

# SPECIFIERS AND ADJUNCTS\*

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## 0. ABSTRACT

In the system proposed by Grimshaw (1997), Alignment constraints such as SPECIFIER LEFT, HEAD LEFT and HEAD RIGHT were originally introduced in order to explain typological differences concerning the general directionality of any maximal projection generated in a language. This paper observes that, given obedience to SPECIFIER LEFT, SPECIFIER LEFT not only ensures left alignment of the specifier relative to head and complement, but also rejects adjunction of a phrase YP, where the latter takes over the leftmost position within XP. An alternative to YP-adjunction is to provide an additional projection layer above XP hosting YP in its specifier. Such a configuration does not violate SPECIFIER LEFT, but rather either OBLIGATORY HEADS (if the head of the newly introduced layer is empty or absent) or STAY (if the head is filled by verb raising). Acknowledging this constraint conflict, the paper explains the typological variation of ‘possible adjunction’ vs. ‘generalized inversion’ at the left clause edge as a consequence of different rankings of the general constraints SPECIFIER LEFT, OBLIGATORY HEADS and STAY.

## I. INTRODUCTION

A characteristic property of Germanic languages: German exhibits ‘generalized inversion’ at the left clause edge of the main clause (cf. den Besten 1977, Thiersch 1978, followed by many others). Just as the finite verb follows the subject-phrase in subject-initial clauses (1a), so not only fronted Wh-phrases (1b) but also left-aligned Topic- (1c) or Focus-phrases or even thematically relevant adverbial phrases (1d) are directly followed by the finite verb.

- (1) German:
- a. [Der Chef]<sub>subject</sub> **hat** zuerst die rechte Hälfte der Platte gefegt.  
The Chief has first the right half (of)the slab swept
  - b. [Was]<sub>wh-object</sub> **hat** der Chef zuerst gefegt?  
What has the Chief first swept
  - c. [Die rechte Hälfte]<sub>topic</sub> **hat** der Chef zuerst gefegt.  
The right half has the Chief first swept.
  - d. [Zuerst]<sub>adverbial</sub> **hat** der Chef die rechte Hälfte gefegt.  
First has the Chief the right half swept.

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As illustrated in (2) and (3), this differs from languages like English or Italian, where Topic- or Focus-phrases and thematically relevant adverbials do not cause inversion but rather are either adjoined to the highest projection IP (e.g. Baltin 1982, Travis 1984, 1991:356) or followed by a zero-head (e.g. Rizzi 1997, Cinque 1999).

(2) The right half, the Chief has swept first.

(3) Italian (Rizzi 1997:291): A Gianni, QUESTO, domani, gli dovete dire  
“To Gianni, THIS, tomorrow, you should tell him”

A fruitful explanation of the pattern in (1) is the idea that languages are obligated to fill the CP-layer (den Besten 1977, followed by many others, e.g. Thiersch 1978, Holmberg 1986, Platzack 1986a,b, Taraldsen 1986, Grewendorf 1988, Platzack & Holmberg 1989, Schwartz & Vikner 1989, Rizzi 1990b, Tomaselli 1990a,c, Vikner 1995). The fronted phrase stays in the specifier of CP and the head  $C^0$  is filled by the finite verb. In a subject-initial clause, the subject itself has moved into CP-Spec. The analyses differ with respect to the specific explanation of why CP must be filled (for an overview, see Vikner 1995:51-64), but all explain the absence of general inversion in the subordinated clause, in which the C-head is occupied by a complementizer. The view that ‘all Verb Second clauses are CPs’ (Schwartz & Vikner 1989) has been challenged by Travis 1984, 1991 and Zwart 1993b who argue that subject-initial clauses (such as (1a)) are IPs (AGRSP), not CPs, and that an additional projection layer above IP is only present in case of fronted Wh-, Topic- or Focus-phrases. This paper follows the reasoning of Travis and Zwart (see also Heycock & Kroch 1993b) and assumes that subject-initial main clauses are structurally smaller than non-subject-initial ones.<sup>1</sup>

The paper addresses the question of whether to invert (e.g. German) or not (e.g. English, Italian) in the main clause context as a question of *how* to align a phrase (Wh, Topic, thematically relevant adverbial, Focus) at the left periphery of the clause. This is, under the assumption that for discourse related reasons a phrase is pushed to the left clause edge, the question is about what syntactical representation universal grammar determines for a specific language if in general, there is a choice between inversion and adjunction or zero-head projection. This paper will show that the question is answered within an Optimality theoretic framework (Prince & Smolensky

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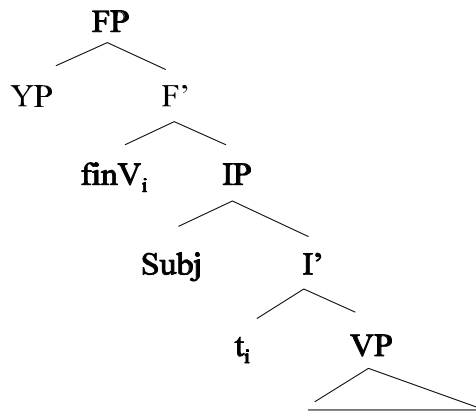
<sup>1</sup>See e.g. Zwart 1993b:§2.2.1 who illustrates by empirical evidence of Dutch subject clitics that subject-initial main clauses differ from non-subject-initial main clauses: the clitic follows Topic-phrases and Wh-phrases, which are in CP-Spec, but it precedes the subject. The clitic still precedes the subject in subject-initial main clauses; thus, Zwart concludes that the subject cannot be in CP-Spec, but rather holds the same position as it does in non-subject-initial main and embedded clauses. Recall further on this matter the fact that some Germanic languages (e.g. Icelandic) also show inversion *under* the complementizer such that the ‘Complementary Distribution’-hypothesis actually fails (for data, see e.g. Vikner 1995:72; for further discussion of this point, see e.g. Rambow & Santorini 1995; for the proposal that German main clauses lack a COMP-position in general, see already Reis 1985).

Notice that for simplicity of illustration, I talk about IP, leaving aside its potential split into AGRP and TP (cf. first Pollock 1989). But see also footnote 11.

1993).<sup>2</sup>

Given the system proposed by Grimshaw 1997, we can explain the typological variation observed in (1-3) by realizing that it is caused by **different constraint rankings**. All that is required is to carefully explore the Alignment constraint SPECIFIER LEFT, as well as STAY and OBLIGATORY HEADS. **Re-rankings of these constraints that apply to general clause structure predict the existence of three different language types**. Each type chooses another structure in order to locate a phrase YP at the left edge of the clause:<sup>3</sup>

(4) a. **Movement-type**

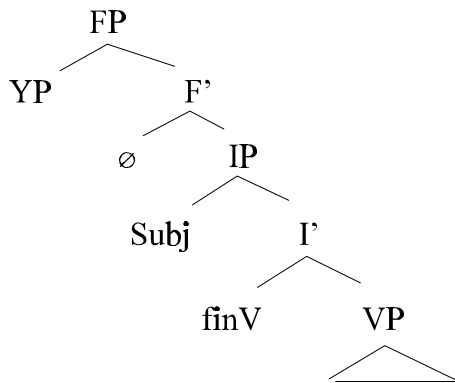


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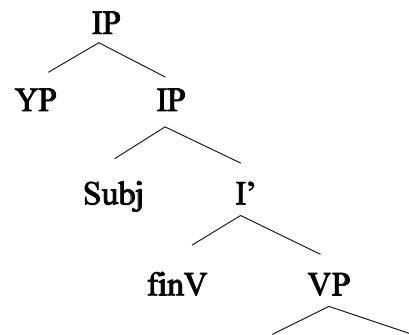
<sup>2</sup>On how to explain the verb raising facts in subject-initial clauses that are IPs (AGRSPs) as well as within the subordinated clause, see e.g. Zwart 1993b:§5.3.: **whereas the finite verb raises to I/AgrS in the main clause, I/AgrS raises to C in the subordinated clause**. For a structurally parallel solution within an Optimality theoretic framework, see Zepter (2000b).

<sup>3</sup>One goal of the paper is to show that once we realize the work of SPECIFIER LEFT, OBLIGATORY HEADS and STAY, the question of the exact definition of the constraint (or the set of constraints) that force YP to occur at the left periphery becomes secondary. Some YP-phrases might be specifically marked so as to activate constraints which force YP into a clause initial specifier position in any case (e.g. Wh-phrases; see discussion of OPERATOR SPEC in Grimshaw 1997); but as long as one discourse related constraint is satisfied if YP surfaces at the left edge of the clause, the ranking of SPECIFIER LEFT, OBLIGATORY HEADS and STAY decides which position is provided. For examples of discourse related Alignment constraints see e.g. Baković 1998, Choi 1996, Samek-Lodovici 1998.

b. Zero-Head-type



c. Adjunction-type



The **movement-type (a)** provides an **additional projection layer hosting YP in its specifier** and **fills the head by verb movement**. The **zero-head-type (b)** provides an **additional projection layer hosting YP in its specifier** but just projects an **empty head** without raising the verb. In opposition to both (a) and (b), the **adjunction-type (c)** prefers **adjunction of YP**. This paper claims that the pattern of ‘generalized inversion’ illustrated in (1) corresponds to the movement type and that this type is just one structural option out of three.

We will see that a language commits to the configuration [**Spec finV** [**Subj-Spec  $t_{finV}$**  ... at the clause edge if crucially the clause structure [**YPSpec Head** [**Spec Head** is *in general* preferred over a configuration [**YPAdjunct** [**Spec Head**. The paper claims that this preference is possible because YP-adjunction violates **SPECIFIER LEFT**: if an adjunct is aligned at the left projection edge, the specifier is *not leftmost* aligned! By contrast, violation of **SPECIFIER LEFT** is avoided in a configuration [**Spec-YP Head** [**Spec Head**, which locates YP in a second specifier position and therefore rescues proper alignment of the specifier below. Furthermore, if the language is willing to violate **STAY** as opposed to **OBLIGATORY HEADS** in order to provide the newly introduced projection layer, then **it is the finite verb that fills the head of the additional layer**.

Bringing these elements together, we discover that ranking the independently motivated constraints **SPECIFIER LEFT**, **OBLIGATORY HEADS** and **STAY** *predicts* the occurrence of languages with generalized inversion at the clause edge and without. This account is furthermore fruitful because it explains a second empirical generalization on the ‘Specifier-Head’-pattern: not only do all kinds of fronted phrases cause inversion but *adjunction at the left clause edge is also prohibited* (see e.g. Vikner & Schwartz 1991:4). Observe the example in (5).

(5) German:

- a. \*[Gestern] [die rechte Hälfte der Platte]<sub>Spec</sub> [hat]<sub>X0</sub> der Chef zuerst gefegt.  
 Yesterday the right half (of)the slab has the Chief first swept
- b. [Gestern]<sub>Spec</sub> [hat]<sub>X0</sub> die rechte Hälfte der Platte der Chef zuerst gefegt.

Whereas (5a) is ungrammatical, only a construction (b) with the finite verb immediately following the first constituent is licit. This *absolute* requirement to have the finite verb right behind the first constituent follows if we understand it as a consequence of constraint ranking: the ranking of the movement-type causes preference of the inversion structure in (5b) no matter which and how many phrases have to align.<sup>4</sup>

## II. PROPOSAL

The analysis is based on the system proposed by Grimshaw (1997) which assumes the restrictions on GEN given in (6), as well as the constraints given in (7), (8), (9) and (10) below.

- (6) GEN constructs extended projections (= *ep*) that respect X-bar-theory:
- a. Concept of EXTENDED PROJECTION cf. Grimshaw 1991, 1997:376.
  - b. X-BAR-THEORY in a moderate version cf. Grimshaw 1997 for OT. Of interest here: Possibility of XP-ADJUNCTION and/or MULTIPLE SPECIFIERS cf. Chomsky 1995:340, 372, Chomsky 1998:15.

GEN generates dominance relations freely, without restrictions on linear order of nodes. The latter work is done by GENERAL GRADIENT ALIGNMENT CONSTRAINTS as part of CON.

- (7) Grimshaw in prep. (and class notes of Syntax Seminar/Baker, Grimshaw, Rutgers University Fall 1999):<sup>5</sup>
- HEAD LEFT** (= Align(Head, Left, XP, Left))=:  $\forall X^0 \exists XP$  such that the left edge of  $X^0$  and the left edge of XP coincide.
- HEAD RIGHT** (= Align(Head, Right, XP, Right))=:  $\forall X^0 \exists XP$  such that the right edge of  $X^0$  and the right edge of XP coincide.

SPECIFIER LEFT (suggested by Grimshaw 1997) can be formalized in a parallel fashion:

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<sup>4</sup>Vikner & Schwartz argue that prohibition of adjunction to both non-subject-initial and subject-initial main clauses is evidence that both types are CPs. But why is CP-adjunction prohibited in the first place? Notice that an analysis based on the request of filling the CP-layer doesn't *exclude* adjunction: having filled CP (suppose in (5a) 'die rechte Hälfte der Platte' in CP-Spec and 'hat' in  $C^0$ ), why can't we go on and adjoin some other phrase to the left edge of CP? Recall to this point that we are exploring the main clause context. Hence, we actually can not argue that adjunction to CP is excluded, because CP is an argument (whereas the lower projections that seem to allow adjunction are not). In the main clause context, CP is never an argument, because if it were, it wouldn't be a main clause.

<sup>5</sup>This definition is a further clarified version of the one given in Grimshaw 1997. The formal shape follows one of two logically possible types of alignment constraints proposed by McCarthy & Prince 1993; the alternative would be to universally quantify over XP, that is to demand for every XP, XP left/right aligns with some head.

All Alignment constraints are gradient: incur a violation for each syntactic position that intervenes between the aligning unit and the left/right edge of the immediately dominating maximal projection. On the notion of gradience, see Prince & Smolensky 1993:29, McCarthy & Prince 1993:3ff..

- (8) **SPECIFIER LEFT** (= Align(Specifier, Left, XP, Left) =:  $\forall \text{Spec} \exists \text{XP}$  such that the left edge of Spec and the left edge of XP coincide.<sup>6</sup>
- (9) (Grimshaw 1997:374): **STAY** (= ECONOMY OF MOVEMENT =: \*t) =: Trace is not allowed.
- (10) (Grimshaw 1997:374): **OBLIGATORY HEADS** =: A projection has a head.

The Alignment constraints are originally proposed in order to account for typological differences of the directionality *within* a maximal projection. As repeated in (11) below, a language that ranks SPECIFIER LEFT >> HEAD LEFT >> HEAD RIGHT prefers, for any maximal projection within a syntactic structure, the configuration that aligns the head left of its complement and the specifier left of the head. Notice in the competition under (11) the consequences of the condition that all Alignment constraints are gradient. Candidate (a) wins over candidate (b), since it violates Head Left *less often*: proper left alignment between X<sup>0</sup> and XP is prevented in (a) by the specifier but in (b) by the specifier *and* the complement.

(11) SPECIFIER LEFT >> HEAD LEFT >> HEAD RIGHT (Grimshaw 1999 in prep. for SVO):

	SPECIFIER LEFT	HEAD LEFT	HEAD RIGHT
a. [ Spec X <sup>0</sup> ZP ]		*	*
b. [ Spec ZP X <sup>0</sup> ]		**!	
c. [ X <sup>0</sup> ZP Spec ]	*!		**
d. [ ZP X <sup>0</sup> Spec ]	*!	*	*

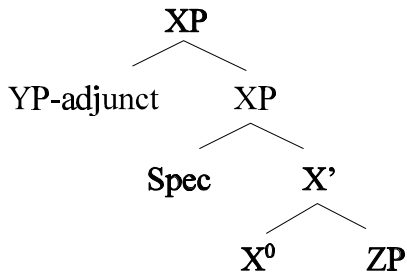
With the definition of SPECIFIER LEFT in mind, turn to the two structures in (12). Given a context in which a phrase YP has to occur at the left periphery of XP, (12a) and (12b) are both candidates in the competition. The crucial observation: **YP-adjunction creates a violation of SPECIFIER LEFT.**

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<sup>6</sup>Given by X-bar-theory: a specifier is defined as a maximal projection *included* in a maximal projection and immediately dominated by it, not by X'. [Inclusion =: a category  $\Sigma$  includes an element  $\delta$  iff every segment of  $\Sigma$  dominates  $\delta$ . (Chomsky 1995:44)].

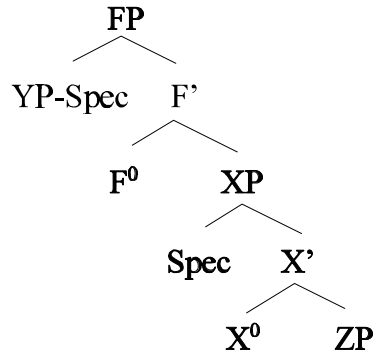
Notice furthermore: in parallel to the pair HEAD-LEFT, HEAD RIGHT, it might also be that SPECIFIER RIGHT is in CON. Since it is not relevant for my proposal, I leave the question aside.

(12) a. **Adjunction-structure**



**One violation of SPEC-LEFT**

b. **Spec-Head-structure**



**No violation of SPEC-LEFT**

Observe first the (a)-candidate. Adjunction creates a two-segment category, that is a single category which consists of two occurrences (cf. May 1985, Chomsky 1986a, Chomsky 1995:43, 1995:248). In (a), the left edge of XP is the higher segment. But then, **the YP-adjunct intervenes between the specifier and the left edge of XP**; hence the adjunction candidate violates SPECIFIER LEFT.

By contrast, candidate (b) gives us an alternative structure which avoids the SPECIFIER LEFT violation. YP is located at the left periphery of XP by means of an additional projection layer that hosts YP in its specifier. Crucially, if we have **two projections with two specifiers, each specifier left-aligned within its maximal projection**, no violation of SPECIFIER LEFT is incurred. Conclusion: structure (a) beats (b) on SPECIFIER LEFT.<sup>7</sup>

(13) The “Two-specifier”-candidate beats the “Adjunction”-candidate on SPECIFIER LEFT:

	SPECIFIER LEFT
a. [ <sub>XP</sub> Adjunct-YP [ <sub>XP</sub> Spec X <sup>0</sup> ZP]]	*!
b. [ <sub>FP</sub> Spec-YP F <sup>0</sup> [ <sub>XP</sub> Spec X <sup>0</sup> ZP]]	

<sup>7</sup>Two conceptual notes:

#1 - the proposal is compatible with a system that replaces X-bar-Theory by bare phrase structure and introduces the possibility of multiple specifiers (Chomsky 1998:15). If we generate YP in (a) as a second specifier of a bare phrase maximal projection, then SPECIFIER LEFT is still violated, namely for the lower specifier.

#2 - the proposal is not compatible with the system of Kayne (1994) - not because the latter equates specifier and XP-adjunct, but because it rejects the possibility of more than one specifier/adjunct. Notice here: the entire conception of *violable* alignment constraints contrasts with Kayne’s system. Kayne suggests that linear order is a primitive relation pre-ordered to hierarchical structure/dominance relation (Linear Correspondence Axiom) and that the LCA is unviolable. Assumption here: the only primitive relation in GEN is a dominance relation (by X-bar-theory, possible alternative is bare phrase structure). Linear order of nodes is determined by violable constraints. With respect to parallels and differences of both systems (Kayne 1994 and Grimshaw 1997), see also footnote 12.

But is there no respect in which the (b)-candidate is worse than the adjunction-candidate (a)? Yes, there is. By providing an additional projection layer, the (b)-candidate introduces a new head position. Here is why the head position is problematic: it can either be empty or it can be filled by head movement. **If the head is empty or not projected at all, the structure violates OBLIGATORY HEADS.** Call this candidate the zero-head-candidate. **If the head is filled by head movement, the configuration violates STAY** since movement creates at least one trace in a co-indexed position. Call this candidate the movement-candidate.

Altogether, we get the following picture: we have three different structural possibilities for locating YP at the left periphery of XP; each will be the optimal candidate under a ranking of SPECIFIER LEFT, OBLIGATORY HEADS and STAY. One structure, **the adjunction-candidate**, violates SPECIFIER LEFT; both ‘two projection’-structures, **the zero-head-candidate** as well as **the movement-candidate**, do not. However, the zero-head-candidate violates OBLIGATORY HEADS and the movement-candidate violates STAY. Therefore, given the constraint triple {SPECIFIER LEFT, OBLIGATORY HEADS, STAY}, dependent on which constraint is lowest ranked relative to the two others, either the adjunction-candidate, the zero-head-candidate or the movement-candidate will be optimal. Let us demonstrate the three rankings in the context where YP has to occur at the left clause edge, thus at the left periphery of IP.

**1. STAY, OBLIGATORY HEADS >> SPECIFIER LEFT** → Language type ‘The Chief, I have seen.’:

The first ranking selects the adjunction-candidate. We know that adjunction violates SPECIFIER LEFT. But at the same time, if we adjoin YP to IP, we don’t introduce any head position, hence neither OBLIGATORY HEADS nor STAY are violated. Therefore, under a ranking STAY, OBLIGATORY HEADS >> SPECIFIER LEFT, the adjunction structure wins over both Spec-head-configurations. The tableau in (14) illustrates how the zero-head-candidate (b) that rescues SPECIFIER LEFT with FP projected above IP is beaten by the adjunction-candidate (a) on OBLIGATORY HEADS. The movement-candidate (c), which fills the head of FP by raising the verbal head of the extended projection, is beaten on STAY.<sup>8</sup>

(14) **Language type ‘YP-Adjunction’**- surface example ‘The Chief, I have seen.’

	OB-HEAD	STAY	SPECLEFT
☞ a. [ <sub>IP</sub> YP-Adjunct [ <sub>IP</sub> Subj-Spec finV [ <sub>VP</sub> .....			*
b. [ <sub>FP</sub> YP-Spec ∅ [ <sub>IP</sub> Subj-Spec finV [ <sub>VP</sub> .....	*!		
c. [ <sub>FP</sub> YP-Spec finV <sub>i</sub> [ <sub>IP</sub> Subj-Spec t <sub>i</sub> [ <sub>VP</sub> ...		*!	

<sup>8</sup>I assume that Locality is always respected, either by constraint ranking or by GEN. Thus in a complex verbal construction, only the closest head can move; this is the finite verb.



2. **STAY, SPECIFIER LEFT >> OBLIGATORY HEADS** → Language type ‘The Chief, I have seen.’:

If OBLIGATORY HEADS is lower ranked than both SPECIFIER LEFT and STAY, it is the zero-head-candidate (b) that wins the competition. The zero-head-configuration beats the adjunction-candidate (a) on SPECIFIER LEFT and the movement-candidate (c) on STAY.

(15) **Language type ‘YP-Specifier + Zero Head’** - surface example ‘The Chief, I have seen.’

	SPECLEFT	STAY	OB HEAD
a. $[_{IP} \text{ YP-Adjunct } [_{IP} \text{ Subj-Spec finV } [_{VP}\dots]]]$	*!		
<b>☞ b. <math>[_{FP} \text{ YP-Spec } \emptyset [_{IP} \text{ Subj-Spec finV } [_{VP}\dots]]]</math></b>			*
c. $[_{FP} \text{ YP-Spec finV}_i [_{IP} \text{ Subj-Spec } t_i [_{VP}\dots]]]$		*!	

Notice that the zero-head-type is surface-identical to the one that adjoins YP. This is despite the fact that its syntactic structure differs since the zero-head-type provides a specifier for YP and an additional projection above IP is present just as in the movement structure. Languages like English or Italian could be examples of either the adjunction- or the zero-head-type.<sup>9</sup>

3. **SPECIFIER LEFT, OBLIGATORY HEADS >> STAY** → Language type ‘The Chief have I seen.’

The third ranking selects the movement-candidate. If STAY is lower ranked than both SPECIFIER LEFT and OBLIGATORY HEADS, then the movement-candidate (c) beats the adjunction-candidate (a) on SPECIFIER LEFT and the zero-head-candidate (b) on OBLIGATORY HEADS.

(16) **Language type ‘YP-Specifier + Movement’** - surface example ‘The Chief have I seen.’

	OB-HEAD	SPECLEFT	STAY
a. $[_{IP} \text{ YP-Adjunct } [_{IP} \text{ Subj-Spec finV } [_{VP}\dots]]]$		*!	
b. $[_{FP} \text{ YP-Spec } \emptyset [_{IP} \text{ Subj-Spec finV } [_{VP}\dots]]]$	*!		
<b>☞ c. <math>[_{FP} \text{ YP-Spec finV}_i [_{IP} \text{ Subj-Spec } t_i [_{VP}\dots]]]</math></b>			*

Notice crucially that in the context of the left clause edge, the movement-candidate differs on the surface from both the adjunction- and the zero-head-candidate. If the head of the

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<sup>9</sup>Any decision on the matter is an empirical question. See e.g. Rizzi (1997) for a classification of English and Italian as languages that would match the type plus zero-head. However, notice that assuming Grimshaw (1997), a theory-internal fact predicts English to be of the adjunction type: Grimshaw 1997:375 ranks OBLIGATORY HEADS above STAY, in order to account for *do*-support in case of *wh*-operator movement. Such a ranking is compatible with (15) but not with (16), the latter yielding a ranking paradox. If English corresponds to the ranking in (15), then it always prefers the candidate that adjoins YP, as long as YP is not explicitly marked such that OPERATOR SPEC becomes active.

additionally projected layer above IP is filled by the verb, and this head does not raise further since this is the left clause edge, then the surface order becomes ‘one clause-initial phrase YP immediately followed by the finite verb’. The surface matches the surface of German which shows generalized inversion for any phrase YP located at the left main clause edge. Thus my proposal is that the pattern of ‘generalized inversion’ is caused by the ranking SPECIFIER LEFT, OBLIGATORY HEADS >> STAY. Such ranking favors the movement structure ‘ $[_{FP} YP\text{-Spec fin}V_i [_{XP} \text{Spec } t_i \dots]$ ’ for *all* contexts in which a phrase YP has to occur at the left periphery of a projection with left-aligned specifier. In the main clause context and at the left clause edge, the surface result is the ‘inversion’-pattern.

Conclusion: the given Optimality theoretic system predicts the existence of languages that reject YP-adjunction at the left clause edge in favor of a ‘YP finV’-structure. However, such ‘generalized inversion’ at the clause edge is not identified as a specific property but rather as an instance of broader preferences on types of clause structure: first, the preference of ‘YP-into-specifier’ over YP-adjunction and second, the preference of head movement over zero-heads. Furthermore, the system predicts the ‘inversion’-pattern as one possible pattern out of three. A second language type generally prefers YP-adjunction over ‘YP-into-specifier’; a third type combines the preference of ‘YP-into-specifier’ with the preference of zero-heads over head movement.

As a last note, it is important to realize that an account which relies on the constraint SPECIFIER LEFT in order to explain the typological difference between adjoining YP and locating YP in specifier position makes predictions *only* for YP-alignment to projections that actually *contain* a specifier. This is crucial when we ask if the rankings SPECIFIER LEFT, OBLIGATORY HEADS >> STAY and SPECIFIER LEFT, STAY >> OBLIGATORY HEADS ever allow or favor YP-adjunction.

Above, we discussed the context of the left main clause edge, with IP-Spec always filled by the subject-phrase. But what about a different context? Consider a projection that does not project a specifier. Crucially, **if YP has to occur at the left edge of a projection *without* a specifier, all three explored rankings choose adjunction of YP.** This is because in absence of a specifier, adjunction creates no SPECIFIER LEFT violation. Thus, if we are not concerned with further constraints, then both the movement-candidate and the zero-head-candidate are harmonically bounded by the adjunction-candidate and cannot win under any ranking.<sup>10</sup>

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<sup>10</sup>On the notion of Harmonic Bounding see Samek Lodovici & Prince 1999:6f. Notice, too, one example of how extension of the constraint set can alter the prediction: as soon as we consider HEAD LEFT, HEAD LEFT favors the candidate (b) over both (a) and (c) ((a) and (c) incur one HEAD LEFT violation, but (b) incurs none). Therefore a language that chooses adjunction to a projection without a specifier can have any ranking of SPECIFIER LEFT, OBLIGATORY HEADS and STAY, but must rank OBLIGATORY HEADS >> HEAD LEFT.

(17) YP-adjunction to projections without Spec → under any ranking of the explored triple

	OB-HEAD	SPECLEFT	STAY
☞ a. $[_{XP} \text{ YP-Adjunct } [_{XP} X^0 \dots]]$			
b. $[_{FP} \text{ YP-Spec } \emptyset [_{XP} X^0 \dots]]$	*!		
c. $[_{FP} \text{ YP-Spec } X^0_i [_{XP} t_i \dots]]$			*!

Therefore, the precise prediction is that a language type that prefers ‘YP-into-specifier’ over YP-adjunction does so only in a context in which YP has to occur left of an XP that projects a specifier. If XP has no specifier, YP-adjunction is preferred.<sup>11</sup>

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<sup>11</sup>This result is significant when we consider languages like German. German is also a scrambling language and, according to Müller & Sternefeld 1991, 1993:465 (among others), scrambled phrases are adjoined rather than being located in specifier position. The analysis explored above does not exclude this option, but it predicts that if scrambling is indeed adjunction, then the adjunction site should be a projection without a specifier. One good candidate could be TP. However, this rests on the assumptions that IP is split into AGR(S)P and TP (first Pollock 1989) and that the specifier of TP is generally not projected in German. On the latter see, for example, Bobaljik & Jonas 1996:216, 224f, who argue that the only German (and Icelandic) constructions in which TP projects an overt specifier are expletive constructions (with the expletive in AGRSP-Spec and the associated subject-noun-phrase in TP-Spec). Since the outlined analysis rejects subject-initial clauses as CPs, it has to assume some kind of AGRSP/TP-split for expletive constructions in any case. However, see in general also e.g. Déprez 1989, 1991 for analyses that always locate scrambled phrases in specifier position.

The result is furthermore significant where we compare theories: when a language prefers ‘YP-into-specifier’ above any projection that itself has a specifier but is willing to adjoin YP to a projection without a specifier, such a language meets the restriction predicted by Kayne 1994 that projections can have only one specifier or one adjunct, but not both at the same time. Thus, we recognize that Grimshaw 1997 likewise predicts a language type that meets precisely this restriction. However, we must keep the crucial difference of both systems in mind: Kayne 1994 allows *only* this one type, whereas Grimshaw 1997 predicts it to be just one possible type among others. According to the OT-system, we expect not only languages that allow only one specifier or one adjunct, but also languages that prefer adjunction to projections that contain a specifier.

### III. CONCLUSION

#### (18) Summary picture - predicted types of languages:

- a. The ‘YP-specifier + Movement’-type → ‘ $[_{XP} YPSpec\ fin V_i [_{IP} Spec-Subj\ t_i \dots]$ ’  
→ generalized inversion at the left main clause edge (= German):

OBLIGATORY HEADS, SPECIFIER LEFT >> STAY

- b. The ‘YP-Adjunction’-type → ‘ $[_{IP} YPAdjunct [_{IP} Spec-Subj\ fin V \dots]$ ’  
→ possible adjunction at the left main clause edge (= English, possibly Italian):

OBLIGATORY HEADS, STAY >> SPECIFIER LEFT

- c. The ‘YP-specifier + Zero-Head’-type → ‘ $[_{XP} YPSpec\ \emptyset [_{IP} Spec-Subj\ fin V \dots]$ ’  
→ YP-into-specifier without generalized inversion (= possibly Italian, English):

STAY, SPECIFIER LEFT >> OBLIGATORY HEADS

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