e. traces and nontraces alike).

Indeed, by rejecting DI, the only way for a head to displace an intervener is for that head to Agree with it. Thus, if only Agree can feed Move, T has to Agree with QS

[28] Chomsky discusses these examples using the English glosses only; the original Icelandic examples are given in (43), taken from Sigurðsson 1996, Boeckx 2000, Anagnostopoulou 2003 and Rezac 2004.

in order to move it 'out of the way' in the first place: traces cannot be created by magic, and so the only way for a single head to relate to two DPs, as in (42)/(43a), is for the first DP to be φ-incomplete and thus value only part of the probe, leaving the rest of it to keep probing further. DP_1 in (42), then, is not a defective intervener; rather, it is $Goal_1$. DP_2 is now just the second of two goals, $Goal_2$.

This DI-less theory, however, predicts that it should make no difference whether the intervening $Goal_1$ is displaced or remains in situ consequent to Agree(T, $Goal_1$). The question, then, is why Agree(T, $Goal_2$) is barred in (43b), where the intervening QS *Jóni* does not undergo displacement. A similar problem is posed by the agreement paradigm of Holmberg & Hróarsdóttir 2003. As shown in (44a), Agree across the dative experiencer in TECs is barred.

(44) a. *Það finnst/*finnast einhverjum stúdent tölvurnar ljótar*
Expl find-$_{3sg/*3pl}$ some-$_{DAT}$ student-$_{DAT}$ the-computers-$_{NOM}$ ugly-$_{NOM}$

b. *Það finnst/finnast mörgum stúdentum tölvurnar ljótar*
Expl find-$_{3sg/3pl}$ many-$_{DAT}$ students-$_{DAT}$ the-computers-$_{NOM}$ ugly-$_{NOM}$

[Holmberg & Hróarsdóttir 2003:1000(13)/(14)]

Dealing with (44a) first, there are a number of reasons to be suspicious of the claim that it is the ('in-situ') QS that blocks Agree(T, *tölvurnar*) here. Firstly, the presence of Expl in (44) cannot, in fact, be taken to imply that the QS here remains in situ, as this overlooks a basic fact about Icelandic, namely its verb-second property. As we argued in Chapter Three:3.2, Icelandic *það* is a CP-expletive, merged directly into CP to fulfil the V2 condition (cf. also Bobaljik 2002, Bowers 2002). It is therefore possible in principle that the QS in (44) has undergone EPP-driven displacement to spec-TP just as in (43a). As shown in (45), this would then leave a trace/copy in spec-*v*P that should be as invisible for Agree(T, *tölvurnar*) as it is for Agree(T, *þær*) in (43a), rendering untenable an account of the difference between (43a) and (44a) in terms of cyclic displacement (i.e. DI + trace invisibility).

(45) [$_{CP}$ Það finn(*a)st [$_{TP}$ einhverjum student T [$_{vP}$ *(einhverjum student)* …

The position of QS in (44) could be tested by using a compound tense (e.g. *hefur/hafa fundist*, 'has/have found'). However, such raising of the indefinite-QS to spec-TP is, admittedly, unlikely for independent reasons (TECs are incompatible with a

definite/specific QS (cf. Anagnostopoulou 2003:241(329)), and raising-to-TP correlates with definiteness/specificity in Icelandic (cf. Wurmbrand 2004)), rendering this particular objection moot.

Our second objection is that the judgements are not at all clear-cut – as Holmberg & Hróarsdóttir admit (*op cit*.:fn.6), the judgements are those of just three speakers, and are not even unanimous amongst those three (p.1001). Moreover, the agreement marked as bad ("*") in (44a) is only questionable ("?" or "??") in related configurations involving an intervening A-bar trace of the QS (see the above-cited paper for examples), suggesting that we are dealing with a marginal, and probably not even uniform phenomenon here.

Finally, there is an unexpected number-sensitivity in the paradigm, such that agreement across the QS is not barred in all cases. Thus, as (44b) shows, the purported defective intervention clearly does not obtain where both the QS and the nominative goal are plural. The DI-less analysis of QS constructions at least provides for some kind of technical loophole here, such that multiple Agree (i.e. cases where the same head Agrees with two goals) may require number uniformity in the marked (plural) case. Thus QS and nominative object are linked by their both Agreeing with T. This is not the case on DI-approaches, which assume the T-QS relation to be entirely ontologically distinct from the T-nominative one.

As for (43b), and equivalently example (ii) in fn.21, the unshifted QS-intervener here is not the only difference from (43a). Not insignificantly, the nominative *hestarnir* in (43b) is not Goal_2 in terms of our above configuration (cf. (42)), but in fact Goal_3. Therefore, lack of Agree between T and this distant nominative need not be attributed to the supposed defective intervention of *Jóni*; a restriction on the number of times a single head/probe can initiate Agree would equally derive the effect in (43b) given the DI-less approach where that head/probe must properly Agree with all its interveners (i.e. not just Match them). If T cannot probe more than twice, it will only be able to find the two closest goals, *mér* and *Jóni*, in (43b). Such a restriction would still be a far more natural alternative than DI (whose attendant complications we have already discussed at some length), since it could simply reduce to 'one probe/Agree attempt per φ-probe'. That is, T comprises two φ-probes (Person and Number), each of which can attempt to Agree just once. Thus after Agree(T, *mér*), which values Person on T, the remaining probe (Number) can also probe for a goal. The still-active T-probe, comprising {Pers=3, Num=ø} at this point (cf. (36)), thus probes again and finds the second QS, *Jóni*. The [3person] quirky expletive on *John* is nondistinct for person and number from the T-

probe and thus matches it, just as the [3person] nominative object does in (36). Since no number specification is present on the active φ-set of the QS, Number-on-T is forced to default at this point, thus yielding the observed third-person singular 'default' agreement on T (third-person from QS_1, *mér*, and singular-number by default, to avert an Inverse Case-Filter violation; cf. fn.21). Thus a far more appealing alternative to DI exists even for (43b), i.e. that example which previously provided the most convincing argument for cyclic displacement/DI. This alternative is simply based on the observation that (43b) differs from (43a) not only in not displacing an intervening quirky argument, but in there being fewer arguments present in (43a) to begin with.

The minimal, activation-based analysis of (40), then, allows us to dispense with trace invisibility along with DI. We turn, finally, to the question of phase simultaneity, for which (40) again provides the principal motivation in DbP/BEA (see especially BEA:21ff.; indeed, it provides perhaps the only motivation – see fn.29 below). As we saw above, phase-end evaluation of the MLC allows further movement of the intervening raised object in (40) on a subsequent (post-T) cycle to bleed the MLC-violation that would be caused by Agree(T, Subject) if that object remained in spec-*v*P. The MLC thus becomes a representational filter on the output of phases rather than on the (phase-internal) operations themselves (cf. Müller 2003:6). As such, it is an undesirable weakening of the strictly (probe/locus-)cyclic operation of Merge and Agree on which the derivational system of MI was founded (cf. Epstein & Seely 2002, Boeckx & Grohmann 2004, Rezac 2004). This is true whether Chomsky's phase-end evaluation of operations is implemented as phase-relativized locality, as in McGinnis 2001, or as phase-relativized cyclicity, as in Anagnostopoulou 2003.

The former approach essentially eliminates phase-internal MLC effects (i.e. relativized minimality within the phase), cf. also BEA:13. A given head can see any matching goal within the phasal domain (i.e. up to PIC), allowing Agree with a more distant goal to obtain across a closer one, as long as all are phase-mates. However, the examples examined in this chapter provide a clear argument against this position (cf. also Anagnostopoulou 2003:228ff.). As we have seen, partial-Agree effects like the PCC and the definiteness restriction, both due to the Case Filter, rely on the closer goal in each case, namely QS and Expl, having the first bite of T's cherry. That is, it is only because T is firstly Person-valued by the (quirky) expletive's [3person] φ-set that Number is left to probe the nominative DP/associate on its own, resulting in a Case crash when that second Agree relation fails (due to incomplete matching; (20i)). Such 'First-Bite-of-the-Cherry' effects are compelling evidence for phase-internal MLC

(indeed, the DI-accounts of (23)/(43) would equally collapse without it, as without intervention there can be no *defective* intervention).[29]

The alternative position (i.e. phase-relativized cyclicity, as per Anagnostopoulou 2003:222ff.) suspends strict cyclicity within the phase, allowing C to probe the object in spec-*v*P 'before' T probes the subject. The most obvious problem with this approach, however, is that we then lose an explanation of the very effects that originally motivated strict cyclicity in the first place, such as example (4) in Chapter Three (Rezac 2004:31-2 makes the same point). More worryingly, if T and C now probe simultaneously (in effect), then C and T must necessarily share search space under the PIC. Given PIC_2, this means that C, like T, should see as far as the direct object inside VP; to avoid this, we would have to abandon PIC_2 and reinstate PIC_1, which is empirically untenable (see Chapter Three). Even more worryingly, the suspension of locus cyclicity may be no less detrimental to our 'First-Bite-of-the-Cherry' effects than phase-relativized locality in the previous paragraph. As Epstein & Seely (2002:82ff.) point out, the Merge/Select cycle must be strictly cyclic and distinct from the phase cycle for even MLC-type locality to be possible, relying as it does on certain elements having *already* been merged *before* certain other ones are (i.e. it relies on cyclic ordering of operations within the phase). Thus, if there is no phase-internal ordering for the satisfaction of probe/selector features on different probes/loci within a phase, then the QS in (36) could actually be merged into spec-*v*P *after* T merges and Agrees with the nominative object.

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[29] The case discussed in Frampton et al 2000, and which Chomsky cites to support his position, may be taken as independent evidence for phase-relativized intervention. The example is given in (i), using English words instead of the intended Icelandic.

(i) Max *v** expects [someone T_{def} to-be [Prt killed *(someone)*]]

The question is how matrix *v** is able to probe and value Prt's case to accusative across the raised φ-complete object *someone* in spec-T_{def}. Since *someone* is still active in this position (T_{def}, being defective, cannot value its Case, cf. (20i)), it is not a defective intervener but should fully Agree-intervene to block Agree(*v**, Prt), i.e. this is a problem even on the DI-less approach pursued here. However, there are alternative explanations for the lack of intervention by *someone* here which do not require us to give up strict MLC and our crucial 'First-Bite-of-the-Cherry' effects. Firstly, Case-concord could simply be something different from Agree (cf. Carstens 2001 and, especially, Rezac 2004:345ff.). Secondly, the EPP on the T_{def} ECM-complement in (i) is clearly an optional feature only; cf. (ii)/(iii), from Sigurðsson 2001:128(71b) and Svenonius 2001b:7(20b).

(ii) *Ég taldi [hafa verið selda einhverja báta á uppboðinu]*
I believed to-have been sold some boats-ACC at auction

(iii) *Við töldum [hafa verið veidda nokkra fiska]*
We believe to-have been caught some fish-ACC

Recall from the discussion of IFM in Chapter Three that optional EPPs, unlike lexically-endowed obligatory ones, are only added at the *end* of the phase (cf. MI:109(24)), as part of Spell-Out/Transfer (BEA:4). It follows that movement of the IA to spec-T_{def} in (i) does not take place until the matrix *v** phase is actually spelt out (i.e. at merger of matrix C, by PIC_2). That is, at the point in the derivation at which Agree(*v**, Prt) would apply, *someone* is still in situ and thus does not intervene. The same logic would apply to the shifted objects in (40), which are likewise displaced by optional EPP-features (OS and IFM-added ones), providing yet further grounds for rejecting the complex 'DI + Trace Invisibility + Phase Simultaneity' analysis of (40) given in DbP/BEA.

T and *v* are LA/phase-mates (cf. Chapter Three), and T and spec-*v*P are part of the same spell-out domain by PIC_2; therefore, a cyclicity-free phase system would allow *v*'s selector feature, satisfied by QS, to go unsatisfied until after Agree(T, Object), thus depriving us of our explanation for why this Agree operation is partial (i.e. only for number; hence the PCC/Case-effect).

Clearly, then, we are much better off without phase simultaneity of either kind. The strong activeness hypothesis, which removes DI from the system, allows us to derive (40) without appeal to countercyclic or MLC-violating derivations evaluated at the end of the phase: the raised object is simply φ-inactive in spec-*v*P (if it is even there at all at the point when Agree(T, Subject) applies; see fn.29).[30] The case in favour of activeness, I believe, is now closed. However, it is worth briefly considering whether abandoning phase simultaneity has implications for the status of phases themselves, and thus for the version of phase theory on which our analysis of shape-breaking movement was crucially premised. Does this apparent lack of phase-based locality weaken the case for phases? If RM/MLC effects are real, as the 'First-Bite-of-the-Cherry' effects in section 4.3.2.1 imply they must be, then why not reduce all locality to the MLC and do without phases and PIC-inaccessibility altogether (as Abels 2003 effectively does)[31]?

The answer to these questions is fortunately negative. Phases do, of course, act as locality units, but the relevant type of locality is not relativized/MLC but *absolute*. The PIC, like Barriers before it (Chomsky 1986a; see Boeckx & Grohmann 2004 for a comparison), imposes an absolute limit on the length of grammatical dependencies. The effects of phase-based locality, then, are to be found not in the choice of goal within a phase (which we have shown to be subject to the MLC; cf. above), but rather in those cases where no goal at all is within range of a probe. Such cases of absolute locality, which cannot be reduced to RM/MLC, demonstrate the indispensability of the phase and provide direct evidence for the reduction in search space (and thus computational burden) that motivated their original introduction into the MI-system. We have already encountered one such case of absolute locality in this section: superraising. Our DI-free analysis of (38)/(39) reduced superraising across an inactive DP to PIC-imposed

[30] Chomsky (BEA:22) uses the countercyclic derivation of (40) as an argument for the phasal status of C and *v*, as opposed to T. This argument must simply be rejected as untenable (i.e., given the alternative analysis offered here in terms of the inactiveness of the raised object, it is simply not true that if T were a phase then (40) would not be possible). Independent arguments for T's nonphase status are given in Chapter Three.

[31] Though note that, to do so, he must treat phase heads as universal defective interveners. If they were active or nondefective then the phase heads themselves would always undergo attraction, i.e. Agree + movement to the probing head, as the closer potential goal. Therefore, the arguments against DI in this section, if they go through, also render the Abels approach untenable. See also Chapter Three:fn.3.

locality: *friends* and *John* are simply too far away from matrix T, separated by two phase heads, to be probed by it.[32] A system without phases would predict that, in the absence of an active intervener, matrix T could keep on probing down the tree until a goal is found. Phase theory, on the other hand, places that goal beyond reach. It also allows us to do without DI. However, as long as there is absolute locality (which includes subjacency, ECP-effects, strong and weak islands and the like), DI approaches cannot do without phases. In sum, attempts to reduce phase-based locality to intervener/MLC-based locality (or vice versa, as in Müller 2003) are arguably misguided. The former is absolute, the latter is relativ(iz)e(d). These are not mutually exclusive, and both are necessary.

We conclude, then, that the activeness hypothesis should be maintained in its strongest form – that is, elements are either active for Agree, or they are completely syntactically inert; there is no halfway-house of defective intervention. This, in turn, allows us to maintain maximally simple and transparent derivations that forego the unnatural stipulations and residual representationalism of trace invisibility and phase simultaneity. Further, since (40b) is derived without appeal to these factors, we can also now dispense with the phonological operation Disl, an obscure, string-vacuous PF-movement rule that is postulated by Chomsky specifically to enable Agree(T, Subject) across the shifted object. Having also provided a purely syntactic analysis of Th/Ex effects in section 4.2.5 and Chapter Three:3.2.3, we have thereby achieved the desideratum, established in Chapter Two, of eradicating quasi-syntactic PF-movement from the computational system. The simplification of the theory is considerable, and it can all be attained for the price of a single mechanism, Case/activation features. Not only do these also allow a straightforward, maximally minimal implementation of both sides of the Case-Filter coin (accounting for both 'Inverse' and 'non-Inverse' effects at the LF-interface), but they also serve a conceptually indispensable purpose at the PF-interface too, as a timing-of-Transfer instruction regulating the periodic Spell-Out of syntactic material. In short, Case-features are a computational bargain.

[32] The Case Filter then explains why (38)/(39) cannot be rescued by leaving *friends*/*John* in situ and realizing T's agreement as default: since they are inaccessible to Agree with T by the PIC, they are unable to be Case-valued by T (the only available case-licenser for them). Cf. fn.21.

Chapter Five

Conclusion:

Symmetrical Syntax and Macroparametric Variation

The findings of the foregoing chapters can be summarized as follows. Object Shift and Scrambling constitute a unified class of movement phenomena that stands outside the traditional A/A-bar typology (Chapter One) and whose defining characteristic – shape-preservation – can be derived from three fundamental, irreducible properties of the MI computational system. These are (a) the need to linearize syntactic structures (Chapter Two); (b) the need for periodic, phase-cyclic Spell-Out (Chapter Three); and (c) the need to activate LF-interpretable feature-sets for the purposes of narrow-syntactic computation (Chapter Four). All of these properties have the mark of necessity and principled explanation, in the sense of Chomsky 2004b. That is, they derive either from general computational considerations (as in the case of (b)), or facilitate the satisfaction of conditions that are necessarily imposed by the external systems and their interfaces with the syntactic component ((a) and (c)).

The proposals that have been made do not involve the postulation of new technology, rules or tools. Rather, the innovation is in the (re)deployment of the existing apparatus in a bid to achieve greater parsimony and perspicuity. The aim throughout has been to retain what is conceptually indispensable (such as (a)-(c) above), whilst eliminating redundancies, such as independent OS-parameters, definitional stipulations of search space under the PIC, defective (inactive) intervention, and so on. This greater 'accountability' to the SMT is ultimately attributable to the single, central hypothesis from which our account of HG-effects has flowed – Symmetrical Syntax. I would therefore like to finish with a few words on the symmetrical research programme and its wider implications.

A defining property of relations at the interfaces is their inherent asymmetry: if A binds B then B does not bind A; if A takes scope over B then B does not scope over A; if A precedes B then B does not precede A; etc. How, then, do we capture and explain this property of interface relations? There are (at least) two logical possibilities. The first approach is to assume that these asymmetrical relations are already present in the narrow-syntactic component of C_{HL} and thus feed directly (and largely unchanged) into the interfaces. Asymmetry at the interfaces is then a function of asymmetry in the syntax (and we thus shift the problem of explaining this property to a different part of

the grammar). Alternatively, it may be equally valid to come at the problem from the opposite angle and assume that these asymmetries are only present where we know them to be, i.e. at the interfaces, and not before. In the absence of clear evidence that syntactic operations refer and are sensitive to these asymmetries, this would appear to be the null hypothesis. From a Minimalist standpoint, it would also allow an arguably more explanatory account of asymmetry to emerge: if the syntax deals entirely in symmetrical relations, and if (as we have argued) such symmetry provides ambiguous instructions to the interface components, then interpretation at the interfaces *just is* a process of desymmetrization. Asymmetry is thus reduced to the status of an interface condition, and syntactic symmetry must be converted into the asymmetrical relations (scope, precedence, etc.) that constitute legitimate interface representations if this condition is to be met. In other words, the expressions of PHON and SEM are 'unique' (non-ambiguous), and any structural ambiguities encoded in the syntactic information provided to the interfaces must be resolved in favour of a single interpretation (expression) at each of PF and LF.

The analysis of OS and Scrambling pursued in this thesis, if viable, lends considerable support to the 'Symmetrical Syntax' hypothesis on which it is premised, which takes the linearization requirement, irrelevant to narrow-syntactic computation, to be a bare output condition on PF representations. Whilst many questions inevitably remain, perhaps the richest, most promising avenue of enquiry for future research is that which is hinted at in the final section of Chapter Two. The notion of interpretation as symmetry-breaking on which the symmetrical framework is founded opens up the possibility of analysing (the resolution of) scope ambiguities and reconstruction effects as the LF correlate of PF-linearization.

Further, the interpretation-as-desymmetrization hypothesis has a number of other desirable and potentially far-reaching consequences for the minimalist enterprise. In particular, it paves the way for a strictly minimalist reformulation and instantiation of two theoretical constructs that were once central to the Principles-and-Parameters framework but which have so far proved incompatible with basic minimalist assumptions and thus largely been set aside.

Firstly, as tentatively suggested at the end of Chapter Two and in Chapter Three:fn.2, desymmetrization delimits a four-way typology of movement operations in terms of their PF/LF-interpretive properties. These properties may ultimately be further reduced to two binary properties in the syntax, [+/− phase-internal] and [+/− obligatory EPP] (subsuming [+/−] Ignore at PF and LF, respectively), which cut across the

epiphenomenal A/A-bar/OS distinctions in a manner that would seem to come closer to the empirical reality. These tentative suggestions await future elaboration, though I have already begun to pursue the relation between [+/− obligatory EPP] and PF/LF-interpretation, based on the Chomsky/Fox/Reinhart notion of cashing out optional operations at the interfaces, in joint work with Theresa Biberauer (cf. Biberauer & Richards 2004).

Secondly, the symmetrical approach provides us with a locus, and indeed a rationale, for large-scale, nonlexical, typological *macro*parameters, as the options for removing symmetry at the interfaces are naturally formulated in terms of binary strategies. As observed by Baker (1996, 2001), the search for macroparameters has largely been abandoned under Minimalism in favour of investigation into microparameteric variation. This may be attributed to two main factors – macroparameters lack both a *locus* in the minimalist architecture and, more generally (though related to the locus problem), they lack a *rationale*. The locus problem was pointed out in Chapter 2:fn.11 with reference to the demise of the head-parameter (the macroparameter *par excellence* of the GB era): a parameter that cannot be stated in terms of morphological features on lexical items has nowhere to reside in an invariant C_{HL}, the lexicon being the necessary repository of crosslinguistic variation. Macroparameters would also seem to lack any kind of rationale in evolutionary or sociocultural terms (Baker 1996: 506-12) – how, then, could a language faculty able to support both head-initial and head-final states arise?

The parameter proposed in Chapter Two (which we argued to be independently necessary under BPS) derives ultimately from the aforesaid assumption that the syntax is a purely symmetrical system, i.e. one that deals only in symmetrical relations, and that such symmetry provides ambiguous and thus illegible instructions to the interface. If macroparameters take the form of binary desymmetrization strategies, as our head-parameter does, then they have both a locus, *viz*. the interface between syntax and the interpretive systems, and a rationale (indeed, the *only* explanatory rationale given the SMT as formulated in BEA:3): they reduce to a conceptually necessary mechanism for ensuring legibility at the interfaces. Macroparameters allow the asymmetry condition to be met. Again, this still speculative idea awaits further investigation. We thus end on a promissory note, and conclude that the proposed head-parameter, as a parametrized desymmetrization strategy ensuring PF-legibility and linearization, finds a natural home in a minimalist architecture of the language faculty.

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