

CHAPTER 2

ANTI-LOCALITY: PROLIFIC DOMAINS AND EXCLUSIVITY

The previous chapter started off with a discussion of locality issues. The point was made that the licensing of two related positions, whether construed or derived, must be local. I also hinted at the suggestion that some configurations might be thought of as too local—or anti-local—and that some condition, one on *anti-locality*, might bar them. In this chapter I propose the theory of anti-locality in terms of *Prolific Domains* and the *Condition on Domain Exclusivity*. I explore both further in the subsequent chapters.

2.1 Introduction

This chapter deals with anti-locality. In section 2.2 I present the basic set of data that might lead us to consider something like “anti-locality” in the syntactic computation C_{HL} . I split the discussion into three sections: one concerning thematic relations within the VP-complex, one concerning agreement properties found inside INFL, and one concerning discourse information expressed in COMP. I explore a formal tripartition of clause structure as a core property of grammar along these lines in section 2.3. I introduce the concept of *Prolific Domain* and consider empirical support for this division. We can

identify three Prolific Domains in the clause, namely the theta, the agreement, and the discourse domain (roughly corresponding to the layers dominated by vP , TP and CP, as discussed in section 2.2). The *Condition on Domain Exclusivity* (CDE) is the theoretical focus relevant to anti-locality, conceived as a condition that bars an object in a phrase marker from multiple occurrence in a simple Prolific Domain; also, it comes with a PF-driven repair strategy for spelling out copies, which can save violations of the CDE. The latter property will be the topic of the next two chapters. In this chapter I discuss the first part of the CDE and apply the condition on the data presented in the first section. Section 2.4 thus discusses the finer architecture of each Prolific Domains and integrates the purported anti-local movements. I conclude in section 2.5, paving the road to tackle the second part of the CDE in the next chapter.

2.2 Anti-Locality

Locality restrictions force dependencies to be licensed locally, whether we talk about movement, as in the case of raising, for example, or apparent construal involving two different, yet coreferent objects, as in instances of binding. Some of these conditions ask for a closer local relation than others (such as subject-to-subject raising vs. reflexivization). The following discussion suggests a converse understanding of locality, namely that such dependencies cannot be computed too closely. I briefly sketch particular movement steps that appear to be illicit and follow a potential train of thought that will allow us to draw some interesting conclusions and predictions in the next section. There I provide an understanding of Prolific Domains and a working definition of anti-locality. I then expound some technical issues and address potential complications in section 2.4.

2.2.1 *Anti-Locality in Theta Dependencies*

Recent work on thematic relations and Checking Theory suggests that the Theta Criterion may not hold, at least not the way it has been used since its conception (Freidin 1978, Chomsky 1981). In particular, it has been argued that Theta Theory as a whole is an unwanted remnant of D-structure in a model of grammar that aims to dispense with superfluous levels of representation, namely those that are not virtually conceptually necessary (cf. section 1.3). Alternatively, we could implement checking-theoretic notions to thematic relations and treat theta roles as formal features that need to be checked in the appropriate configurations (Bošković 1994, Lasnik 1995b, Bošković & Takahashi 1998, Hornstein 1998, Manzini & Roussou 1999, 2000). This implementation allows the operation (Direct) Merge to be, no less than Move, treated as greedy in the sense that merging any element into a phrase marker must check a feature to be licit.

One concrete case which could profit from such considerations is control. Illustrating with Hornstein's (1999) analysis,¹ (1c) is a sample derivation for a typical control structure, in contrast to the traditional (1b), involving PRO (regardless of whether PRO is also the thematic subject or simply inserted into SpecTP at the relevant time step):

¹ Independently, Manzini & Roussou (1999, 2000) develop basically the same intuition as Hornstein does, though the details are slightly different. Note also that while subjected to criticism, the Hornstein-line has been pursued and extended to capture facts from other constructions, and across languages, in much recent work. Castillo, Drury & Grohmann (1999) aim to get rid of the EPP altogether, Aoshima (2000) applies the ideas to control structures in Japanese, Kiguchi (2000) manages to shed some light on the PRO-gate phenomenon, Matsuya (2000) discusses, among other things, gerunds in Japanese under a similar set of assumptions, Motomura (2000) derives the intricate properties of the Japanese reflexive *zibun*, Pires (2000a) proposes a novel structure for clausal gerunds, employing arguments from the role of control (Pires 2000b) and ties in the methodology of the Hornstein approach with inflected infinitives (Pires, to appear), Rodrigues (2000) identifies thematic null subjects in Brazilian Portuguese as the residue of movement, San Martin (2000) captures obviation effects in Basque which have long resisted an analysis (see also Hornstein & San Martin 2000).

- (1) a. John hopes to kiss Mary.
 b. $[_{TP} \text{John}_i \text{ T } [_{VP} \text{John} \text{ hopes } [_{TP} \text{PRO}_i \text{ T } [_{VP} (\text{PRO}) \text{ kiss Mary}]]]]]$
 c. $[_{TP} \text{John T } [_{VP} \text{John} \text{ hopes } [_{TP} (\text{John}) \text{ T } [_{VP} \text{John} \text{ kiss Mary}]]]]]$
 [Case] [θ] ([Case]) [θ]

Such a derivational approach to control moves one element from a θ -position of the embedded clause to a corresponding θ -position in the matrix. The difference between raising and control then boils down to whether the matrix subject bears one or two θ -roles. A controller checks two, derived by movement from one to another θ -position, all things being equal—such as additional conditions to rule out unwanted derivational operations, or regardless of whether the controller moves via an embedded SpecTP.²

Leaving further discussion aside for the moment, the obvious question one might pose—if θ -roles really are formal features and if movement into θ -positions is allowed in certain instances—is why arguments do not seem to move from one θ -position to another in simple constructions, i.e. non-control environments.

One striking property of the relevant operation in (1c) is that the two copies of the element bearing two θ -roles are identical.³ By analogy, we could imagine other circumstances that involve identity of sorts to be derivable in this way. Looking back at early generative analyses, one might ask why Lees & Klima's (1963) rule of reflexivization has not been developed in minimalist terms. We could thus consider an analysis that links local reflexives and their antecedents derivationally, where an argument could be merged into the phrase marker and move to yield reflexive interpretation. The lower copy then

² The questionable intermediate position is indicated by the parentheses; see Castillo, Drury & Grohmann (1997, 1999), Epstein & Seely (1999), Grohmann, Drury & Castillo (2000), Bošković (2000), Nasu (2000), and others, for theoretical and empirical arguments against this intermediate position. I will return to these issues later, especially in section 6.3 where I suggest that it is present in control, but not in raising structures.

³ Under the traditional approach (1b), this identity is encoded into PRO by coindexation with the controller.

deletes, as in other cases of movement, and the dependency created by movement involves one phonetically realized DP with two θ -roles.⁴

Recall from (1c) that at one point in the derivation, *John* moves to a θ -position, having saturated (or checked) one θ -role (θ -feature) already, and the lower copy is deleted. The final product *John* has two θ -roles, but only one copy gets pronounced. We could envision a very similar derivation for reflexivization. This does not turn out to be the case, though. Concretely, we do not say (2a) to express (2b),⁵ where the relevant elements are boldfaced, with a relevant derivational history roughly sketched in (3):⁶

- (2) a. * **John** likes.
 b. **John** likes **himself**.
- (3) # [_{VP} **John** likes-*v* [_{VP} likes (**John**)]
 [AG] ([TH])

An element with one θ -role such as THeme cannot move to the next higher position and check a further θ -feature, such as AGent. However, if the only lexical items in the lexical array LA were *John* and *like*, it is not clear what would rule out (3), as it conforms to locality (in terms of the MLC or any version thereof)—unless moving into θ -

⁴ Hornstein (2000) tackles precisely this question and argues for an analysis of reflexives very similar in spirit to the one I propose in the next chapter. Lidz & Idsardi (1998) suggest an alternative way to derive reflexivization rather than construe it. Both approaches will be discussed in chapter 3.

To link antecedent and anaphor derivationally, “covert reflexive movement” has been proposed, that moves the anaphor to its antecedent at LF, or at least adjoins it to the head governing the subject (cf. Lebeaux 1983, Chomsky 1986b, 1993). This approach is very different in technical and conceptual details from the one I explore in this work, or the ones proposed by Hornstein and Lidz & Idsardi.

⁵ I address some obvious exceptions, such as *Mary dressed* or *John shaved* and others, in section 3.4.3.

⁶ As a convention, I indicate all intended derivations that violate anti-locality with the hash mark ‘#’.

positions is ruled out by force or stipulation, or unless some independent constraint on C_{HL} applies.⁷ As I will be going over similar cases in other areas of the clause, the second option has some natural appeal, and this derives anti-locality (section 2.3).

Neither do we, nor could we, employ (4a) to mean (4b), with a relevant derivation in (5), analogous to (3) above:

- (4) a. * **John** introduced Mary (to).
 b. **John** introduced Mary to **himself**.
- (5) # [_{VP} **John** introduced-*v* [_{VP} Mary ~~introduced~~ (to) **John**]
 [AG] [TH] [GO]

⁷ Note that if movement into θ -positions is accepted in general, there could not be a condition that forces the second θ -role to be of the same type as the first. In other words, the reason why the steps indicated in (3) are bad cannot be that they involve two different θ -roles, [AG] and [TH]. Hornstein provides cases which do involve two different θ -roles, the most obvious being object control (Hornstein 1999). Consider a construction like (ia) with a rough representation sketched in (ib), the interesting copies boldfaced:

- (i) a. John persuaded Bill to leave.
 b. [_{TP} John T [_{VP} **John** persuaded-*v* **Bill** [_{TP} to-T [_{VP} **Bill** leave-*v*]]]]
 [AG] [TH] [AG]

Under a movement approach to such structures, *Bill* checks two θ -roles in (i). This DP starts out as the subject of the embedded clause and ends up as the direct object of the matrix clause; it bears [TH] as the controller and [AG] as the controllee. (The highest copy of *Bill* also needs to check accusative case in the matrix clause, not indicated here; see Hornstein (1999: 83ff.) for discussion. I leave Case out of the discussion entirely, especially with respect to the embedded position; Grohmann, Drury & Castillo (2000) address this issue.)

Another example are certain instances of adjunct control, discussed by Hornstein (1998):

- (ii) a. John asked Bill to leave after being kissed (by Mary).
 b. [_{TP} **John** T [_{VP} **John** asked-*v* Bill [_{TP} to-T [_{VP} **Bill** leave-*v*]]]]
 [AG] [TH] [AG]
 [after being kissed **John**]
 [TH]

In (ii), *John* starts out as the thematic object of the passivized verb inside the adjunct, here unlabelled and unattached, and ends up as the subject of the matrix clause; it checks [TH] first, then [AG]. (Movement out of adjuncts is an instance of sideways movement, which I will not discuss here; see Nunes (1995), Hornstein (2000).)

In this case, the movement to be ruled out is from the GOal to the agent position. The parenthesized preposition indicates that it is not so clear what the exact underlying structure of ditransitive constructions is. In all likelihood, the indirect object introduced by a preposition is part of a more complex structure (cf. den Dikken 1995a, Baker 1997) for reasons that will become apparent in due time.

On the same token, (6a) does not mean (6b), but is ungrammatical, just as the other relevant a-examples above.⁸

- (6) a. * John introduced **Mary** (to).
 b. John introduced **Mary** (to) **herself**.

- (7) # [_{VP} John introduced-*v* [_{VP} **Mary** ~~introduced~~ (to) **Mary**]
 [AG] [TH] [GO]

The same applies to (8), where the intended anaphor is a reciprocal, which is similar enough to reflexives to consider here, as it involves two different elements (hence two different θ -roles) bearing more or less the same reference—not identical but close enough, so that it could be a possible candidate for a movement dependency:

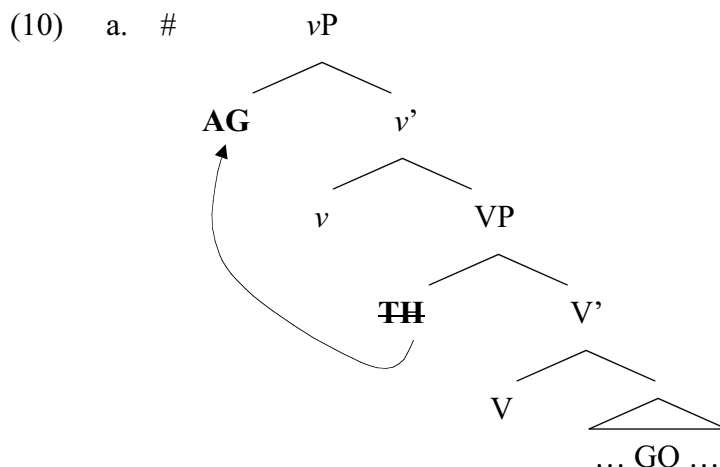
- (8) a. * John put **the cards** (on).
 b. John put **the cards** on **each other**.

- (9) # [_{VP} John put-*v* [_{VP} **the cards** ~~put~~ (on) ~~the cards~~]
 [AG] [TH] [GO]

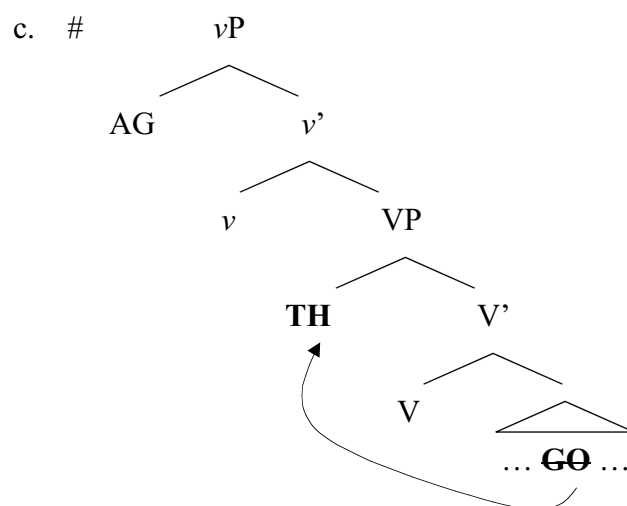
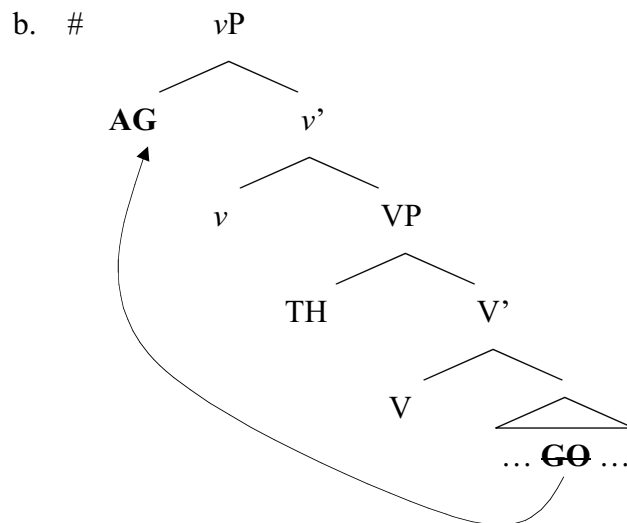
⁸ I ignore double object constructions for the time being, which I address in the next chapter, when we turn to the analysis in the framework laid out below.

Again, apart from some form of the Theta Criterion it is not immediately obvious what would rule out either derivation sketched here. On formal syntactic grounds (such as locality conditions qua MLC), both should be fine.

We can generalize the attempted movement steps for the thematic layer as in (10), where movement of arguments within vP at some point in the derivation is ruled out (again, abstracting away from a more explicit structure of the goal position)—otherwise some constructions like those discussed above would be found.⁹ (The arrows in (10) indicate the intended move of the elements boldfaced above, the copy of the moved element is struck through, and the purported illicit movements are marked with a hash mark rather than a star, conforming to the notation employed throughout.)



⁹ At this time, I consider the structure of this part of the clause as in (10), for expository purposes only. In section 2.4 I address the structure in more detail, supporting the assumptions sketched here. The same goes for illustrations regarding the structure of INFL and COMP in the following two sub-sections.



Movement from theme to agent position, as illustrated in (10a), seems to be ruled out (corresponding to (2a) above); likewise, movement in (10b) appears to be forbidden, from goal to agent position (cf. (4a)), and so does (10c), movement from theme to goal position (see (6a) and (8a)).

As the data above suggest, the movements sketched in (10) really are illicit, whether under a reflexive reading or any other. Thus, at first sight, movement into θ -positions does not seem to be an option in simple clauses. It would be rather unfortunate if arguments could only move into θ -positions in one specific type of construction (i.e.

control), even if a generalization could be concocted that would make this fall out from something else. I am going to propose a generalization in terms of anti-locality that can capture both states of affairs in a principled way—allowing for θ -movement in control, but also in other environments—by banning movement within a specified domain.

2.2.2 *Anti-Locality in Agreement Dependencies*

A similarly paradigmatic case can be constructed for other illicit derivations, and in fact it has been evoked to partly motivate the Case Filter. Just as all arguments apparently must receive one and only one θ -role, according to the Theta Criterion, (at least) all noun phrases need to be Case-marked, and they can only be Case-marked once, that is they can receive only one and only one morphological Case.

If Case-marking is the reflex of a Spec-Head relationship, and if all (at least, structural) Case is checked outside vP ,¹⁰ we could resort to anti-locality to account for the illicit structures in (11), from German (a language with overt Case-marking on DPs):

¹⁰ Within Checking Theory, the traditional distinction between structural and inherent Case is not so easy to maintain anymore. Moreover, if proposals such as Zwart's (1991, 1993, 1994, 1997a) are on the right track, even some languages traditionally viewed as SOV are underlyingly SVO (such as Dutch or German; see also Kayne 1994 for more universal claims); this analysis forces overt movement of all argument DPs and could possibly be motivated by the need to get Case-marked (nominative, accusative, dative etc.). (For counterarguments against this approach, especially for German, see some of the references given in fn. 45.)

However, if this is the driving force behind A(rgument)-movement in these cases, it should also apply to PPs, which sit outside VP at Spell Out. Whether PPs can be argued to need Case (cf. Hornstein 1995) or whether some other feature needs to be evoked is outside the scope of the present discussion. For concreteness, I assume that all argument DPs and PPs in German must move out of their thematic position overtly and the need to check for ϕ -feature agreement is a plausible trigger, accompanied by Case-marking. (These issues will be discussed in more detail as we go along.)

- (13) a. * Der Vater gibt **seinen Sohn** der Wagen.
 the.NOM father gives his.ACC car the.NOM car
intended meaning: ‘The father gives his son the car.’
- b. Der Vater gibt seinem Sohn den Wagen.
 the.NOM father gives his.DAT son the.ACC car
intended meaning: ‘The father gives his son the book.’ (German)

We could sketch the relevant aspects of this derivation as follows:

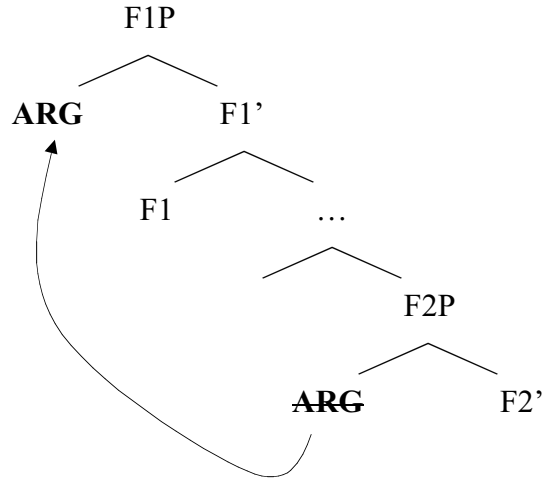
- (14) # [TP der Vater T [AgrIOP **seinen Sohn** AgrIO [AgrOP ~~seinen Sohn~~ AgrO [VP ...]]]]
 [NOM] [DAT] [ACC]

In earlier approaches to the Principle and Parameters Theory, these illicit steps are ruled out by the Case Filter. In minimalism we could argue that were a DP to move to two Case positions, another DP could not check its Case and the derivation would crash. The latter approach cannot, however, easily account for why a given DP might not enter the derivation with two Case features, while another could come with default case. There are instances in which default case is clearly licensed, such as in hanging topic constructions.¹³ We would have to stipulate that two Case features cannot be part of the internal make-up of a DP. In either case, something additional has to be said, and combined with the illustrations from the previous sub-section we now have a couple of instances expressing anti-locality: some structural configurations are too close to be licensed.

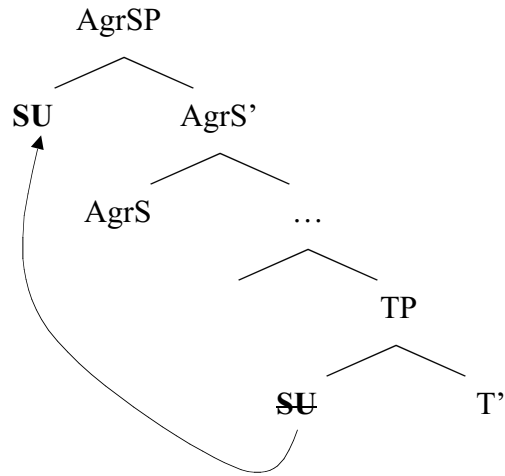
This brief discussion suggests that a generalized derivational step such as (15a) is neither found nor theoretically desirable. Suspending further discussion for now, this constellation can be extended in ways sketched below, and possibly more. Hence, what we are looking for are ill-formed steps in the derivation of the sort illustrated here:

¹³ I return to hanging topics in chapter 4, in the larger context of left dislocation. The notion of default case shall not play any further role here. For an interesting proposal of its properties and licensing conditions in a minimalist framework, see Schütze (1999).

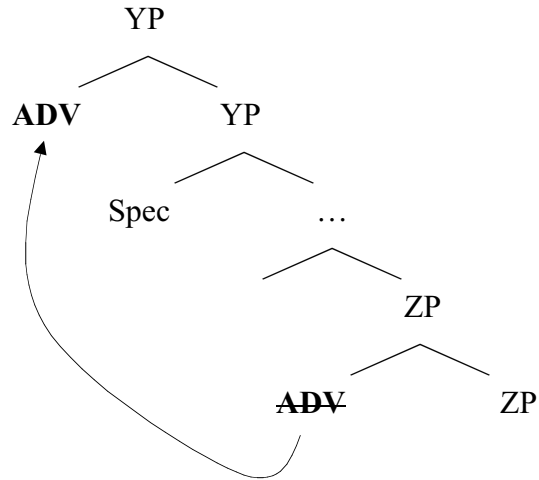
(15) a. #



b. #



c. #



(15a) is the literal transposition of (10) into the next structural layer.¹⁴ This relates apparently forbidden multiple θ -movement and equally apparently forbidden multiple Case-movement, basically subsuming the Theta Criterion and the Case Filter under one illicit configuration. I challenge both the Theta Criterion and the Case Filter in their original application on the one hand, and the prohibition of multiple θ - or Case movements on the other. However, before going there, I want to stress the parallelism between the data covered in this sub-section and the last one, expressed in (15a). The hypothesis at this point would be then that the thematic layer and the agreement layer both constitute a specified domain within clause structure over which anti-locality could be defined.

For the sake of completeness, I illustrate other possible movements to be ruled out in this part of the clause. (15c) is immediately ruled out under the conditions on movement mentioned before: if movement is driven by feature checking and if feature checking is the result of Spec-Head configurations only, movement to an adjoined position is ruled out (see section 3.2 for extensive discussion). *Ceteris paribus*, this should thus also apply to the structure (15b).

2.2.3 *Anti-Locality in Discourse Dependencies*

Lastly, consider the left periphery of the clause. Among many others, Rizzi (1997) proposes a finer structure for COMP, an articulate CP-layer (or “split CP”). Presumably, propositional operators are licensed in this part of the clause, and so are clear discourse-relevant elements such as topic or focus, or the part of the derivation that is responsible for typing a clause, the illocutionary force.

¹⁴ Note that only (15a) has been illustrated above. In (15a), “F η P” stands for any ϕ -position (TP, AgrOP, AgrIOP) and “ARG” for any argument. (15b) illustrates a split subject position into AgrSP and TP, which I will come back to. “ADV” in (15c) stands for adverb and the labels of the projections do not matter much, also to be discussed later.

I discuss the properties and structure of COMP in more detail in section 2.4.3, but let us assume some structure of the form Rizzi suggests:

(16) [CP C [TopP Top [FocP Foc [TopP Top [FP F INFL]]]]]

Pending more discussion, CP (Rizzi's ForceP) expresses the clause type, Top(ic)P hosts syntactically displaced topics, Foc(us)P a focus-moved constituent, and FP other, discourse-relevant material. (Chapters 4 and 5 deal with COMP in considerable detail.)

Regarding two sometimes related positions at the high end of the COMP-spectrum, a move from FocP to CP could be envisioned under the following set of assumptions concerning Wh-questions: Wh-phrases, being inherently focused, target FocP, if they move at all (Brody 1990 and much subsequent work).¹⁵ CP serves as the locus of clause-typing in Rizzi's terms. Within a framework assuming a simple, non-split CP, Cheng (1991) held CP responsible for hosting all Wh-elements at the relevant level of interpretation, i.e. LF, possibly also hosting a Wh-operator. Putting Cheng's claim into a split CP perspective, the Wh-phrase could be argued to move to FocP and check a focus feature, and then move on to CP to type the clause interrogative.

These assumptions are not adopted here. Rather, following much recent literature, I assume that Wh-phrases indeed target FocP but need not (hence must not) move further; neither do in-situ Wh-phrases undergo LF-movement. Clause-typing is done in CP, by (movement of) a Q-morpheme.¹⁶ It is [Q] that targets to CP, and Wh-phrases may (Eng-

¹⁵ I refer to movement in the overt syntax. Wh-in situ languages might not involve overt movement (Huang 1982) or maybe no movement at all (Aoun & Li 1993a, 1993b, Brody 1995). I address this issue in chapter 5.

¹⁶ For the role of Wh and FocP, see Rizzi (1997, 2000), Citko (1997), Bošković (1998b), Grohmann (1998, 1999b), Hagstrom (1998), Citko & Grohmann (2000, forthcoming), and others. Moreover, Boeckx (1999b) raises additional empirical arguments against Cheng's typology. I will return to this issue, and many others, in detail in chapter 5.

lish) or may not (Chinese) move to FocP, or somewhere below (Serbo-Croatian). SpecCP is thus not a possible landing site.

Hence, only (18b) is an admissible representation for the relevant part of (17), disregarding for the time being where the Q-operator comes from:

(17) **Who** did Mary kiss?

- (18) a. # [CP **who** C [FocP ~~**who**~~...]]
 [Wh] [Foc]
 b. [CP **Q** C [FocP **who** ...]]
 [Q] [Wh]

In other words, if there is something to a (so far, intuitive) notion of anti-locality ruling out movement to a position too close, we might arrive at an explanation why structures such as (18a) should be ruled out. While other conditions, such as an economy condition that forces the least amount of movement (“Fewest Steps;” cf. Zwart 1996b, 1997b) or some version of Greed, might be able to derive the same result in this case, they could not do the work that a generalized theory of anti-locality, as I present in the next section, can: my observation that movement to a position too close is illicit holds for all relevant structures in the clause—theta domain, agreement domain and discourse domain.

Consider another structure that involves possibly multiple C-related positions. We could envision something like the following if we followed Rizzi (1997) to the letter and assume that FocP is couched in between two topic projections. Suppose that (19a) and (19b) are well-formed Italian sentences, and that *domani* ‘tomorrow’ is a topic in both cases, with *questo* ‘this’ being the focused constituent (indicated by capitals):

- (19) a. Credo che a Gianni, QUESTO, **domani**, gli dovremmo dire.
believe.1SG that to Gianni this.FOC tomorrow him should.1PL say
'I believe that to Gianni, we should say THIS tomorrow.'
- b. Credo che **domani**, a Gianni, QUESTO, gli dovremmo dire.
(Italian; Rizzi 1997: 295-296)

If anti-locality can be shown to apply across the board, *domani* 'tomorrow' must move to TopP in one fell swoop from wherever it originates, and not pass through a lower TopP, as illustrated in (20):

- (20) # ... che [_{TopP} **domani** [_{TopP} a Gianni [_{FocP} QUESTO [_{TopP} **domani** gli [_{TP} ...]]]]]

Naturally, the same kind of considerations already mentioned could rule out this movement (Fewest Steps, Greed etc.) or we could assume that no element may check the same feature twice (such as a [Top]), at least not within one clause (as to accommodate successive-cyclic movement). But to my knowledge, no single condition could capture all of the above, especially if we include the thematic dependencies discussed.

A third case of an anti-local dependency in the COMP region that comes to mind concerns so-called "Wh-topics," Wh-phrases that also function as topics (cf. Tang 1988, Wu 1996, 1999, Grohmann 1998, 1999c, den Dikken & Giannakidou 2000; see also the discussion in chapter 5). A technical implementation of anti-locality would not only rule out a derivation that moves the Wh-phrase to both, a topic and a focus/Wh-position in theory, but also empirically. Thus, whatever the status of Wh-topics, it cannot involve movement to a topic and a Wh-position, as the following shows.

One instance of a Wh-topic is a fronted Wh-element in a Wh-in situ language such as Chinese (see chapter 5). Wu finds peculiar interpretive restrictions on the Wh-phrase, reminiscent of topics rather than (focused) Wh-elements: the fronted Wh-phrase is not quantificational, it does not allow pair-list interpretations, and so on. One possible

explanation could be that the Wh-phrase moves to both, TopP to check [Top] and FocP to check [Wh]. However, if anti-locality in the loose sense used so far applies to COMP as well, the derivational steps in (21b) for a construction like (21a) should be ruled out:

- (21) a. **Shenme** Zhangsan mai-le?
 what Zhangsan buy-ASP
 ‘What did Zhangsan buy?’ (*Chinese; Wu 1996: 173*)
- b. # [TopP **shenme** Top [FocP **shenme** Foc [TP Zhangsan mai-le **shenme**]
 [Top] [Wh]

Regardless of the ordering of the topic and the Wh-position, we do not want this double movement above TP. As I will discuss in detail later, this objection receives independent support. As a Wh-in situ language, Chinese does not overtly front Wh-elements to license an interrogative (Huang 1982). Thus, it should never front a Wh-phrase to check [Wh], at least not in the overt syntax (any version of Economy will do). As such, we can accept Wu’s analysis and assume that *shenme* ‘what’ just moves to TopP.

A similar case can be constructed for English. As the paradigm in (22) suggests, a Wh-phrase in English that possibly occupies a structural topic position—regardless of whether it moved to TopP first or last—is ruled out (cf. Lasnik & Saito 1984, 1992, Rizzi 1996). Given that the English Focus head is verbal (cf. (22b), where *never* presumably sits in SpecFocP) and that the Topic head is not (the topic *Mickey Mouse* has moved to SpecTopP in (22a)), (22c) cannot involve the Wh-phrase in FocP (compare with (22d), where the auxiliary has raised to Foc). On the other hand, Wh-elements in English move to FocP overtly, so we could not say that *who(m)* in (22c) sits in SpecTopP at Spell Out.

- (22) a. **Mickey Mouse**, the Americans will elect for president.
 b. **Never** will the Americans elect Mickey Mouse for president.
 c. * **Who(m)**, the Americans will elect for president?
 d. **Who** will the Americans elect for president?

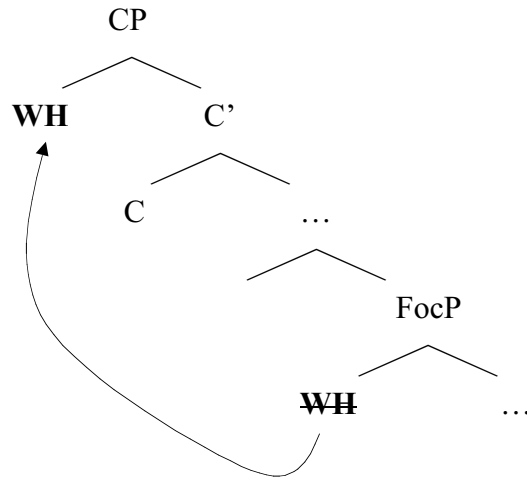
The relevant derivational step of (22c) cannot look like either possibility in (23), setting aside possible movement of *will* (which should not rescue either structure):

- (23) a. # ... [_{TopP} **whom** Top [_{FocP} **whom** Foc [_{TP} the Americans will elect...]]]
 b. # ... [_{FocP} **whom** Foc [_{TopP} **whom** Top [_{TP} the Americans will elect...]]]

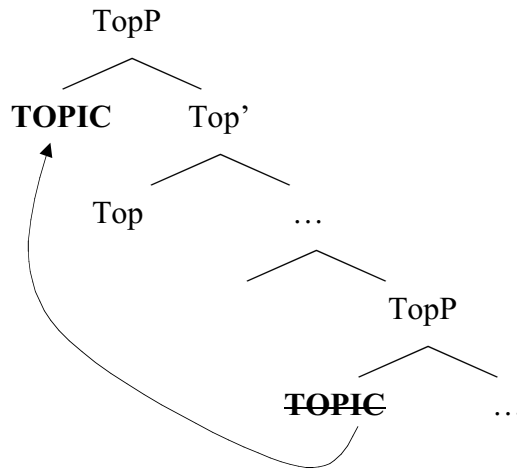
Again, one might want to resort to other conditions. Criteria come to mind: the one element satisfying the Topic Criterion cannot at the same time satisfy the Wh-Criterion (Rizzi 1996), for example. Or we could blame it on the semantics and say that a topic cannot be a focus at the same time. However, there are good reasons to avoid representational conditions such as criteria, for the same reason we do not want to keep filters of sorts, if there is anything to substantive economy: they are grammatical formatives that are not virtually conceptually necessary. Likewise, as we will see in chapter 5, there are good reasons to believe that Wh-elements can behave topic-like and still be quantificational. In short, there is currently no uniform explanation for all the illicit movements noted in this section; an anti-locality condition defined over Prolific Domains offers one.

On analogy with the illicit moves depicted in (10) and (15) above, (24) contains a sample of movements that would violate anti-locality in the C-layer, given the structure sketched in (16) above which I address in section 2.4.3 and subsequent chapters. (24a) illustrates Wh-movement from FocP to CP, initially considered for (17), (24b) sketches topicalization of one element involving two separate topic positions within one clause, relevant for (19), and (24c) demonstrates the illicit movement of a Wh-phrase from TopP to FocP (cf. (21a) or (22c)).

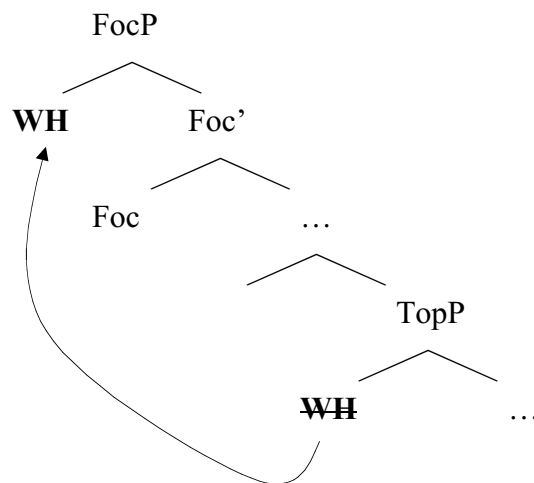
(24) a. #



b. #



c. #



2.2.4 Summary

To summarize this section, I introduced some basic data that, I argue, demonstrate anti-locality: some movement steps are illicit because the potential dependency formed would contain two positions that are too close to each other, or too local (*anti-local*). In the thematic layer, the proto-typical case involves a movement dependency that would include two θ -roles. The agreement layer cannot involve dependencies that contain two Case-markings (or two sets of ϕ -features). Likewise, illicit dependencies in the discourse layer involve any interaction between topics, focused elements or Wh-phrases and checking of more than one of these features. The choice of the three-way split above is no accident: I now take these layers and consider them in a bigger picture of anti-locality.

2.3 Towards a Theory of Anti-Localities

It is time to lay out some specifics with regard to the concept of *anti-locality*. This is the road map to anti-locality: I propose to split the clause into three *Prolific Domains*, each ranging over a specific *context*. I first discuss what a Prolific Domain is and what it does (section 2.3.1); chapter 6 deals with more discussion beyond the obvious. I then define anti-locality in terms of the *Condition on Domain Exclusivity* (section 2.3.2); I first demonstrate Exclusivity empirically in section 3.4, continue in chapter 4, further assume its presence in chapter 5, and finally address some predictions and consequences in chapter 6. Finally, I turn to some aspects of a finer architecture for each Prolific Domain, that is the internal structure of each layer, or *domain*, relevant for anti-locality evaluation, hence *prolific* (section 2.4).

2.3.1 *Prolific Domains*

In specifying what a Prolific Domain is,¹⁷ I rely on the earliest conceptions of clause structure in generative grammar. For the longest time (see Chomsky 1986a in terms of X'-Theory), a sentence has been taken to have a structure like (25):

(25) [COMP [INFL [VP]]]

One way of motivating the three parts of the clause noted in (25) is functionally.¹⁸ The verb phrase (or other appropriate equivalents) contains the predicate of the clause and the minimally predicated element(s). That is to say, in a typical transitive clause we would find the predicate (e.g. verb) and its arguments (e.g. agent, theme) merged here. INFL(ection), S, IP, TP or any other notational variant, marks the clause for at least agreement and tense. In this part of the clause, we can typically observe subject-verb agreement (found even in English), alongside nominative case-marking on the subject, accusative for the object, other types of verbal agreement, and so on; this part also seems to license most additional information regarding the more articulate properties of tense and aspect, including licensing of the relevant adverbial material. COMP(lementizer) or CP is the locus of A'-elements (at least fronted Wh-phrases, certain types of topic and focus, and so on); it is also the domain that expresses the clause type and that contains propositional operators (both of which I will return to in detail).

¹⁷ By convention, I capitalize Prolific Domain to designate its technical meaning, and set 'Domain' apart from other uses of 'domain' (as relevant for binding, as a descriptive cover term etc.).

¹⁸ By "functionally" I mean the three-way split expounded here—theta, agreement and discourse properties. While it may be an interesting question why exactly these (and why, if I am correct, only these) three layers should bear such relevance for computation on the clausal level, but I do not pretend to have anything insightful to say. I would rather pick up the pieces from the apparent fact about language that information is structured this way and the functions of the (three) domains of the clause are the way they are.

We can summarize the intuition behind Prolific Domains as follows, where the Greek letter corresponding to the properties and Δ for Domain are conventions:¹⁹

(26) *The concept of Prolific Domains ($\Pi\Delta$)*

- i. θ -domain: the part of the derivation where theta relations are created
- ii. ϕ -domain: the part of the derivation where agreement properties are licensed
- iii. ω -domain: the part of the derivation where discourse information is established

The layer responsible for selection requirements (“theta relations”) encompasses the lexical verbal head V, the functional verbal head v , and their respective complement and specifier positions plus adjoined material, or whatever of these is present in a given construction. Given that up to the point of completion of vP (by merging the external argument into Spec vP , glossing over possible adverbial modification or other adjuncts)—but not beyond—each XP is limited to one occurrence, this layer pertains to the theta domain, or θ -domain. (As a shorthand, I indicate this part as $\theta\Delta$, where relevant.)

Beyond the θ -domain, a layer of functional projections emerges that licenses verbal morphology and agreement, from aspectual, negative and certain modal properties up to tense (see especially Cinque 1999 for elaborate discussion); TP, thus, is the projection that ultimately dominates the articulated INFL—whether we take T to be “real” or a cover term (possibly in the sense of Chomsky 1998, 1999).²⁰ The projections employed

¹⁹ See also Rizzi (1997: 281). In a recent paper, Platzack (in press) comes to a similar conclusion about the composition of the clause, independently developed. Space does not allow a detailed comparison between Platzack’s system and the present one, but some hints will be given in chapter 6 (see Grohmann 2000a).

²⁰ I shall remain agnostic as to whether an agreement projection for the subject, such as AgrSP, should be part of the inventory (see Pollock 1989, Belletti 1990, Chomsky 1991, Zwart 1993), or whether its purpose could be cashed out otherwise. The presence of AgrSP seems to be supported by recent work on pronominal properties of Italian dialects, in particular, further suggesting a more intricate split into separate projections for person, number and gender, each licensing a different kind of clitic (see Manzini & Savoia 2000, Poletto 2000 or Tortora 1999, to appear, for example).

(continued...)

in (15) above seem to serve the main purpose to license verbal morphology (overtly or covertly).²¹ This licensing is arguably achieved by checking, through successive-cyclic head movement. Moreover, the subject is licensed in SpecTP in a Spec-Head configuration; dispensing with separate Agr-projections, all properties pertaining to Case, agreement and ϕ -features would thus ideally be checked somewhere in this domain. Let us say that (argument) XPs must move into this Prolific Domain for purposes of agreement or ϕ -licensing. Call this part the ϕ -domain (or $\phi\Delta$ for short).

Running through further projections, and following the standard notion of successive head-movement, we reach the C-layer next. Initially conceived of as COMP or S', empirical evidence suggests a more intricate internal structure, such as the finer articulation of CP proposed by Rizzi (1997) briefly introduced in the previous sub-section. I assume such an articulate structure, making available positions that express discourse properties (such as point-of-view, topic, focus or illocutionary force). On analogy with the other two Prolific Domains, this part represents the ω -domain ($\omega\Delta$).²²

As will perspire from the remainder, AgrSP could easily be integrated into the present framework—as long as movement to SpecAgrSP does not pass through SpecTP. I thus employ TP as the designated subject position, which might be just a collective cover term. This, and other issues, cannot be addressed in this work. Once the framework is on the table, and supported with the coverage offered in the following chapters, a number of predictions and consequences for a host of relevant phenomena will be apparent, but it has to be left for future research to work out the details of those phenomena that have been argued to involve movement within a Prolific Domain (participle agreement discussed by Kayne 1989, Belletti 1990 or quantifier scope à la Beghelli & Stowell 1997, for example). Chapter 5 contains a hint at a possible solution in terms of “syncretic” categories (Giorgi & Pianesi 1997, Zubizarreta 1998) in the context of types of scrambling.

²¹ See Baker (1988) on the Mirror Principle and evidence for a hierarchy of verbal morphology.

²² The choice of the terms θ - and ϕ -domain is obvious; ω as a 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 ω which might be useful, too, derived from the Greek word *ωριμότητα* ‘ripeness, maturity, full growth’. (As such, one may pronounce “ ω -domain” as ‘omega-domain’ or ‘orimo-domain’.)

There is an intuitive appeal behind the idea that clauses divide functionally along the lines noted. We can find further support for the idea that clauses are arranged in a three-tiered set of Prolific Domains within verbal morphology. We can split the occurrences of verbal elements into the same three parts: the lowest part, without any inflection (purely creating thematic relations with arguments), the middle part, where inflection is marked on the verb (licensing agreement relations), and the highest part, where morphological marking is basically absent (establishing at most discourse information).²³

Natural language possesses a large number of verbal inflection for elements in the ϕ -domain, such as tense, aspect, voice or agreement (see especially Cinque 1999). Interestingly, though, there are no unique morphological markers defined over the θ -domain (such as agent-, goal- or theme-inflection) or the ω -domain (such as Wh-, topic- or focus-inflection). Some morphemes may show up on the verb, of course, but for different reasons, namely as the result of verb raising to a C-head which presumably is driven by forces other than the need to pick up agreement or license arguments. Some languages encode reflexive markers on the verb as well, but there are good reasons not to think of these morphemes in the same way as we think of the tense-aspect-agreement complex.

Let us take (27) to be an adequate definition of a Prolific Domain:^{24,25}

²³ Except, perhaps, mood (e.g. subjunctive), which arguably is construed with the C-layer rather than the T-layer (cf. Rivero 1994). This concept is directly linked to other properties, however, which we can abstract away from for now. It does not really matter whether this state of affairs indeed holds. The reasoning is not meant to constitute an argument for anything, but simply another indication of the present three-way split.

²⁴ I will flesh out the concept of Prolific Domains in chapter 6, where I discuss how it fits in with recent ideas on interfaces, such as ‘phases’ (Chomsky 1998, 1999), ‘multiple interfaces’ (Platzack, in press), and potentially ‘opportunistic’ interaction between the PF and LF interfaces and C_{HL} (Boeckx 1999a). To put it crudely, I suggest that the two interface components (or levels of representation), PF and LF, are mapped cyclically: each time a Prolific Domain is established, it gets spelled out, that is, shipped to the interfaces.

²⁵ Anticipating the following discussion, I still hold on to a notion of successive-cyclic head movement. The attentive reader might be puzzled as to how this could fit in with the instances of anti-locality demonstrated so far, basically ruling out too local movement steps —under the reasonable assumption that head movement is very local. I will show

(continued...)

(27) *Prolific Domain* (working hypothesis)

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.

I take the mnemonics θ , ϕ and ω to be “context values,” part of the information contained within each head (cf. “extended projections” à la Grimshaw 1990 or Ernst, to appear). Thus, V and v , for example, come equipped with the context value $|\theta|$, T or Agr with the context $|\phi|$, and Top or C with the context $|\omega|$. This convention identifies a number of heads, and by extension projections, as part of the same context. This information is relevant in two aspects: first, it groups various projections into a single Prolific Domain; second, each Prolific Domain contextually identified in this way ships the information relevant for the specific context to the interfaces. I will expound this idea in chapter 6. For now, let us take (27) at face value when we talk about Prolific Domains.

2.3.2 *Exclusivity*

With the notion of Prolific Domains in place, we can account for the data discussed in section 2.2 in terms of an anti-locality condition on movement. The instances of illicit movement, which I ascribed to anti-locality throughout the discussion, all take place within a single Prolific Domain.

As a first pass then we could understand anti-locality as a ban on movement within a single Prolific Domain. This seems to be too restrictive, though. It would imply that head movement does not exist. The standard implementation of head movement is a successive-cyclic operation, subject to very strict locality conditions, expressed by the

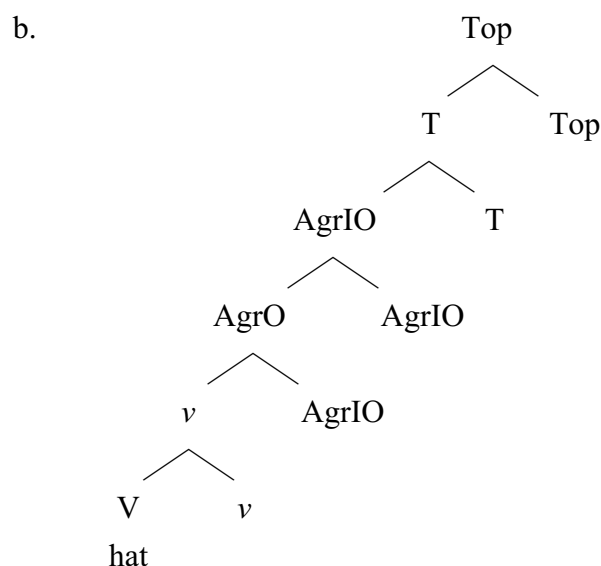
that it does in the next section, capitalizing on the different (morpho-/phonological) properties ascribed to head movement (qua adjunction) vs. phrasal movement (substitution).

Head Movement Constraint (Travis 1984). As such, we assume that every head moves to the next available head and cannot skip it (see, for example, Chomsky 1995a, Lasnik 1999, and the references cited there).

If we said that anti-locality bans all Domain-internal movement, we would expect a relevant structure of the type of (29a) for a simple sentence like (28) from German, which has overt verb movement (boldface). The standard analysis, however, is the complex head depicted in (29b), the result of successive-cyclic movement via all intermediate head positions:

- (28) Der Anna hat der Peter einen Kuß gegeben.
 the.DAT Anna has the.NOM Peter a.ACC kiss given
 ‘Anna, Peter gave a kiss.’ (German)

- (29) a. # [_{TopP} der Anna **hat**-Top [_{TP} der Peter **hat**-T [_{AgrIOP} ~~der Anna~~ AgrIO
 [_{AgrOP} einen Kuß AgrO [_{VP} ~~der Peter~~ v [_{VP} **hat**-V [_{VP} ~~einen Kuß~~
 gegeben-V ~~der Anna~~]]]]]]]]]



In other words, in order to rule in (29b) we must allow verb movement within a Prolific Domain. If so, anti-locality could be a ban on *phrasal movement* within a single Prolific Domain (Grohmann 1999a, 2000a, 2000c). Call this “XP-uniqueness,” a condition that a given XP must be unique within a single Prolific Domain, or the occurrence of copies of one object in a phrase marker must be exclusive in each Prolific Domain.

The main problem with this definition is its apparent *ad hoc* character. Why are only XPs subject to such an anti-locality condition? I suppose this could be motivated, especially in the light of recent doubts on the nature of head movement, if not its place in the grammatical component altogether (see Chomsky 1998, 1999, Boeckx & Stjepanović, in press). XP-movement could thus be considered a syntactic operation, while X^0 -movement would be something else, perhaps a (strictly) phonologically driven displacement operation taking place in the PF component.

In an ideal world, however, we have a theory with as few stipulated conditions as possible. Intuitively, though, a theory which derives most of its conditions—either from other, independently needed or motivated components of the theory or by virtual conceptual necessity—should be chosen over an alternative that might yield the same empirical coverage, but needs to stipulate additional components. This is a basic application of Occam’s Razor to choosing a particular theoretical framework; see also Martin & Uriagereka (2000) for some relevant discussion on a theory of grammar.

I take this as my guiding principle to leave behind the idea of “XP-uniqueness” in a formal way (i.e. built into the definition) and replace it with a principle very similar in spirit, but easier to motivate or derive. I propose the Condition on Domain Exclusivity (CDE or Exclusivity for short) to capture anti-locality defined over Prolific Domains.²⁶

²⁶ (30) is different from an earlier formulation of the CDE purely as XP-uniqueness (Grohmann 2000a: 63).

(30) *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.

The object O refers to any structure within a Prolific Domain, such as DP, PP, VP, v' and so on (and their sub-structures) within the θ -domain, for example. The notion of AI will be discussed in section 6.1; let us take it to mean here that a licensed occurrence of O signals its presence to the interfaces and this presence must be unique (or exclusive). The “drastic effect on the output” is understood in terms of a different PF-matrix of O. A multiple occurrence of O is more than one *non-distinct* copy of O. In other words, if a multiple occurrence of O involves two *phonetically distinct* copies of O, the CDE is not violated. This translates into the following: if moving O within a $\Pi\Delta$ is followed not by deletion of the copy of O, as in standard cases of movement (which would violate the CDE), but by *spelling out* of the copy, with a different PF-matrix, the CDE can be upheld (by (30ii)).²⁷ Empirical coverage of this part of the CDE will be the topic of the second part of chapter 3, the main focus of chapter 4, a background assumption in chapter 5, and addressed further in chapter 6. I consider the CDE in more detail next.

²⁷ In chapter 6 I will suggest that Prolific Domains can be conceptualized as shipping their internal information off to the interfaces, the PF and LF components. LF could not care less how many copies there are, as long as each copy fulfills a different function (i.e. checks a different feature). PF, however, cares about too much information, particularly worries about repetition. This is the standard argument for the obligatory deletion of copies (Chomsky 1995a), reformulated by Nunes (1995) in terms of linearizability of strings. An LCA-driven need for deletion fits in nicely: if the PF-matrix of O looks different, I consider later, both copies should not only be interpretable at PF, but also linearizable. A distinct PF realization of two copies may thus serve as an escape hatch (see chapters 3 and chapter 4 for empirical demonstration).

I take an occurrence of O to be defined over O’s mother (“Immediate Contain,” Chomsky 1999) rather than its sister (“Sister,” Chomsky 1998). I will address the issue in considerable detail in the first part of chapter 3 and discuss consequences in the second part of chapter 3, returning to those in chapter 6.

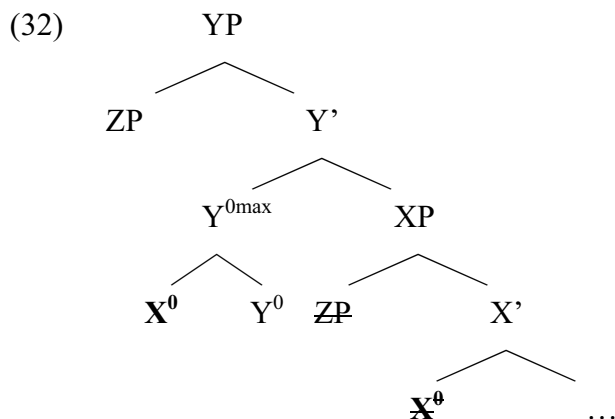
Let us start with terminology. Recall from section 1.3 that in Copy Theory, the complex operation Move takes an object O, Copies it and Merges it at some later point. This operation is one of substitution. The copy, usually the lower one, is then deleted, presumably for phonological reasons: as Nunes (1995, 1999) shows, failure to delete one copy leads to a failure to linearize the two copies; the lower copy is deleted because by definition it has more unchecked features than the higher copy. However, it is not erased—in many cases we want it to be there at the interpretive component (LF). And as many cases of reconstruction indicate, the displaced element often has access to the original position, and in principle, either copy could be interpreted. This said, we can understand “occurrence” as a copy, whether active or deleted, within a relational domain defined in terms of motherhood (see fn. 27). Non-distinctness is understood in terms of Select: if a lexical item LI is selected for the LA once and copied in the course of the derivation, the two (or more) copies are non-distinct; two selections of one LI are distinct copies. The CDE in (30), then, rules out two copies of the same element within one Prolific Domain.

In light of this, consider head movement once again. The standard view of head movement is adjunction. A head X moves to another head Y by adjoining to Y, yielding $[_Y X-Y]$. Rather than (31b), (31c) or any other alternative, a complex head formed by one movement of X to Y looks like (31a):²⁸

- (31) a. $[_{YP} ZP [X^0-Y^0]-Y^{0max} [_{XP} ZP X^{\theta}]]$
 b. # $[_{YP} ZP X^0-Y^0 [_{XP} ZP X^{\theta}]]$
 c. # $[_{YP} ZP X^0 [_{XP} ZP X^{\theta}]]$

²⁸ Following conventions of Bare Phrase Structure, a complex head is X^{0max} , and X^0 denotes the intermediate projection of the head which another element adjoins to. We can mostly refrain from specifying heads.

Following Chomsky (1994, 1995a), head movement adjoins by forming a two-segment category (adjunction, (31a)), rather than a one-segment category (never allowed, (31b)) or a new category (substitution, (31c)). Let me graphically magnify (31a).



To illustrate the abstract representations with natural language, consider German again, where the lexical verb arguably moves quite high. The correct derivation of the relevant parts of a simple sentence like *Peter schläft* ‘Peter sleeps’ is (33), where I use the simplified notational convention of $t(\text{race})$ to indicate former head positions:

$$(33) \quad [_{\text{TP}} \text{Peter} [[[[\text{schläft-V}^0]_i - \nu^0] - \nu^{0\text{max}}]_j - \text{T}^0] - \text{T}^{0\text{max}} [_{\nu\text{P}} \text{Peter } t_j [_{\text{VP}} t_i]]]]$$

Returning to the definition of Exclusivity (the CDE in (30)), the two copies of *Peter* in (33) are non-distinct: there is only one LI *Peter* selected for the LA. Moreover, both copies look roughly like $[_{\text{DP}} \text{Peter}]$ and have the same morphological make-up and share the same PF-matrix; yet they differ with respect to their feature set-up: the lower copy has unchecked ϕ -features, possibly Case also, which the upper copy has checked. This is the motivation to delete the lower copy, where deletion is taken to be necessary for linearization (see Nunes 1995, 1999). As they occur in two different Prolific Domains (the θ - and the ϕ -domain, respectively), this movement is well-formed. The lower copy

gets deleted and the two occurrences of *Peter* in the phrase marker (not in one Prolific Domain) can be linearized. The three heads involved here (V, ν , T), are distinct, however. The original V is [*schläft*-V⁰], ν consists of [[[*schläft*-V⁰]- ν^0]- ν^{0max}] and T presumably has the complex structure [[[[*schläft*-V⁰]_i- ν^0]- ν^{max}]_j-T⁰]-T^{0max}. Head movement arguably involves concatenation of morphemes, and we can safely assume that even functional heads such as ν bear a (possibly, zero) morpheme (often expressed in causative morphology, for example). As a result, the newly created complex head V- ν -T is distinct from its original; whether the different morphological forms imply a different PF-matrix, or whether it is simply enough to distinguish two copies shall not be our concern.²⁹ We can thus see that the simple head V and the complex head V- ν occur in the same Prolific Domain, but are distinct; hence this movement is permitted, and also falls under (ii) of the CDE.³⁰

In sum, anti-locality boils down to a ban on movement of a maximal projection from one position to another within the same Prolific Domain, as it results in two non-distinct copies. If either copy is deleted (arguably a “drastic effect on the output” in (30)), the two cannot be linearized (see also next chapter). Spelling out the lower copy is a repair strategy, corresponding to (30ii), which I will discuss later. Movement of a head does not play a role, as this operation creates a distinct copy, also satisfying (30ii).

²⁹ Alternatively, head movement could be viewed as changing the PF-matrix: assume that V is actually *schlafen* ‘sleep’ (the infinitive) and it checks the relevant inflection in higher heads (such as third person singular –s in T). Even if no inflection is “picked up,” as in ν , we could assume that the PF realizations of V and V- ν are different. This is reminiscent of an Affix Hopping approach to head movement, originally introduced by Chomsky (1957) and recently revamped under minimalist assumptions by Lasnik (1995a). This might not be the preferred implementation of distinctness of heads, possibly being incompatible with a lexicalist approach (see Potsdam 1997, Roberts 1998 for criticism and Lasnik, in press for a reply).

Regardless of whether we assume that head movement is always an instance of incorporation, which quite clearly has a morphological effect, or something else entirely, the assumption that head movement changes the internal make-up relevant for distinctness does not seem to be too controversial. I am grateful to Anna Roussou for discussing this point with me.

³⁰ Movement of ν to T has no bearing on the issue for obvious reasons (as it involves two different Prolific Domains, the θ - and the ϕ -domain).

2.4 On the Internal Architecture of Prolific Domains

The concepts introduced above will be supported empirically, explored conceptually and refined technically throughout the remainder of this work. First, though, let us look at the fine structure of each Prolific Domain, by way of introducing the present assumptions on clause structure and derivation in a minimalist framework.

2.4.1 *The θ -Domain*

Many efforts have been made into figuring out the exact structure of the θ -domain. For example, Larson (1988, 1990) proposes a reiteration of VP in terms of VP-shells, Hale & Keyser (1993) implement a functional verb phrase on top of the lexical one, where the functional verb is often manifested as a light verb, and so on (Baker 1988, Marantz 1993, den Dikken 1995a, Koizumi 1995, Pesetsky 1995, Anagnostopoulou 1999). I adopt a version of the light verb approach and take the structure of the thematic layer to consist of VP (hosting the lexical verb), usually dominated by v P (light verb).

I assume, without further discussion, the Predicate-Internal Subject Hypothesis (PISH): the subject is base-generated inside the predicate.³¹ In the case of a transitive verbal predicate, the thematic subject ('agent') position is Spec v P.

Neither assumption seems unreasonable. An issue of much debate, however, are the positions of direct and indirect object (or 'theme' and 'goal'), both with respect to each other and regarding the question whether the latter in particular is a simple constituent of VP (Spec or Comp) or part of a more articulate sub-structure (such as a small

³¹ See e.g. Fukui (1986), Kuroda (1988), Koopman & Sportiche (1991), for arguments. Recent presentations of the theoretical motivations and empirical evidence in favour of the PISH can be found in McCloskey (1997), for example, further reviewed by Hornstein, Nunes & Grohmann (in progress).

clause or other predication structure). For reasons that will become apparent shortly, I take a stance on the former question and assume that in ditransitive constructions the direct object is merged into SpecVP and the indirect object is merged into the complement position of the verb (henceforth referred to as CompVP³²).

For the main part, I remain agnostic as to whether CompVP is more articulated (see, in particular, den Dikken 1995a); it may very well be, but as far as I can see, nothing much of the discussion in this chapter, or any other, hinges upon this assumption. I also refrain from discussing whether the direct object is always in SpecVP or whether its original merging site is CompVP in simple transitives.³³ This might not be implausible. Baker (1997) advocates the former, and Baker & Stewart (in progress) offer more empirical support; Pietroski (2000, in progress) supports this view from a semantic perspective. If this turns out to be fruitful, an additional projection might be called for, predicated of V. I do not believe that the final outcome has any effect on what follows, however.

I already indicated TH over GO in the structures employed in section 2.2.1 above. For the time being let us then assume that (34a) is the correct, if simplified, underlying structure for ditransitive structures and (34b) for transitive ones (if only for convenience):

- (34) a. [_{VP} AGent V-*v* [_{VP} THeme ~~V~~erb GOal]]
 b. [_{VP} AGent V-*v* [_{VP} ~~V~~erb THeme]]

I do, however, assume that Chomsky (1991, 1993) was right in further splitting Belletti's (1990) expanded version of Pollock's (1989) original "split INFL" structure.

³² On analogy with the convention CompXP, I refer to adjoined positions as AdjXP.

³³ The same goes for the subject of unaccusatives, for example, which has been argued to originate in the "object position" (whatever that turns out to be; cf. Belletti & Rizzi 1988). As far as I can see, the answer to this question is also mostly irrelevant for the remainder of the dissertation—as long as this view does not force us to assume additional movement of the subject, such as from CompVP to SpecvP.

Basically, theta relations and ϕ -features must be checked in a licensed checking configuration, and it is plausible that each functional head only bears one relevant feature for checking purposes (as Pollock originally proposed). In other words, theta and agreement relations must be dissociated (see also Haerberli 1995, Manzini & Roussou 1999, 2000). I also suggest that A-movement is not Case-driven, but agreement-driven, where Case-marking is a reflex of the ϕ -checking relation (see also Ormazabal 2000).

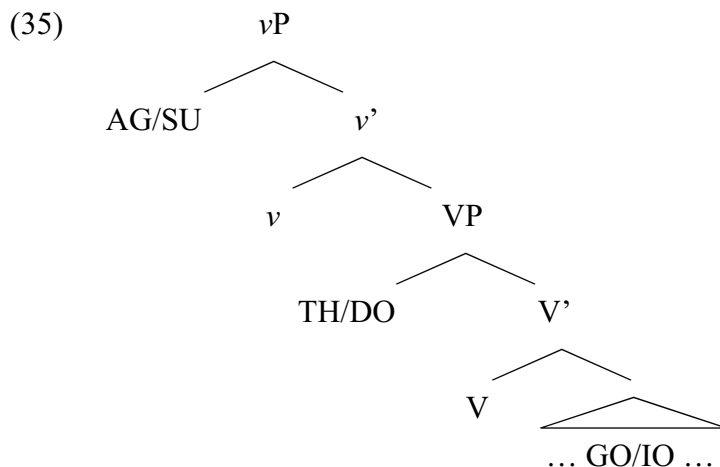
I do not assume that multiple specifiers are, or even can be, part of the structures made available by the grammar. Thus, accusative cannot be marked on an outer specifier of vP , as assumed in recent years, but must be related to a separate head. Given that any nominal direct object can raise from its θ - to its ϕ -position, I take it that the latter is outside the θ -domain.³⁴ I will spend considerable efforts on laying out my empirical motivations and theoretical justifications in the first part of chapter 3.

I thus take the structure of the θ -domain roughly to look like (35)—also assumed in previous structural representations above—, where I indicate the argument positions with AGent/SUBject, THeme/Direct Object, and GOal/Indirect Object, abbreviations I will use throughout. Without any further ado, I will take this to be the correct, or for us relevant, configuration for any structural analysis in the remainder of this dissertation.³⁵

³⁴ Naturally, the dissociation of θ - and ϕ -features also follows from the previous two sections on Prolific Domains and Exclusivity. To raise this argument would be tautological and unconvincing, however: after all, my goal is to derive Prolific Domains and their properties, rather than stipulate them and base immediate consequences for clause structure and derivation on the correctness of my proposal.

Note further, though, that recent work on θ -roles in terms of aspectual properties might enable us to reduce them to formal features as desired, thus setting them clearly apart from ϕ -features (cf. Borer 1994, Tenny 1994, Salles 1997, Arad 1998).

³⁵ Abstracting away from transitives, where I follow standard convention of merging the theme into CompVP position, as mentioned above. In addition, the “subject” of some types of verbs is generated inside VP, rather than vP , such as unaccusatives or psych-verbs (cf. Belletti & Rizzi 1988). I return to some considerations of the internal structure of the goal position at the appropriate time.



There is something common to the elements that appear in this part of the clause: they all involve licensing of thematic properties, and all theta relations are only licensed in this part of the clause. Extending Theta Theory to a quasi-minimalist framework, the standard line of reasoning (Hale & Keyser 1993) is that the verb assigns the thematic roles corresponding to TH and GO to its internal arguments through a licensing configuration such as (35) and AG to its external argument through movement to v .³⁶

As mentioned in passing, in a framework that aims to dispense with superfluous levels of representation (by force of “virtual conceptual necessity”), this account has the touch, smell and feel of D-structure, as argued by Hornstein (2000), following work by Bošković (1994), Lasnik (1995b), Bošković & Takahashi (1998), Hornstein (1998) and others. Pursuing the premise that all operations are subject to Greed, we would want every operation to be followed by feature checking or another appropriate licensing operation, unless there are good reasons to go another route. We take all instances of Merge to be costly in the sense that they need to do something. It is thus conceivable that initial

³⁶ The current work is not a study of argument structure. As such I am not particularly concerned with how exactly arguments are licensed and what theta properties really express. Maybe the θ -roles are “real” in the sense of Baker (1988), for example. Maybe they are “proto-roles” (Dowty 1991) or even something else entirely (e.g. Grimshaw 1979; see also fn. 34). I use ‘agent’, ‘theme’ and ‘goal’ purely descriptively.

merger of all arguments checks a “ θ -feature” [θ] (and its specified values [AG], [TH] and [GO]). (See also the references in fn. 34 for plausible justification of this move.)

As mentioned in the initial discussion of (1), this allows for a derivational account of control. Whether this is correct shall not be our concern;³⁷ I adopt, however, that moving into θ -positions is not ruled out *a priori*, as, say, under Theta Theory. I take θ -to- θ -movement (or even movement from a non- θ -position) desirable in some circumstances and as such possible—provided that other conditions are met. I will return to such conditions throughout; some circumstances that allow for θ -movement will be discussed in section 3.4, in the context of the CDE and a derivational approach to local reflexivization.

In sum, we have established the thematic layer as the first Prolific Domain of the clause. The CDE rules out ν P-internal movement in the majority of cases; I propose a way around this, following the second part of the definition of the CDE, in chapter 3. On the assumption that multiple specifiers are not part of C_{HL} , which I also discuss in chapter 3, there are no movements inside ν P other than for θ -checking that one could imagine.

2.4.2 *The ϕ -Domain*

The next clausal domain is characterized by licensing agreement or ϕ -properties—instantiated by formal features pertaining to at least Case and ϕ -features (arguments) as well as inflection for agreement, tense and aspect (verbal morphology), and it hosts the majority of adverbs (which I am not going to discuss in detail).

³⁷ In fact, the θ -role-qua-formal-feature approach has been criticized on a number of grounds which I cannot review here. The fairest rejection in my view, however, is that of Uriagereka (1999a) who basically says that if all signs point towards D-structure, then we have to swallow the bullet and assume D-structure. In the interest of a smooth progression, I will not discuss the need of D-structure and related questions, but simply follow the line of research that explores θ -roles as features, and see what it buys us (see also fn. 1). Needless to say, I argue that it buys us a lot. This said, though, if it turns out that this is the wrong move, the thesis of my proposal will not collapse, unless it also turns out that everything else I assume is moot.

The desired dissociation between θ - and ϕ -checking mentioned above allows for one—in this framework, crucial—assumption: specifiers are unique. Just as arguments are merged into the thematic layer to saturate thematic information, they need to move into a separate position to check agreement. The approach to grammar in terms of Prolific Domains, which I will conceptualize in chapter 6, further suggests that this is the road to take. Following Chomsky (1993), I assume that Case is marked in a Spec-Head relation with (finite) T for nominative and (V in) Agr for accusative case. As such, all arguments must raise into this part of the clause at some point (overtly or covertly).^{38,39}

One stipulated, yet not implausible, assumption regards the manner of feature checking. This not only concerns, what we may call, “directionality” or whether features can be checked or valued without displacement, but especially how many features a particular head may bear (or at least check) in one particular configuration.⁴⁰ The thrust of Pollock’s proposal was that a separate head for tense and a separate head for agreement features (as well as aspect, negation etc.) could account particularly well for cross-linguistic variation regarding adverb placement and verb movement (cf. Emonds 1976).

Cinque (1999) extends this reasoning and proposes as many such functional heads as there are morphological properties that need formal licensing.⁴¹ Alongside agreement

³⁸ This is a stipulated consequence of the following discussion, but an immediate fall-out from subsequent chapters (and the relevant discussion above).

³⁹ Contra Chomsky (1995a), who suggests an outer SpecvP as the locus of accusative case checking (the by now “standard” minimalist treatment) or Koizumi (1993, 1995), who posits one AgrP contained within each of the different VP-shells where Case is checked (see also Lasnik 1995b, 1995c, 1999).

⁴⁰ On directionality issues, see Chomsky (1995a) for discussion, supporting Attract over Move (but see Hornstein 2000 for the opposite view); valuing features long-distance is a property of the operation Agree (Chomsky 1998, 1999). (Bošković 1999, among others, explicitly argues for multiple feature checking.)

⁴¹ For classic work on “split INFL,” see Pollock (1989), Belletti (1990), Laka (1990), Chomsky (1991). Many more projections have been proposed over the years—beyond TP, AgrP, NegP (see Cinque 1999 for succinct overview). Some of these proposals can be easily integrated into the present framework, others cannot.

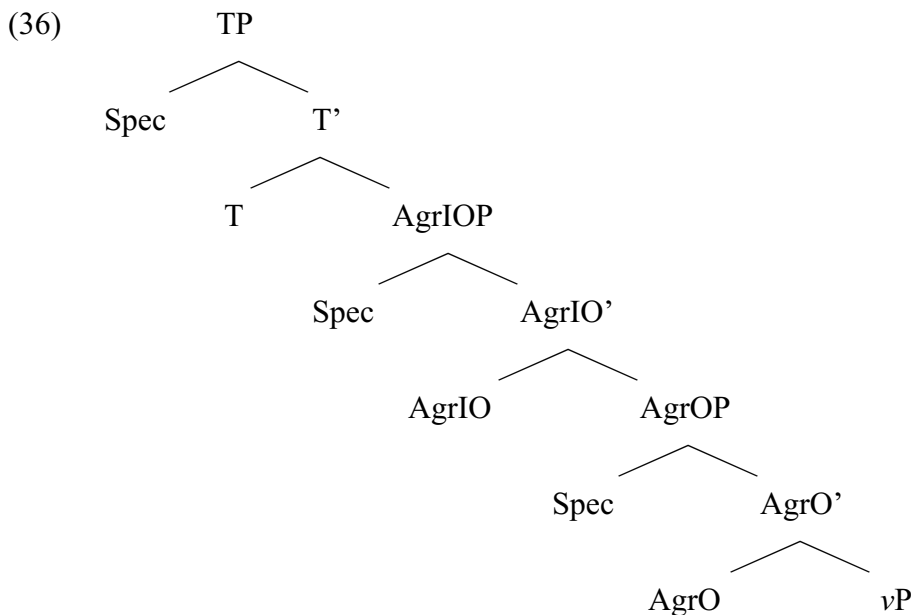
projections and positions for negation, he distinguishes a number of different types of tense, aspect, modality, mood etc. Interestingly, most of these projections host material relevant for verbal morphology; apart from AgrP, Cinque does not specifically assume that arguments move into the numerous available specifier slots, although he leaves this option open for quantified expressions, along the lines of Beghelli & Stowell (1997). The majority of specifiers are needed to license adverbs, which, following Kayne's (1994) work on antisymmetry in syntax, are supposedly structurally indistinguishable from specifiers and can only be licensed as a unique left branch per projection.⁴² The proposal I make can plausibly do without such a large array of functional projections, but I follow the spirit of restricting feature checking.

I will return to adverbs (and the specifier-adjunction debate) in section 3.3. At this point it suffices to say that I treat specifiers distinctly from adjuncts in at least that the former are unique and the latter cannot be derived by movement.⁴³ The myriad of possible functional projections in the ϕ -domain is not relevant for our purposes. What is relevant is that all arguments must at some point in the derivation raise to the specifier position of a head which bears the relevant ϕ -features. I further assume (with Pollock) that each head may check at most one feature. One immediate consequence is that we need two separate projections for each argument: one for its θ -properties and one for its ϕ -relations.

⁴² Alexiadou (1997), Laenzlinger (1998) express similar ideas. See Ernst (to appear) for an alternative theory of adverbs, one that arguably fits in more cleanly with my proposal.

⁴³ Adjuncts in this context refer to adjoined material such as adverbs, not to the operation underlying head movement. The first part of chapter 3 aims to derive three core properties of phrase structure that I assume. First, specifiers and adjuncts are different (only the former check features). Second, specifiers are unique, adjuncts are not (by virtue of natural structural relations which I will discuss). Third, only specifiers can be created by movement or base-generation (substitution), while adjuncts can only ever be base-generated (as the result of Direct Merge). Note that this will buy us the desired dissociation of θ - and ϕ -features (see also fn. 34). As we will see especially in chapter 4, these assumptions about specifiers and adjuncts are indeed empirically driven and as such natural enough to derive the consequences I desire to derive.

Let us take the ϕ -domain of the clause to minimally look as follows (where the ordering relation between the two Agr-projections shall not concern us):⁴⁴



We could say that raising of the verbal complex V - v endows the Agr-heads to check Case on their specifiers and T to check Case on its specifier, and this is indeed roughly the line of Chomsky (1993). However, as all nominal arguments come with two different sets of features that need to be licensed, ϕ -features and Case, the one-checking-per-projection constraint would be jeopardized. I thus take the driving force behind checking in the ϕ -domain to be ϕ -features. All arguments raise to check ϕ -feature agreement, which may or may not lead to further agreement reflexes (such as agreement with

⁴⁴ It has been argued that Agr has intrinsic ϕ -properties, and there should be an AgrS-projection also (cf. fn. 20). But it has also been argued that SpecTP is not a possible landing site and nominative is assigned in AgrSP on grounds of economy (Chomsky 1991, 1993), and it has been argued that Agr has no intrinsic properties at all, and in the interest of Full Interpretation should be dispensed with entirely (Chomsky 1995a). I take all this confusion to indicate that this part of the clause is rather messy and ill-understood, and as such the suggestions I put on the table might not be completely off the mark. If AgrS exists as a separate head, (or even more than one head, considering clitics), hosting the subject, so be it—as long as this does not incur multiple XP-movement within the ϕ -domain.

the verb in various positions). But this is not relevant for the issue of anti-locality. What is relevant is the way arguments get Case-marked.

I can think of two reasons why Case should not be the trigger for movement, nor even be checked the same way other features are checked. I suggest that Case-marking is a reflex of the agreement relation between a specifier and its head in this domain (to some extent following Chomsky 1999).

First, it has often been observed that we might want to raise PP-arguments out of their base-generated θ -position (e.g. Bowers 1993, Zwart 1994, Hornstein 1995). If Case were the trigger for such movement, we would either have to postulate that PPs check Case or stipulate that some elements may move and not check Case. Zwart (1994) provides a number of arguments that the West Germanic languages (Dutch, German and their respective dialects) should be head-initial throughout, and as a consequence underlyingly SVO. I cannot review the evidence here,⁴⁵ but it is obvious that under such a view all DP and PP-arguments must leave the θ -domain.

As is well known, German (and Dutch) have SVO order in matrix clauses, where the finite verbal element is in second position, and SOV in embedded clauses, where it is last, or at least in a low position:⁴⁶

⁴⁵ See Zwart (1993, 1994, 1997a) for extensive discussion. This approach, and its consequences for the grammar of West Germanic, has been disputed by a number of scholars, including (not exhaustively) Gärtner & Steinbach (1994), Schwartz & Vikner (1996), Büring & Hartmann (1996), Müller (1996), Abraham (1997), Haider (1997), Wurmbrand (1998), Abraham & Molnárfi (2000). But it has also been endorsed and applied (see e.g. Haeberli 1995, Haegeman 1996, Alexiadou 1997, Hinterhölzl 1998, and, as relevant for the framework developed here, my own work as cited throughout, such as Grohmann 1995a, 1995b, 1996a, 1996b, 1997c). Some of these authors refute the empirical objections raised in the critical works cited. Theoretically, the approach is at least as sound as assuming that some projections are right-branching, the subject always moves to COMP, and clausal complements obligatorily extrapose.

⁴⁶ There are dialectal differences whether the finite element has to be last or whether it may precede non-finite elements, an issue that will not concern us here.

- (37) a. Der Peter **hat** von der Anna geträumt.
 the Peter has of the Anna dreamed
 ‘Peter dreamed of Anna.’
- b. Claudia sagte, daß der Peter von der Anna geträumt **hat**.
 Claudia said that the Peter of the Anna dreamed has
 ‘Claudia said that Peter dreamed of Anna.’ *(German)*

To put it crudely, the Zwartian approach takes the arguments to be roughly in the same positions in both types of clauses, while in one type the inflected verbal element moves and in the other it stays put. Relevant for us is the former conjecture. I thus take movement of the PP in (37) to be driven by the need to check ϕ -features, regardless of whether this agreement relation is then followed by (abstract) Case-marking.⁴⁷

The second reason to assume [ϕ] rather than [Case] to drive argument movement into the ϕ -domain concerns a recent proposal in Chomsky (1998, 1999). Basically, Chomsky suggests that some checking relations do not need to be followed by movement (via Agree), but if they are, Case-marking may occur. We could thus treat Case-marking as a “reflex” of sorts, a by-product of an agreement relationship.^{48,49}

⁴⁷ This presupposes a rather liberal view of ϕ -features, as I will expound in chapter 6. Intuitively, though, it seems more reasonable to endow PPs with ϕ - rather than Case features. Moreover, many indirect objects expressed as PPs in some languages (such as English) are expressed through Case-marked DPs in others.

⁴⁸ Or we could think of Case as marking an “address” in the sense used in recent work on dynamic syntax (Uriagereka 1997, 1998; see also Martin & Uriagereka 1999, Uriagereka 1999b, Uriagereka & Martin 1999, or Raposo & Uriagereka 2000). As an “address,” Case indicates to the interfaces that a given element has a specific place in the clause. This is reminiscent of Manzini’s (1992) use of the notion, borrowed from Vergnaud (1985), that Case-assignment is a device to mark arguments.

⁴⁹ I propose a technical implementation of this reflex in terms of “feature mediation” in chapter 3 under which the highest segment of a complex head is able to check the feature on its specifier. Whether “(formal) feature” is indeed the appropriate term to use in this instance is another issue.

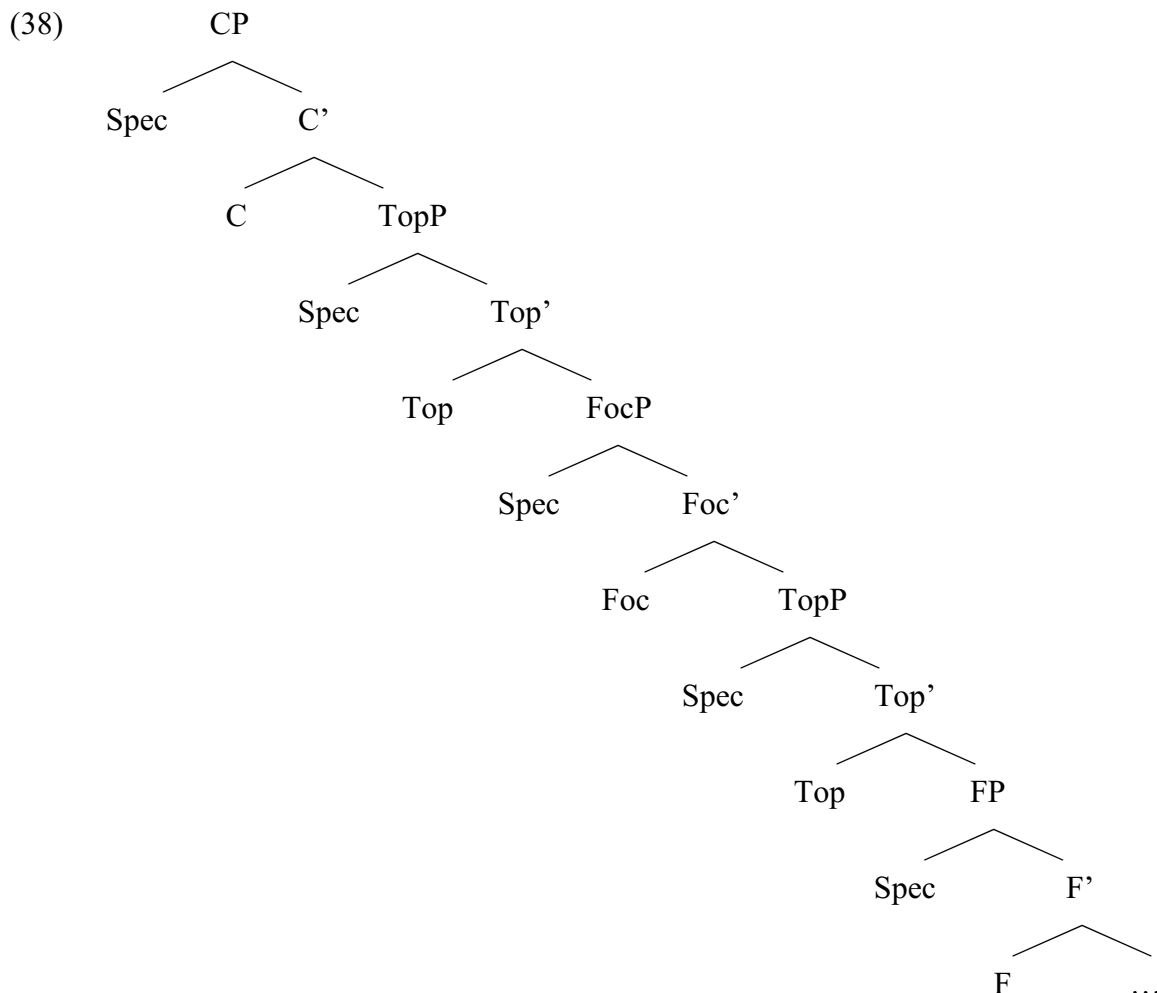
In sum, either way we go, we can maintain a form of the one-feature-per-checking approach. A natural question would, of course, be why Agr (AgrIO, AgrO) is endowed with ϕ -features necessary for objects, while subjects check their ϕ -features on T.

Again, there are at least two possible answers: T is actually not T, but AgrS. This way, there is one head for each argument, an Agr-head, endowed with ϕ -features and able to mark Case (through verb movement). On the other hand, T is obviously a category we would want to keep: tense-marking seems to be a pervasive property of language. And if we assume aspectual, negation and modal projections, to mention but a few, we would be hard pressed to scrap T. In this case, we could work with both (as Pollock 1989 did, or Chomsky 1991, 1993; see also Cinque 1999). This raises questions as to whether the subject can pass SpecTP without stopping (given the CDE, it cannot target both), and others. Some of the issues will be addressed in chapter 6, others will have to be left open.

2.4.3 *The ω -Domain*

COMP is the traditional position of moved Wh-expressions and propositional operators, later expanded to host topics, certain types of focus, and other items. In our terms, the ω -domain is endowed with the context variable “discourse.” Elements that are licensed here all play a role for interpretation, topic and focus being prime examples. COMP also types the clause. As I will come back in more detail to all these properties in due time (throughout chapters 4 and 5), I will forego a more detailed presentation at this point (see also the fairly elaborate discussion in section 2.2.3 above).

Following much recent research of the left periphery of the clause, I take COMP, the prolific discourse domain, to look like (38), slightly modified from Rizzi (1997: 297).



Following Rizzi and much related work, I take the highest clausal projection, CP (his ForceP), to type the clause and in most cases host the complementizer. Focused phrases and Wh-interrogatives typically target Foc(us)P, topicalized constituents Top(ic)P. “FP” is a functional projection yet to be defined more clearly, but as a first stab it is a hybrid position hosting clitics in some Romance dialects (Uriagereka 1995a) and possibly in West Germanic, too (Grohmann 2000d). We will see more of FP in chapter 5.

While an articulate structure of CP has been pursued for quite some time (at least since Cardinaletti & Roberts 1991), the inventory of projections is still debated, and so is the hierarchical ordering. I will make a certain amount of idealization regarding the structure of the ω -domain, but not unreasonably, and certainly in line with current as-

assumptions (the same goes for the other Prolific Domains). I will address all of the projections mentioned here, especially in chapters 4 and 5, but this part of the clause will turn out to be more intricate than the structure in (38) suggests.

2.4.4 Summary

This concludes our discussion on some pertinent assumptions on feature checking, clause structure and the internal composition of a tripartite system of Prolific Domains. We have seen theoretical and empirical motivation to split the clause into the three domains I suggested, the θ -domain (for thematic relations; ν P, VP), the ϕ -domain (for agreement properties; TP, AgrIOP, AgrOP, plus assorted projections such as NegP, AspP, ModP etc.), and the ω -domain (for discourse information; e.g. CP, TopP, FocP, FP). Naturally, a number of questions arise at this point, some of which I will address in due time. We now have the basic ingredients of a Domain-driven framework.

2.5 Conclusion

Summing up the main proposal, the concept of Prolific Domain follows from the observation that some projections are more closely related to one another than others; I defined this relationship in terms of context (namely, θ for theta, ϕ for agreement and ω for discourse). An understanding of anti-locality in terms of the Condition on Domain Exclusivity allows us to ban Domain-internal XP-movement, yet rules in X^0 -movement, a desired result in light of the above discussion. We will modify the ban on movement of a maximal projection within a single Prolific Domain in chapters 3 and 4 by introducing the concept of Copy Spell Out, a natural extension from the definition of the CDE, which

basically allows Domain-internal movement, as long as it involves distinct PF-matrixes for multiple copies of the same element within a given Prolific Domain.

To visualize, movement of the sort illustrated in (39a), generalized over the entire clause, is illicit, while (39b) is fine; head movement, as shown in (39c), is legitimate:

- (39) a. # [_{$\alpha\Delta$} YP X⁰ ... [_{$\alpha\Delta$} ... ~~YP~~ ...]]
 b. [_{$\alpha\Delta$} YP X⁰ ... [_{$\beta\Delta$} ... ~~YP~~ ...]]
 c. [_{$\alpha\Delta$} Y⁰-X⁰ ... [_{$\alpha\Delta$} ... ~~Y⁰~~ ...]]

The conceptual basis of the CDE and Prolific Domains is the target of chapter 6. Everything else should be clarified in the next three chapters. I will start with a discussion of the status of adjuncts in Bare Phrase Structure, addressing uniqueness of specifiers, generation of adjuncts, and X'-relations. I also present first empirical doubts on multiple specifiers employed in much current work, which I will extend in chapters 4 and 5. The second part of the next chapter deals with the second part of the definition of Exclusivity; an apparent caveat built into the conception of Exclusivity, but, as I will argue, a natural one. Moreover, it has empirical consequences, tying in nicely with recent research.