

# Clausal Tripartition, Anti-Locality and Preliminary Considerations of a Formal Approach to Clause Types\*

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We will see how it is reasonable to speak of a minimum distance that an element must cross in order to enter into a well-formed movement dependency. In the course of the discussion of this notion of *anti-locality*, a theoretical framework unfolds which is compatible with recent thoughts on syntactic computation regarding local economy and phrase structure, as well as the view that certain pronouns are grammatical formatives, rather than fully lexical expressions. The upshot will be that if an element does not move a certain distance, the derivation crashes at PF, unless the lower copy is spelled out as a pronominal element. The framework presented has a number of implications for the study of clause-typing, of which some will be discussed towards the end.

## 1. Introduction

In a recent ZASPiL-contribution, I presented a tripartite clausal system with special reference to the left peripheral of the clause (Grohmann 2000c). The hypothesis was that the intricate syntax of the left periphery (topic, focus, Wh, left dislocation etc.) is licensed largely by discourse properties, and that the highest domain of the clause (the C-domain qua an articulated Comp) is responsible for such encoding – without too much CP-internal reordering. Apart from motivating this idea, we saw the direction one would have to take to analyze other phenomena under such a tripartition. In this paper I am going to revise and expound on the formal implementation of this clausal tripartition, and briefly consider a systematic approach to other classes of pronominal elements as well as consequences for a syntactic approach to clause-typing. The formal clausal tripartition proposed here is of interest to the latter issue in two ways. First, as a general point, given that the model makes particular reference to spelling out substructures of the derivation and integrating the (LF and PF) interfaces into a dynamic conception of phrase structure, issues pertaining to the interaction of the syntax with other components (arguably needed to formally derive different clause types) are relevant for obvious reasons. Second, and more specifically, some proposals that have been made in the recent syntactic literature to license clause types in the syntactic component will have to be reevaluated in terms of redundancy and structural well-formedness. We will touch on both issues in the latter part of this paper.

The initial question I am going to ask is the following. Given that dependencies between two positions are subject to locality conditions (as an upper bound on distance, usually captured by a Shortest Move or Minimal Link condition), does the converse

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\* This paper is a substantial summary of the basic idea of my dissertation work (Grohmann 2000b) and could not have been conceived without the support from and discussions with Cedric Boeckx, John Drury, Norbert Hornstein, Anna Roussou, Ian Roberts, Juan Uriagereka, among many others. I am also grateful to the audience of the *Workshop on Sentence Types and Definiteness* in Berlin, from which the current version derives, and audiences in College Park, Frankfurt, Minneapolis, New York, Philadelphia, Santa Cruz, Stony Brook, Trieste, and Vienna for valuable feedback.

Of course, one could point to the Theta Criterion and argue that it alone suffices to rule out a derivation such as (1b). After all, if  $\theta$ -roles are exhaustively assigned at D-structure (the component before applications of Move take place), movement into a  $\theta$ -position is ruled out by force. One of the premises of minimalism is to get rid of superfluous levels of representation. It has been argued – quite successively, we might add – that the levels of D- and S-structure can be dispensed with on conceptual and empirical grounds (Chomsky 1993, 1995; see Hornstein, Nunes and Grohmann, in progress for extensive discussion). The “true” interface levels, LF and PF, are all we need, and any filters, constraints, or conditions imposed on the grammar should follow from “bare output conditions” – that is, reflect conditions on LF and PF only.

If this is so, the Theta Criterion must be reformulated. Presumably, the gist of it can be integrated into a minimalist view of the grammar, most elegantly within a framework provided by Hale and Keyser (1993). However, if the minimalist spirit is to seek, point out and eliminate redundancies, we should take the issue more seriously. One such attempt can be found in recent work by Norbert Hornstein.<sup>1</sup> It turns out that movement into  $\theta$ -positions can nicely account for a number of (at first glance) unrelated phenomena. The upshot is that there is reason to believe that ruling out movement into  $\theta$ -positions from the start is too strong an assumption. The Theta Criterion as originally formulated can be dispensed with, alongside D-structure. This is doubly minimalist: not only can the (theory-internal) level of D-structure be eliminated completely; we also can dispense with the Theta Criterion as not following from “bare output conditions.” If all formal conditions on lexical items and the computation (such as “features”) are evaluated at LF and PF only, this remnant of D-structure, whose only intention was to filter out ill-formed configurations at D-structure, has no place in the grammar.

## 2.2. Anti-locality in agreement dependencies

Of course, this take on the Theta Criterion is not the only one imaginable, and within the minimalist program not the only one pursued. However, a similar effect can be found outside the verbal or thematic layer. Consider (2) from German, a language which can arguably be analyzed as overtly raising all arguments into the middle field:<sup>2</sup>

- (2) a.    \**Den Vater mag sein Sohn.*  
           the.ACC father likes his.NOM son  
           *intended:* ‘The father likes his son.’  
       b.    #[<sub>TP</sub> den Vater [<sub>mag-v-AgrO</sub>]<sub>i</sub>-T [<sub>AgrOP</sub> ~~den Vater~~ <sub>t<sub>i</sub>-AgrO</sub> [<sub>vP</sub> ...]]]

The ungrammatical output (2a) could be derived by a hypothetical, but ill-formed, derivation whose relevant steps are shown in (2b). The thematic subject of the sentence could move to the object Case position, check accusative, and then move on to the grammatical subject position, where it could enter the relevant subject-verb agreement relation and check nominative Case. We could further imagine that only one Case is marked on the DP (here, accusative), and the object DP could be licensed by some form of default Case (which happens to be nominative in German).

But the fact that (2a) is ungrammatical suggests that this derivation is ruled out. The traditional explanation comes in form of the Case Filter, whose update into current

<sup>1</sup> See, for example, Hornstein (2000) for alternative approaches to reflexivization, control phenomena, relativization, and other predication structures. We will return to this briefly below. (The idea of movement into  $\theta$ -positions goes back to Bošković 1994.)

<sup>2</sup> Without further ado, I adopt the SVO-approach to German syntax; see e.g. Zwart (1993, 1997).

criterion-approach suffers from the same conceptual dilemma as the above-mentioned cases that hold on to formal conditions on the grammar in the form of a Theta Criterion or a Case Filter. And rather than invoking non-syntactic explanations, a formalized version of anti-locality could take care of all these unwanted derivational steps in one fell swoop. An articulated Comp, as assumed here, can be seen as encoding (mainly) discourse-relevant properties, and I will hence refer to this as the discourse layer.

## 2.4. Plain proposal

Above we have seen initial evidence that points into the direction of an anti-locality condition, as loosely understood so far. In the following, we will explore a formal understanding of anti-locality and consider theoretical and empirical consequences of the approach, which invariably make use of a formal tripartition of the clause.

A first shot at anti-locality is the hypothesis given in (4), instances of which were illustrated above:

- (4) *Anti-locality hypothesis*  
 Movement must not be too local.

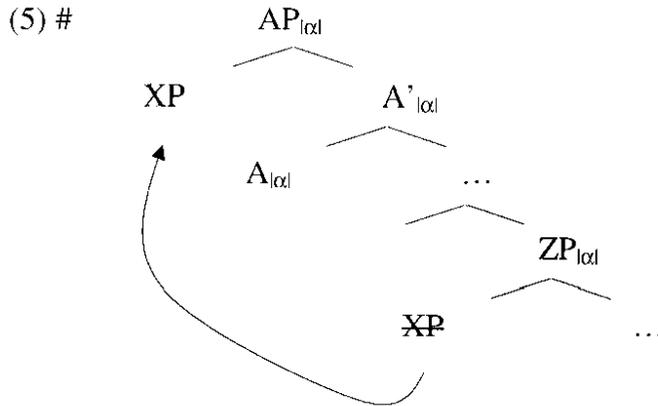
We now have to find a way to express a too local dependency. What is the metric that measures this distance? As the above discussion suggests, movement within the thematic layer of the clause seems to be out, and so does movement of the same element within the agreement layer, and within an articulated Comp-layer. On the other hand, we want movement across these layers, such as argument-raising to an agreement position (to check Case and/or  $\phi$ -features) and Wh-fronting, of course.<sup>5</sup> In other words, anti-locality seems to be the restriction that an XP may not move to a position directly part of the same layer, or domain. We will identify these domains properly in a moment. For now, the following estimation suffices for illustration. Two positions are in the same domain if both share, what we might call *contextual information*. On the basis of the above discussion, we can identify three types of contextual information relevant to the clause (see fn. 7 below), uniquely identifying the projections within each of these parts: thematic context (making room for further internal projections, in terms of VP-shells or separate *v*/V-projections), agreement context (*vis-à-vis* split Infl: AspP, AgrP, TP etc.), and discourse context (*viz.* an articulated Comp, hosting TopP, FocP, CP and so on; see also fn. 4).

This view of contextual information in the clause structure and the concomitant ban on domain-internal movement is indicated in (5), where  $|\alpha|$  is the representation of a context value, standing for the three clausal contexts just discussed:  $|\theta|$  (thematic context),  $|\phi|$  (agreement context) and  $|\omega|$  (discourse context), respectively. Without touching more on the issue, we can think of  $|\alpha|$  to be a lexical property of V, T, C etc.

Basically, this is the idea behind anti-locality: the lower bound on locality forces dependencies to span across a minimum distance, namely across – but not within – a given domain of sorts. Next, we will consider the concept of such contextually defined domains in more detail (in terms of Prolific Domains), lay out the reason why domain-internal movement is ruled out (for PF-reasons), and why it only concerns maximal phrases, as opposed to heads (which will also follow from PF-conditions).

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<sup>5</sup> In Grohmann (2000b), I suggest that movement into the agreement layer is driven by the need to check  $\phi$ -features, as opposed to Case. Case is taken to be an epiphenomenon, for reasons that do not play a role here (such as the assumption that feature-checking is unique; see fn. 8, also fn. 11). (Cf. Branigan 2000, who also views Case “parasitic” in nature rather than a trigger for movement.)



### 3. Capturing anti-locality: Prolific Domains and Exclusivity

The concept of a contextually defined layer or domain in clausal structure laid out so far is reminiscent of earlier conceptions of clause structure.<sup>6</sup> (6) is the structure of the clause as it was basically understood in the *Barriers*-framework (Chomsky 1986):

(6) [ COMP [ INFL [ VP ] ] ]

Over the past two decades, much effort has been put into a finer articulation of each of these projections. Starting with Larson (1988), it became obvious that VP must contain more than just one specifier and one complement position. Traditional X'-theory had no elegant way of implementing double object constructions, and with the rise of the Predicate-Internal Subject Hypothesis (cf. Kuroda 1988, Koopman and Sportiche 1991), room was needed to integrate the thematic position of “agent” (the thematic subject). Whether we assume Larsonian shells or the more recently made popular approach of a light verb *v* heading its own projection on top of VP (cf. Hale and Keyser 1993, Baker 1997), the thematic layer arguably consists of more material than a single projection.

Likewise, much research has targeted what I call the agreement layer of the clause, in the spirit of Pollock’s (1989) original Split Infl hypothesis. Infl is standardly assumed to host an array of functional projections (see especially Cinque 1999, and the overview provided by Belletti 2001). Again, the exact number and positions of these are not crucial; what is important is an extension of Infl into the layer or domain containing TP, AgrP, AspP etc.

And regarding the left periphery, finally, Rizzi (1997), among many others, has suggested to finer articulate Comp into various projections whose function is to check those formal features that we take to yield (largely) discourse effects, hence the reference to a discourse layer (cf. also fn. 4; for further reference to recent work on typologically very different languages, see e.g. Aboh 1998, Poletto 2000, Puskás 2000).

<sup>6</sup> Please bear in mind that there is nothing novel or revolutionary about a tripartite clausal structure. It is intuitive as it is obvious, perhaps even necessary (especially in the light of the “contextual information” I suggest). While tacitly assumed for a long time, I simply try to capture this intuition in a more formal way and contemplate some of its consequences (see also Platzack 2001 for a very similar conception of clause structure in terms of three domains bearing remarkably similar names, but without the formalized tripartition envisioned here and laid out below).

### 3.1. A clausal tripartition into Prolific Domains

Let us now work out a formal way to implement the concept of anti-locality into the grammar. We have seen some motivation to collectively understand certain positions to be related to one another in terms of affiliation with one contextually defined layer or domain. Two thematic positions (such as “theme” and “agent” in (1)) can thus be thought of as belonging to the thematic domain, two Case-/ $\phi$ -positions (e.g. “subject” and “object” or nominative and accusative, as in (2)) to the agreement layer, and two Comp-positions (e.g. topic and Wh; cf. (3)) to the discourse domain. One condition that seems to hold of all positions within the same domain is that movement from one to another is ruled out, as we have seen above. But before we can investigate this hypothesis further, let us formulate the intuitive idea of a contextually defined domain.

Let us call each of the proclaimed domains a *Prolific Domain*:<sup>7</sup> ‘domain’, because the relevant area captures material which exclusively belongs to a specific part of the clause (thematic, agreement, discourse), and ‘prolific’, because each such domain consists of more articulated structure (viz. VP,  $\nu$ P, AgrP, TP, Top, FocP etc.).

- (7) *The concept of Prolific Domains ( $\Pi\Delta$ )*
- i.  $\theta$ -domain: part of derivation where theta relations are created
  - ii.  $\phi$ -domain: part of derivation where agreement properties are licensed
  - iii.  $\omega$ -domain: part of derivation where discourse information is established

Beyond the descriptive content of (7), we can define a Prolific Domain as in (8):

- (8) *Prolific Domain*
- A Prolific Domain  $\Pi\Delta$  is a contextually defined part of the computational system, (i) which provides the interfaces with the information relevant to the context, and (ii) which consists of internal structure, interacting with derivational operations.

By assumption, the context value  $|\alpha|$  from (5) contributes contextual information, defining the three parts of the clause. We return to clause (8i) momentarily; first we will tend to clause (ii) of (8). One type of interaction with derivational operations we have seen so far is the restriction that Move may not apply to a given XP within a Prolific Domain, which uniformly rules out unwanted derivational steps without the need to invoke additional, stipulated filters on the computation.<sup>8</sup> We declared at the outset that

<sup>7</sup> Note that the current work only deals with the role of Prolific Domains in the clause. I do not want to exclude the possibilities that there exist similar domains, with similar properties, elsewhere (e.g. in the nominal layer). At the current point, however, this remains to be worked out.

A note on the terminology: while the choice of ‘ $\theta$ ’ and ‘ $\phi$ ’ is presumably obvious, ‘ $\omega$ ’ as the label for the C-layer is invented, not so much as to confuse but to be uniform. Moreover, as the C-layer is the highest part of the clause, capping it off, the last letter of the Greek alphabet might be an appropriate choice. There is a metaphorical mnemonic for ‘ $\omega$ ’ which might be useful, too, derived from the Greek word *ωριμότητα* ‘ripeness, maturity, full growth’.

<sup>8</sup> Admittedly, the data coverage from section 2 is only a first stab and might be considered insufficient to conclusively prove the point. However, the idea behind it, and the tendency of such reasoning, should be clear, as should the logic behind the current approach in a minimalist setting (for reasons of economy, parsimony etc.). If on the right track, “standard” analyses of a number of phenomena must be reconsidered, a task too big for the current article. Relevant cases that come to mind are instances of participle agreement in Romance (cf. Kayne 1989, Belletti 1990) on the empirical, or Chomsky’s (1995) treatment of object Case-/ $\phi$ -feature-checking and “multiple subject constructions” on the theoretical side. Space does not allow a more elaborate discussion, but given unique feature-checking

such a ban should be a direct consequence of bare output conditions, otherwise there would be little improvement over previously assumed conditions, criteria, filters etc. Given that we now have the well-defined notion of a Prolific Domain, I posit the following condition holding on the computational system, expressing anti-locality:

(9) Condition on Domain Exclusivity (CDE)

An object *O* in a phrase marker must have an exclusive Address Identification AI per Prolific Domain  $\Pi\Delta$ , unless duplicity yields a drastic effect on the output.

- i. An AI of *O* in a given  $\Pi\Delta$  is an occurrence of *O* in that  $\Pi\Delta$  at LF.
- ii. A drastic effect on the output is a different realization of *O* at PF.

Anti-locality, then, is a well-formedness condition on the computational system in terms of exclusivity: at certain, natural steps in the derivation, (the Condition on Domain) Exclusivity must be observed. In essence, the CDE says that a linguistic expression (i.e. a maximal phrase XP; see section 3.3 below), which obviously needs to be interpreted at the (LF and PF) interfaces, may only occur once in a given Prolific Domain; this occurrence is picked up by LF, so that the expression gets interpreted, and it is picked up by PF, so that it gets pronounced. Any copy of this XP, i.e. each “non-distinct occurrence” of an element in the phrase marker (in the sense of Chomsky 1995, Nunes 1995), would also show up at LF – but, if nothing special happens to its PF-matrix, it could not be uniquely identified. In other words, movement within a Prolific Domain is ruled out as a consequence of bare output conditions.

This leads us to clause (i) of (8), also dealing with (the determination of) the “natural steps in the derivation” just mentioned. As already mentioned in passing, we could envision the tripartite clause structure in terms of multiple feeding of the interfaces. Such a conception of the role of the tripartite structure directly implements current thinking on spelling out parts of the phrase marker as the derivation unfolds, directly feeding the interfaces; cf. Uriagereka’s (1995, 1999) framework of “Multiple Spell Out” or Chomsky’s (2000, 2001) recent proposal of cyclic “phases.” Surely, there are differences (see section 3.3), but the emerging picture is conceptually very similar.

Let us represent this picture as in (10), where each Prolific Domain is evaluated locally, and where such “evaluation” consists of marking the relevant LF- and PF-material. Convergence of the derivation yields exactly then, when the syntactic computation is exhausted and the locally licensed interfaces are well-formed (see Grohmann 2000b, in progress for more discussion). In the following, we concentrate on the interplay of computation and feeding of the interfaces.

Regarding the “drastic effect on the output,” clause (9ii) already indicates that PF is relevant. We know that deletion of moved copies takes place for PF-reasons (Nunes 1995). The argument runs as follows. Copies of the same element (here, “*O*”) are non-distinct (in terms of precedence) and subject to the Linear Correspondence Axiom. However, no element can precede and follow itself at the same time, hence one copy must be deleted (see Kayne 1994, Chomsky 1995, Nunes 1995, 1999 for discussion). Under the standard operation Move, it is the lower copy that is deleted – for economy reasons: the higher copy has a more complete set of checked features than the lower.

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per projection, as argued for in Grohmann (2000b), an implementation of a feature scattering approach (à la Giorgi and Pianesi 1997) could be a feasible means to handle such cases. These issues are dealt with in more detail in Grohmann (in progress).



Looking at the lowest level of the clause first and adopting a particular hierarchy in the  $\theta$ -domain (roughly following Baker 1997), three options of potential movement within this domain pertain between the (up to three) XP-positions available:

- (13) a.  $[_{VP} AG v [_{VP} TH V GO]]$   
           ↑  
           └───┘  
 b.  $[_{VP} AG v [_{VP} TH V GO]]$   
           ↑  
           └───┘  
 c.  $[_{VP} AG v [_{VP} TH V GO]]$   
                           ↑  
                           └───┘

Ungrammatical sentences such as (1a) suggest that these options are not found – at least, not as easily. There is an alternative, however: if VP and  $vP$  form one Prolific Domain (namely, the  $\theta$ -domain, licensing thematic relations), the move should be legitimate – if it is followed by Copy Spell Out of the lower XP, that is if the struck through element in (13) is not deleted, but replaced by ‘X’ (cf. (12a)).

Going back to Lees & Klima (1963), Hornstein (2000) has recently proposed a derivational analysis of local anaphors (also Lidz & Idsardi 1997). This analysis treats certain pronouns as grammatical formatives rather than true lexical expressions, subject to Last Resort (Aoun & Benmamoun 1998, Aoun & Choueiri 1999, Hornstein 2000, Aoun, Choueiri & Hornstein, in press; cf. also “Avoid Pronoun” of Chomsky 1981, Aoun 1985). As such, these pronominal elements are not part of the numeration which nourishes the derivation, but are introduced in the course of the derivation. Introduction of material forced by Last Resort implies that something is only inserted if nothing else works. A by now natural way to capture such an implementation of Last Resort and a derivational analysis of anaphors would be in terms of the CDE: Copy Spell Out. If this approach is on the right track, we would have identified ‘X’ as a local anaphor. This would generate (14) as the updated version of (13), corresponding to (12a):

- (14) a.  $[_{VP} AG v [_{VP} TH \supset X V GO]]$   
           ↑  
           └───┘  
 b.  $[_{VP} AG v [_{VP} TH V GO \supset X]]$   
           ↑  
           └───┘  
 c.  $[_{VP} AG v [_{VP} TH V GO \supset X]]$   
                           ↑  
                           └───┘

The following examples suggest that this approach is indeed plausible, in that it correctly predicts the possible ways of reflexivizing locally:<sup>10</sup>

- (15) a.  $[_{VP} \text{John introduced-}v [_{VP} \text{John} \supset \text{himself introduced to Mary}]]$   
 b.  $[_{VP} \text{John introduced-}v [_{VP} \text{Mary introduced to John} \supset \text{himself}]]$   
 c.  $[_{VP} \text{John introduced-}v [_{VP} \text{Mary introduced to Mary} \supset \text{herself}]]$

The basic analysis as just presented is further extended in Grohmann (2000b, ch. 3) to cover other instances of local anaphors, namely reciprocals. Comparing the different local anaphors (in English), we can observe differences in interpretation, of course: we have to distinguish identical referents from (sub-)sets of referents between the moved

<sup>10</sup> This is a first stab. It goes without saying that a discussion of languages with different patterns (e.g. with the help of a reflexivizing morpheme or via incorporation) cannot be treated here.

and the spelled out copies. In other words, there is an apparent choice of pronominal filler element that gets pronounced (our ‘X’).

For illustration, take two relatively straightforward constructions:

- (16) a. John likes himself.  
 b. John and Bill like each other.  
 c. John and Bill like themselves.

It is not unreasonable to suppose that this “semantic” distinction is encoded on the originally merged lexical item. In order for *John* to be merged into TH-position and subsequently move into AG-position (followed by Copy Spell Out; cf. (14a)), it needs two sets of  $\theta$ - and  $\phi$ -features. If this is all it has, Copy Spell Out will be one expressing full identity. Noteworthy, though, is the fact that singular referents cannot receive a reciprocal meaning. Reciprocity presupposes a plural referent set. Following Schein’s (1993) proposal that a plural noun phrase basically expresses the coordination of all possible events involving the relevant argument structure, the rough LF of (16b) looks like (17a), while that of (16c) would be something like (17b):

- (17) a.  $\exists e_1[\text{Likes}(e_1, \text{John}_i, \text{Bill}_j)] \ \& \ \exists e_2[\text{Likes}(e_2, \text{Bill}_j, \text{John}_i)]$   
 b.  $\exists e_1[\text{Likes}(e_1, \text{John}_i, \text{John}_i)] \ \& \ \exists e_2[\text{Likes}(e_2, \text{Bill}_i, \text{Bill}_i)]$

Thus, merging a noun phrase denoting a multiple member set, the internal structure to [<sub>DP</sub> John and Bill] presumably has these relations encoded. In that case, if the relevant information is one of conjoining self-liking events, the filler is a reflexive, and if it is one of conjoining transitive liking events, it is a reciprocal.<sup>11</sup> (See Grohmann 2000b, ch. 3 for discussion on inherent reflexives and *pro*.)

This analysis also accounts for reflexive ECM-subjects. Following Koizumi (1995) and Lasnik (1999), a plausible analysis of ECMed subjects in Checking Theory involves the Agr-position of the matrix clause. Coupled with the proposal that movement into  $\theta$ -positions is permissible (Bošković 1994, Hornstein 2000; also, see section 3.3), (18a) would receive the structural analysis of (18b): the point of reflexivizing *Mary* is the matrix  $\phi$ -domain, when *Mary* moves from one  $\phi$ -position (SpecAgrP) to another (SpecTP). As far as I can tell, we cannot tease apart all possible points of reflexivization; this seems a plausible option.

- (18) a. Mary expects herself to win the race.  
 b. [<sub>TP</sub> Mary T [<sub>? expects</sub><sub>i</sub> [<sub>Agr</sub> ~~Mary~~  $\supset$  herself <sub>t<sub>i</sub></sub> [<sub>VP</sub> ~~Mary~~ <sub>t<sub>i</sub></sub> [<sub>VP</sub> <sub>t<sub>i</sub></sub> [<sub>TP</sub> to-T [<sub>VP</sub> ~~Mary~~ win<sub>j</sub>-V [<sub>VP</sub> <sub>t<sub>j</sub></sub> the race]]]]]]]]]]]]

We now have an instance of Copy Spell Out forced by the CDE for the  $\phi$ -domain. Regarding the  $\omega$ -domain, one construction that comes to mind – especially after the previous examples of CDE-driven Copy Spell Out involving pronominal elements – is left dislocation. We can roughly distinguish three types of left dislocation, illustrated in (19): Hanging Topic Left Dislocation (HTLD, illustrated by English), Contrastive Left Dislocation (CLD, German) and Clitic Left Dislocation (CLLD, Greek):

<sup>11</sup> These facts suggest that the choice of the filler, restricted as it is, depends on information internal to the noun phrases. If we tied that information to  $\phi$ -features, we would yield a further possible argument in favor of  $\phi$ - rather than Case-driven movement (see fn. 5 above). Insertion of a formative in the relevant circumstance (saving a CDE violation) must be licensed by C<sub>HL</sub> and a  $\phi$ -projection (Agr) seems a reasonable place to do so.

- (19) a. This man, I don't know him. [HTLD]  
 b. *Diesen Mann, den kenne ich nicht.* [CLD]  
 this.ACC man that-one.ACC know I not  
 'This man, I don't know [him].'  
 c. *Afton ton andra, dhen ton ksero.* [CLLD]  
 this.ACC the.ACC man.ACC not 'm.ACC know.1SG  
 'This man, I don't know ['em].'

A plausible analysis for topicalization moves the topic to the left periphery (a position that could be identified as TopP within a finer articulated CP). The German topic-construction corresponding to (19b) – that is, minus the resumptive pronoun – would then look like (20a), where the topic (here, XP) undergoes the rough movements sketched in (20b), checking its thematic, agreement and discourse features overtly:

- (20) a. *Diesen Mann kenne ich nicht.*  
 b. [<sub>TopP</sub> XP Top<sup>0</sup> ... [<sub>φΔ</sub> ... ~~XP~~ ... [<sub>θΔ</sub> ... ~~XP~~ ... ]]]

Comparing HTLD and CLD with topicalization, we can observe that only the latter shows straight parallels: only the left-dislocated XP of the CLD-type is Case-marked, unbounded, island-sensitive, and may reconstruct – just like topics, but unlike hanging topics.<sup>12</sup> Regarding the latter, we find the absence of Weak Crossover and Condition A effects, the presence of Condition C effects, the possibility of left-dislocating idiomatic chunks, and the impossibility of left-dislocating multiple XPs.

While all these are good arguments in favor of movement (of the left-dislocated XP), previous approaches had no straightforward way of encoding the resumptive pronoun in (19b). In the present framework, the obvious solution sticks out. Given that the resumptive in CLD, but not HTLD, is in topic position, the left-dislocated XP must occupy a position further left. If it has moved to this sentence-initial position via TopP (to account for the parallels with topicalization), it would have touched down twice in the  $\omega$ -domain and thus violate the CDE. Copy Spell Out of the lower copy in TopP is then employed to rectify this move. This is illustrated below:

- (21) [<sub>CP</sub> XP C [<sub>TopP</sub> ~~XP~~  $\supset$  RP Top ... [<sub>φΔ</sub> ... ~~XP~~ ... [<sub>θΔ</sub> ... ~~XP~~ ... ]]]]

XP, the left-dislocated element in CLD, is part of the initial numeration, while RP (the resumptive pronoun) is not; this element is the spelled out copy of XP. In HTLD, on the other hand, the RP is part of the numeration and does not form a movement dependency with the hanging topic (viz. absence of reconstruction effects and lack of Case-marking on the hanging topic, for example).

Interestingly, CLLD shares the main properties with CLD, again clearly different from HTLD (e.g. Cinque 1977, 1990, Anagnostopoulou 1997, Villalba 2000). What we can observe is that the resumptive element in these cases, the clitic, occurs lower than the topic position. One possible route of explanation, in line with the current proposal, would introduce the clitic as a spelled out copy of the to be left-dislocated phrase in a lower Prolific Domain, such as the  $\phi$ -domain (see Grohmann 2000b, in progress).

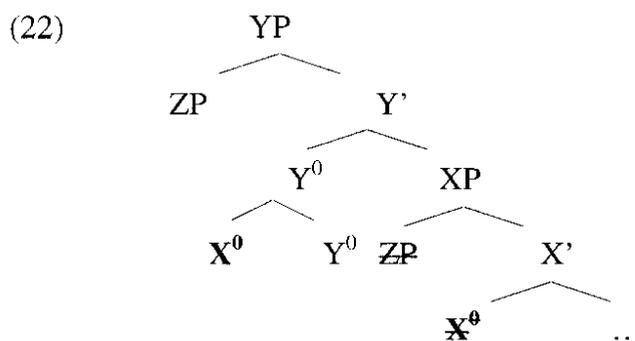
<sup>12</sup> See, for example, the collection of papers in Anagnostopoulou et al. (1997) for recent (and not so recent) discussion of these constructions in a variety of languages, their different properties and possible approaches. In Grohmann (2000a, 2000d), I develop the arguments for Copy Spell Out in case of CLD in detail. The arguments for the resumptive to be a spelled out copy of the left-dislocated element also hold independently of the present framework (cf. Grohmann 1997).

In sum, while the general observation that maximal phrases may not move within a locally defined area seems to be correct, a handful of apparently exceptional cases can be accounted for if we allow introduction of grammatical formatives in the course of the derivation. If, furthermore, the form of these formatives can be predicted by context or make-up of the moving element (cf. reflexives vs. reciprocals), we do not have to say too much about such instances of Copy Spell Out. In particular, I want to maintain that the idea to introduce such material derivationally does not constitute a violation of the Inclusiveness Condition (Chomsky 1995: 228). It is not the case that a new object gets inserted. All formal features (thematic role, agreement properties, discourse function) are present – in the initial numeration as well as subsequent computation. What changes is the PF-matrix, a change that is straightforward if feature bundles are kept separate. Zwart (1997), for example, argues that formal features should be differentiated from semantic features and from phonetic features. Copy Spell Out concerns the latter, and it is plausible that these get inserted late anyway (cf. Distributive Morphology à la Halle and Marantz 1993 and follow-up work, for example). The long and short of this discussion, brief as space allows, is that the concept of Copy Spell Out does not jeopardize Inclusiveness, contrary to Kayne (2001).

### 3.3. Exclusivity: some concepts and consequences

In this section, I want to address some theoretical aspects of the framework of Prolific Domains, that go beyond the discussion above, and point to some possible directions this framework could go, in comparison to other, recent proposals.

We have noted earlier that Exclusivity regards XPs only. Let us now see why this should be so. Head movement differs from XP-movement in being adjunction to a head, rather than substitution. Take (22) and concentrate on the relevant objects, ZP and X<sup>0</sup>:



As suggested above, movement of ZP is only allowed if the landing site is part of a different Prolific Domain, otherwise the two (non-distinct) copies of ZP could not be interpreted at PF. This PF-violation would be due to the identity of PF-matrices of both copies of ZP. This identity, in turn, is the result of XP-movement as substitution.<sup>13</sup> If another movement operation could render the moved element PF-distinct from the lower copy, one would expect the result well-formed, even if it takes place within the

<sup>13</sup> In Grohmann (2000b, ch. 3), I argue that XP-movement must be substitution, i.e. adjunction to maximal phrases (as popular GB-analyses suggest for topicalization or scrambling, for example) cannot be the result of movement. The reasons for, and the theoretical and empirical consequences of, this postulate should not concern us here (see also Grohmann 2001), but the emerging typology distinguishes XP-movement, XP-adjunction and X<sup>0</sup>-movement straightforwardly. That is to say, we lose a reason, why head movement should be suspect and eliminated from the grammar and replaced by a pure PF-operation, as argued by Chomsky (1995, 2000, 2001) – see also Zwart (2001) for interpretive effects of head movement as well as phonological consequences.

same Prolific Domain. This is arguably the case with head movement. Moving  $X^0$  in (22) adjoins it to the next highest head,  $Y^0$ , resulting in the complex head  $[X^0-Y^0]-Y^0$ . In this case, the newly formed complex head has a different PF-realization from the original  $X^0$  by virtue of bearing more morphological material. Given that all functional heads manifest phonetically in some language, we can assume relatively safely that all morphological material related to any given functional head always has some intrinsic PF-matrix, regardless of whether this material is actually pronounced. In other words, moving an XP (into a specifier position; see fn. 13) does not enrich its phonological make-up, but moving a head does. In this sense, two copies of a head within a Prolific Domain are distinct and can be interpreted at PF, conforming to the CDE.

We are now dealing with essentially the following (im)possibilities of movement dependencies:

- (23)
- |    |                   |    |           |     |                                                      |                                |
|----|-------------------|----|-----------|-----|------------------------------------------------------|--------------------------------|
| a. | # $[\alpha\Delta$ | XP | $Y^0$     | ... | $[\alpha\Delta$ ... <del>XP</del> ...]               | ( <i>anti-local movement</i> ) |
| b. | $[\alpha\Delta$   | XP | $Y^0$     | ... | $[\beta\Delta$ ... <del>XP</del> ...]                | ( <i>XP-movement</i> )         |
| c. | $[\alpha\Delta$   |    | $X^0-Y^0$ | ... | $[\alpha\Delta$ ... <del><math>X^0</math></del> ...] | ( <i>head movement</i> )       |

Returning to the “bigger picture” of the current framework, as depicted in (10), it is worth noting that such a dynamic conception of the computation is not novel, nor is it the only one around. Modifying Uriagereka’s (1995, 1999) concept of cyclic Spell Out, Chomsky (2000, 2001a, 2001b) also splits up the clause into formal sub-parts and sends these off to the interfaces as the derivation unfolds. In this model, the relevant parts (“phases”) are slightly different – and subsequently, the consequences of a phase-driven framework diverge from the consequences of a domain-driven framework. Nevertheless it is interesting to note how they differ, and to observe that these differences do not per se argue in favor of one over the other; rather, the choice of phases or Prolific Domains depends on other assumptions on the structure and mechanisms of the grammar one wants to hold on to. Here is a basic comparison of some of these differences:

- (24) Comparing phases (PH) with Prolific Domains ( $\Pi\Delta$ )
- i. propositional PH vs. contextual  $\Pi\Delta$
  - ii. PH and  $\Pi\Delta$  are convergent (Spell Out)
  - iii. Phase Impenetrability Condition vs. Condition on Domain Exclusivity
    - a. Attract/Agree vs. Move (local evaluation)
    - b. multiple vs. unique specifiers (no edge)

The first point regards the licensing of the relevant sub-parts. Chomsky (2000) suggests that phases are propositional, and as such identifies  $vP$  and CP as the only phases of a clause. In the present framework, we basically identified  $vP$ , TP and CP as Prolific Domains, identified by contextual information. Both phases and domains are convergent sub-parts, that is, they are both locally evaluated and spelled out cyclically. Theoretical implications arise in respect to point (24iii), where the two models diverge. As we have seen here, it is a property of the moving element that forces displacement (i.e. Move), whereas the “classical” minimalist approach of Chomsky (1995, 2000) pin-points the trigger in the attracting head (by movement viz. Agree or without, namely through Agree). Another formal difference is that a phase-based system depends on multiple specifiers, to create “escape hedges” for material to get out of a phase. This is done via an “edge,” the only possibility for a higher phase-inducing head to attract the relevant material and thus closing off the lower phase. By not assuming multiple specifiers (Grohmann 2000b, 2001; see also fn. 13), this difference is by far not

detrimental for a domain-based system: a Prolific Domain is evaluated at the point of creation, while a (strong) phase is then closed off when the next highest phase enters the computation. In other words, these properties of the two different systems have to do with the fact that two different well-formedness conditions are at work. Movement out of a phase is restricted by the Phase Impenetrability Condition, whereas movement within a Prolific Domain is subject to the Condition on Domain Exclusivity. The upshot of this comparison is that the framework of Prolific Domain fares *prima facie* no worse than a phase-based system in conception or empirical coverage. In order to decide for one of the two, a number of background assumptions have to be teased apart.

One final empirical aspect I would like to consider here is the determination of possible landing sites for two types of movement, movement within a clause (“intra-clausal”) and across clauses (“inter-clausal”). Given that each full clause consists of a hierarchically structured tripartition,  $\omega\Delta \gg \phi\Delta \gg \theta\Delta$ , movement within a clause cannot jump across one of these, that is, intra-clausal movement must always target the next highest Prolific Domain. This is a direct consequences of building up the interfaces cyclically: if XP has an interpretive presence at one point of evaluation (i.e. in a Prolific Domain, say, at the  $\theta$ -domain), it must be present at the next highest also ( $\phi$ -domain), when it finally occurs at the highest level ( $\omega$ -domain). In essence, this forces topicalized arguments, for example, to move through an agreement position, before landing in the discourse layer. We can illustrate a straightforward case with simple Wh-questions:

(25) *Intra-clausal movement*

- a.  $[\omega\Delta \dots XP \dots [\phi\Delta \dots \cancel{XP} \dots [\theta\Delta \dots \cancel{XP} \dots ]]]$   
 b.  $[\omega\Delta \text{ who did } [\phi\Delta \text{ John } \cancel{\text{who}} [\theta\Delta \text{ kiss } \cancel{\text{who}} ]]]$

It has long been noted that successive-cyclic movement differs from clause-internal movement in that it targets the same projection in the higher clause. The classical example is Comp-to-Comp movement, as in long Wh-movement, for example. Another instance of this type of movement is subject raising, where the theta-marked subject of an embedded clause moves to the grammatical subject position of that clause (SpecTP), before moving successive-cyclically to the matrix SpecTP. If this element is a Wh-phrase, it must move on to the matrix Wh-position (e.g. SpecCP or SpecFocP) – crucially, it does not move to a Wh-position below the matrix clause.

What this means in the current framework is that inter-clausal movement always targets the next highest Prolific Domain of the same type, as in (26):

(26) *Inter-clausal movement*

- a.  $[\omega\Delta XP \dots [\phi\Delta \cancel{XP} \dots [\theta\Delta \dots [\omega\Delta \dots [\phi\Delta \cancel{XP} \dots [\theta\Delta \dots [\omega\Delta [\phi\Delta \cancel{XP} \dots [\theta\Delta \cancel{XP} \dots ]]]]]]]]]]]$   
 b.  $[\omega\Delta \text{ who } [\phi\Delta \cancel{\text{who}} \text{ seems } [\theta\Delta [\omega\Delta [\phi\Delta \cancel{\text{who}} \text{ to be } [\theta\Delta \text{ likely } [\omega\Delta [\phi\Delta \cancel{\text{who}} \text{ to } [\theta\Delta \cancel{\text{who}} \text{ kiss Mary}]]]]]]]]]]]]$

This line is compatible with Bošković’s (2000) take on the EPP and Hornstein’s (2000) analysis of raising and control. Regarding the latter, we have observed in (18) already that in order to spell out an ECM-subject as a reflexive, this subject must have moved into the thematic domain of the matrix verb. Hornstein applies this movement as the standard operation that underlies control structures, which thus differ from raising in involving movement into a thematic position. Just as (26) is an instance of inter-clausal movement from a  $\phi$ -to a  $\phi$ -position, these cases (control à la Hornstein or ECM from

(18) are instances of  $\theta$ -to $\theta$ -movement – all conforming to the hypothesis that inter-clausal movement targets the same type of Prolific Domain in the next highest clause.

#### 4. A note on clause-typing

Now that we have sketched the framework of anti-locality in syntax, I would like to look at one particular consequence for the study of grammar. The general consensus is that all clauses need to be formally licensed, or typed (see in particular Cheng 1991). In a minimalist setting, one could envision this clause-typing to be done by checking of formal features. Naturally, a number of other factors play a role – and this is not the appropriate place to discuss the theory of clause typing in detail – so that one would have to decide, for example, if other, plausibly non-syntactic factors (relating to mood or speech act) should be integrated into the syntax, and how so. Another question regards the exact locus of where clause-typing should be done; while CP seems a plausible candidate, more has to be said, a point we get back to presently.

What I want to do now is go over some light that the framework of anti-locality throws on Cheng's clause-typing hypothesis. This brief discussion concerns the typing of Wh-interrogatives. The particular proposal of Cheng's is that clause-typing (with respect to Wh-question formation) is enforced by a criterion-like condition (Cheng 1991, ch. 2): all clauses are typed either by Spec-head agreement of a fronted Wh-phrase in the CP-projection or by the presence of an interrogative particle (in C).

Given what we have said so far, Cheng's condition must be revised.<sup>14</sup> Among the questions we have to settle in order to implement or develop Cheng's hypothesis is the finer articulation of CP (in the wake of Rizzi 1997, for example). The Comp-layer now consists of more than a single projection – which was the locus of clause-typing for Cheng. Does this mean that any C-projection can license clause types? It is plausible to assume that only one projection is responsible for typing the clause, such as the highest C-projection – aptly called ForceP by Rizzi.<sup>15</sup> But if only one (such as the highest) C-projection can type the clause, we have to avoid movement via another, lower C-projection.

Referring to the highest clausal Prolific Domain as the  $\omega$ -domain (viz. "discourse") suggests already an area of the clause that could involve formal syntax-discourse properties, such as needed to encode speech acts/illocutionary force (if so desired – possibly via other mechanisms tying in the pragmatics of language). But an XP satisfying one formal property cannot also then check another, if both are (broadly) discourse-related. This is what we have already seen in (3) above. A regular Wh-phrase cannot also act as the topic of the sentence, being required to check a [Top]-feature as well as [Wh]. This restriction follows from the CDE.<sup>16</sup>

Let us now turn to the puzzle of an articulated Comp-layer in the context of the clause-typing hypothesis and the framework of anti-locality. One question is whether Wh-movement is syntactically or semantically driven. Under the view that the Wh-operator (or interrogative clause-typer) sits on the Wh-phrase, the prevalent view is that

<sup>14</sup> I will not discuss the empirical adequacy of Cheng's hypothesis (see e.g. Sabel 1998, Boeckx 1999 for some discussion).

<sup>15</sup> As the highest position of the clause, everything beneath would be in the "scope" of the clause-typing element, thus suggesting that Force or C is a plausible locus for typing a clause's force.

<sup>16</sup> There are arguments that take certain Wh-phrases to be topics, in which case the [Wh]-property is not formally checked, such as in contexts of D-linking (see Grohmann 1998, Cho & Zhou 1999, Citko & Grohmann 2000, den Dikken & Giannakidou 2000, for example).

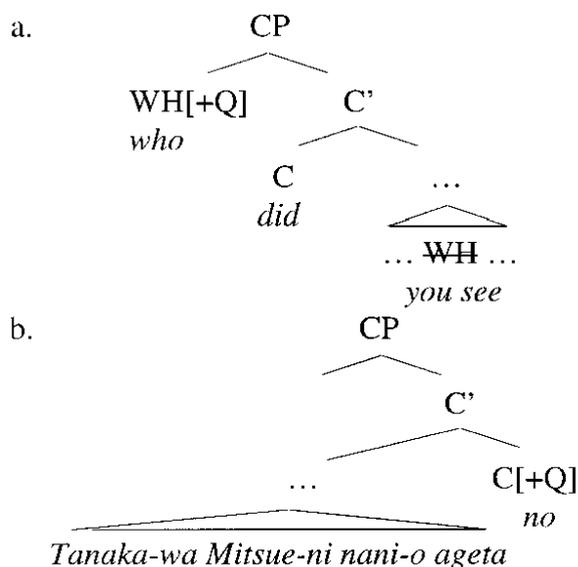
all Wh-phrases must move to SpecCP at some point. This approach goes back to Huang (1982) who proposes LF-movement of Wh-phrases in Wh-in situ languages. There is an alternative, namely that another element types the clause, possibly independent of the Wh-phrase. Baker (1970) suggests a Q-morpheme, elaborating an idea by Katz & Postal (1964), which was developed further by Cheng (1991). Under the latter analysis, all that is needed to license a question is Q in C, and languages allow either one of two strategies: (i) move a WH, which by default contains Q, to SpecCP or (ii) generate Q in C, which comes in the form of a Q-particle.

This Q can be a phonologically pronounced morpheme such as Japanese *no* in (27a) or an unpronounced, empty morpheme, as would have to be claimed in (27b) for Chinese, another Wh-in situ language. An implementation of this approach need not postulate LF-movement of the Wh-phrases.

- (27) a. *Tanako-wa Mitsue-ni nani-o ageta no?*  
 Tanako-TOP Mitsue-DAT what-ACC gave Q  
 ‘What did Tanako give to Mitsue?’  
 b. *Zhangsan mai-le shenme?*  
 Zhangsan buy-ASP what  
 ‘What did Zhangsan buy?’

The Q-typing approach can be sketched as follows. Q could sit on the Wh-phrase in SpecCP, as in (28a) for English, or in C, as in (28b). The latter can be covert, as in Chinese (in which case it would have to move), or overt, as in Japanese, for example.

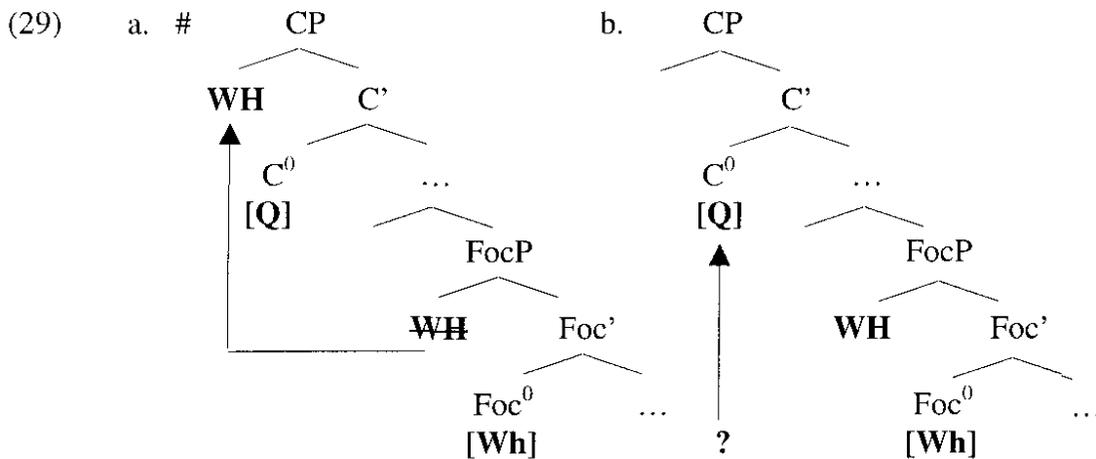
(28) *Q-typing approach*



I suggest that Wh-movement is independent of interrogative force. Rather, the clause is typed interrogative by a question morpheme, the Q-particle (overt or covert). We can thus integrate Cheng’s approach into a more articulate structure of CP (à la Rizzi 1997), here understood as the  $\omega$ -domain. But the present approach does not require Wh-phrases to move to yield a well-formed question, not even in languages that do not make a Q-particle available (see also Hagstrom 1998).

Displacement of Wh-phrases takes place for an additional discourse effect, driven by a special feature, the feature [Wh], which might be related to “focus.” By separating [Wh] from [Q], we can license the interrogative clause across all languages without resorting to any kind of movement of Wh-phrases, and no necessity to move at LF either (see also Brody 1995, Hornstein 1995, Kayne 1998 for arguments against covert A'-movement). If Wh-phrases move, they do so for other reasons. It has been argued that languages that move a Wh-phrase to a C-related position (or  $\omega$ -position), canonically target FocP. One argument comes from the complementary distribution of displaced Wh-phrases and displaced focus phrases (Horvath 1986, Brody 1990).

The problem for the “strict” clause-typing hypothesis is obvious: if moved Wh-phrases canonically target FocP, they cannot then move on to CP to type the clause. We now face the following (im)possible constellations to license Wh-interrogatives. Given Exclusivity, (29a), where WH represents the moved Wh-phrase, cannot be the right way to type clauses – but it should be if we wanted to hang on to Cheng’s requirement that a Spec-head constellation needs to be created to license clause-typing.



Merging the particle with  $C^0$  in (29a) is no problem, but [Q] cannot then be checked by XP-movement. Thus, Q must type the clause by virtue of being in C. If, however, only Q ends up in C – by movement (from ‘?’ in (29b)) or by base-generation – we can modify the condition that clauses must be typed: Wh-interrogatives are universally typed by the Q-morpheme in C; Q may directly merge into C or move from the Wh-phrase (see Bošković 1998, Hagstrom 1998, Grohmann 2000b for details).

## 5. Conclusion

In this paper, I have sketched a framework that takes into account that locality on movement dependencies does indeed seem to have a lower bound as well as the traditional upper bound. Such a conception allows us to rule out ungrammatical cases which otherwise would have to invoke a number of additional conditions, mainly in the form of criteria and filters. Moreover, all these additional conditions have to be separately formulated for the different cases. By following a research agenda that aims at eliminating superfluous conditions – those not driven by bare output conditions – we can capture this “lower bound” or anti-locality effect in a different way. The framework presented here does so in terms of an Exclusivity condition, that bans movement within a designated area of the clause. We identified three such areas, which we call Prolific Domains, correlating to contextual information licensed within each of them: a thematic

domain, an agreement domain and a discourse domain. Naturally, such a model has far-reaching consequences on the analytical level. One such consequence arises for theories of clause-typing. I suggested that in the case of Wh-questions, Wh-movement should be dissociated from clause-typing. This is achieved by distinguishing Wh-features, that drive movement of a Wh-phrase into the  $\omega$ -domain, from a Q-morpheme, which types the clause. In order for the framework of Prolific Domains laid out here to go through, other analytical consequences have to be tackled, some of which we have mentioned in the text. One particularly interesting topic – interesting not only from the perspective of the present model, but also from a general, formal point of view – is the issue of clause-typing, beyond the little spiel on Wh-interrogatives we have seen. By denoting Q as a quintessential clause-typing morpheme, the door has been opened to find other such (abstract) morphemes for other clause types as well and proceed with a technical implementation along the lines provided towards the end of this paper. These and other issues have to be left open for future, fruitful research.

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