

A Phase-Based Comparative Approach to Modification and Word Order in Germanic

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Abstract. This paper proposes a novel phase-based approach to directionality parameters in Germanic. Basic OV and basic VO order are argued to follow from two interacting types of mapping constraints at the interfaces. The properties of event-related adjuncts are shown not to follow from a dual structure involving cascades but are derived by (silent) scrambling of arguments and adjuncts plus vP intraposition, which serves to license event-related adjuncts as (superimposed) predicates.

1. Introduction

In this paper, I propose a novel integrated approach to the syntax of event-related adjuncts and to the head-complement parameter. I argue for a comparative approach in which event-related adjuncts—though base-generated outside of the vP—are not taken to be part of the extended projection of the verb, but project separate phases and superimpose a predication relation on the projections of the verb.

In this approach, event-related adjuncts are licensed via movement of the vP that serves as a subject for the predication established by the adjunct (cf. Cinque 2006, 2008 for a similar approach to the syntax of adjuncts in the DP in terms of NP movement). Empirical evidence for the movement account is provided based on the scope/binding asymmetry of right-peripheral adjuncts in English.

While vP movement is triggered by the licensing requirements of adjuncts and is thus the same for OV and VO languages, the movement of the vP itself may either involve extraction or pied-piping. I argue that this constitutes a basic option in the grammar and show that the different marked and unmarked orders of event related adjuncts in OV and VO languages follow from specific interface conditions that determine whether the extraction option or the pied-piping option is taken.

I also address Pesetsky's paradox and argue that cascades are not available in German. Instead, I propose that the c-command effects between arguments and adjuncts in German and English involve A-movement (scrambling) into a scope position and argue that the differences between the two languages follow from the differential spell-out of this operation. The analysis is embedded in a phase-based account in which syntactic computation and prosodic evaluation are intertwined and allows for a novel take on the pertinent OV/VO order distinction in Germanic. The head-complement parameter is replaced by the workings of

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1 two interface conditions that define a transparent mapping between syntax and
2 prosody on the one hand and between syntax and logical form on the other hand.

3 The following section introduces the main issues concerning the syntax of
4 event-related adjuncts in OV and VO languages.

5 6 **2. Event-Related Adjuncts in OV and VO Languages** 7

8 In a framework subscribing to the Universal Base Hypothesis (UBH) (see
9 Kayne 1994, Chomsky 1995) differences between OV and VO languages
10 cannot be relegated to a basic parameter like the head–complement parameter,
11 but must be related to other properties in the individual grammars. In a
12 minimalist approach to grammar, these differences should—in the ideal
13 case—be linked to different properties at the interfaces. Given that LF
14 representations should be nondistinct universally, a good candidate for
15 locating crosslinguistic variation, next to morphology proper, is the mapping
16 between syntax and phonology in general and between syntactic structure and
17 prosodic structure in particular.

18 One difference between VO languages like English and OV languages like
19 German that strikes me as being essentially prosodic in nature is the fact that
20 adjuncts that can occur between the subject and the vP in VO languages are
21 subject to restrictions absent in OV languages (see Haider 2000).

- 22
23 (1) a. John (more) often (*than Peter) read the book.
24 b. Hans hat öfter (als der Peter) das Buch gelesen.

25
26 Descriptively speaking, the head of the adjunct must not have material to its
27 right in VO languages. This is only possible if the adjunct appears in sentence
28 final position. An option, on the other hand, that is not available in OV
29 languages, as the contrast illustrated in (2) shows. In sum, material that can
30 remain in the middle field in a VO language must be light, while the middle
31 field of an OV language can contain also rather heavy constituents and their
32 heaviness alone is not a license for postpositioning.

- 33
34 (2) a. John read the book more often than Peter.
35 b. *Hans hat das Buch gelesen öfter (als Peter).

36
37 Another difference between German and English that cannot possibly be
38 subsumed under the head–complement parameter is the observation that the
39 position of event-related adverbs—that is, Time, Place and Manner
40 adverbs—correlates with the position of the object with respect to the
41 position of the verb.¹ In the unmarked case, these adverbs occur preverbally in
42

43
44 ¹ It is shown by Hinterhölzl (2002) that the properties of these adjuncts in OV and VO lan-
45 guages cannot be done justice to if it is assumed that they left-adjoin to the VP in OV languages
and right-adjoin to the VP in VO languages.

1 the order T>P>M in OV languages but postverbally in the exact mirror image
2 in VO languages (cf. Haider 2000, Hinterhölzl 2002), as illustrated in (3).

- 3
4 (3) a. C T P M–V OV languages
5 b. C V–M P T VO languages

6
7 Alternative orders are found in OV as well as in VO languages. In English,
8 manner adjuncts can also occur preverbally, if they are nonbranching. As
9 illustrated in (4) for German, OV languages like German and Dutch also allow
10 for postverbal occurrences of these adjuncts. These orders are generally
11 assumed to be derived either in terms of extraposition of the adjunct or in
12 terms of intraposition of the vP. As discussed in detail in section 3.2, cases like
13 (4) represent marked orders in German, since they are connected with specific
14 interpretations and are not possible with quantificational types of event-related
15 adjuncts. Here we are concerned with base-generated unmarked order of these
16 adjuncts with respect to each other and with respect to the verb.

- 17
18 (4) weil der Hans die Sabine getroffen hat gestern in Wien
19 since the Hans the Sabine met has yesterday in Vienna
20 ‘since Hans met Sabine yesterday in Vienna’

21
22 The properties of event-related adjuncts raise various interesting questions.
23 First, their distribution within OV and VO languages raises the question of
24 what makes exactly these adjunct types special such that their positioning, but
25 not the positioning of, say, higher adverbs, seems to be correlated with the
26 head–complement parameter. Second, these adjuncts display an asymmetry
27 between scope and binding relations in English. Note first they can be
28 interchangeably in the scope of each other, as illustrated in (5). However,
29 whereas scope may go from right to left (see (6a)), binding is only possible
30 from left to right, as illustrated by the contrast in (6b,c).

- 31
32 (5) a. They met students every day of the week in a different university.
33 b. They met students in each university on a different day.
34
35 (6) a. John met Mary in a (different) park every Sunday.
36 b. *Sue met Mary in his house on everybody’s birthday.
37 c. Sue met Mary on everybody’s birthday in his house.

38
39 Third, event-related adverbs give rise to Pesetsky’s paradox. The standard
40 account of postverbal adverbs in VO languages was given in terms of layered
41 adjunction to the vP/VP on the right, as illustrated in (7).

- 42 (7) [_{IP} SU [_{VP} [_{VP} V DO] Adjunct]]

43
44 Right-adjunction structures, either base-generated or derived by movement,
45 are incompatible with Kayne’s (1994) UBH. Independently of the UBH,

1 Larson (1988), Stroik (1990), and Pesetsky (1995) have argued that the
 2 standard approach to the syntax of adverbs is mistaken, since it fails to account
 3 for basic c-command relations between them and the complements of the verb.
 4 Typical c-command diagnostics, as NPI licensing (8a) and quantifier-bound
 5 pronouns (8b), indicate that postverbal adjuncts are in the c-command domain
 6 of postverbal complements.

- 7
 8 (8) a. John saw no student in any classroom.
 9 b. John met every girl on her birthday.

10
 11 Since in the representation in (7) the direct object fails to c-command the
 12 postverbal adjunct, Larson (1988) proposed that event-related adverb(ial)s are
 13 part of a (multi-) layered vP shell in which these elements are deeper
 14 embedded than the complements of the verb, as indicated in (9).

- 15
 16 (9) [_{VP} SU V [_{VP} DO *t*_V Adjunct]]

17
 18 This proposal was extended by Pesetsky (1995) to generalized cascades to
 19 account for c-command out of PP arguments and PP adjuncts, as illustrated
 20 in (10a,b). The cascading structure of (10b), where the argument of the
 21 higher head is reanalyzed as the specifier of the next head down, is given
 22 in (11).

- 23
 24 (10) a. Sue spoke to these people about each other's friends.
 25 b. Sue gave books to these people on each other's birthdays.
 26
 27 (11) [Sue gave [_{PP} [books] [to [_{PP} [these people] on [each other's
 28 birthdays]]]]]]

29
 30 While this analysis neatly accounts for the c-command relations between
 31 postverbal complements and adjuncts, it fails to account for standard
 32 constituency tests such as VP preposing and VP ellipsis which show that
 33 verb and object form a constituent excluding postverbal adjuncts. This state
 34 of affairs is called Pesetsky's paradox and led him to propose a dual
 35 structure: a cascading (Larsonian) structure to account for the binding facts
 36 and a layered structure (parallel to the traditional analysis given in (7)) to
 37 account for the constituency facts. This state of affairs is highly unsatis-
 38 factory. It would be advantageous to settle for one basic underlying structure
 39 and derive the effects of the other structure via movement. However,
 40 Pesetsky argues that there is strong evidence for the parallel availability
 41 of both structures since the binding relations, for example, between a
 42 postverbal argument and an anaphor in a temporal adjunct (due to a
 43 cascade representation) remain available in VP topicalization that requires
 44
 45

1 the layered representation [[V DO] Adjunct] of these constituents, as
2 illustrated in (12).²

- 3
4 (12) John said that he would visit every girl ...
5 ...and visit every girl_i he did on her_i birthday.³

6
7 Pesetsky (1995:285ff.) points out that cascades must also be available in an
8 OV language like German, since one finds the same c-command effects
9 between arguments and adjuncts like in English, as illustrated in (13).

- 10
11 (13) Hans besuchte jede Frau_i an ihrem_i Geburtstag.
12 Hans visited every woman on her birthday
13 'Hans visited every woman on her birthday.'

14
15 However, an analysis in terms of cascades of (13) cannot be right. First,
16 note that binding from arguments into adjuncts is not available in German if
17 the argument stays in its base (or Case) position, as would be expected from
18 the syntax of cascades, but requires scrambling of the argument to a
19 position c-commanding the adjunct, as illustrated by the contrast in (14a,b).
20 The order in (14a) corresponds to the unmarked order between an argument
21 and a temporal adjunct, whereas the order in (14b) involves scrambling of
22 the argument into a higher position in the middle field. In (14a) the NPI
23 *jemals* 'ever' fails to be licensed for the lack of a c-commanding negative
24 element.

- 25
26 (14) a. *weil Hans jemals mit keiner Frau sprach
27 b. weil Hans [mit keiner Frau]_j jemals *t_j* sprach
28 since Hans with no woman at-any-time spoke
29 'since Hans spoke with no woman at any time'

30
31
32
33 ² Heavy XP shift, as illustrated in (i), is another piece of evidence that Pesetsky (1995:249ff.)
34 adduces in favor of dual structures.

- 35 (i) a. We gave ___ to John on Friday [a brand new toy].
36 b. John depends ___ for his livelihood [on royalties from his many books].

37 Pesetsky shows that heavy-shifted XPs behave as being high attached (adjoined to VP) with
38 respect to standard constituency tests but at the same time appear to be attached low with respect to
39 standard c-command tests. The latter facts are illustrated in (ii) (Pesetsky 1995:(643a,c)); this
40 prediction cannot be tested for German, which does not license heavy shift. I will return to the data
41 in (ii) in section 7.

- 42 (ii) a. *We gave ___ to him_i on Friday [John_i's brand new toy].
43 b. Bill heard ___ from each committee member_i on Friday [a report on his_i activities].

44 ³ Colin Phillips (2003) argues that the topicalization data and parallel facts can be captured with
45 cascading structures alone, if it is assumed that syntactic structures are built and processed
incrementally from left to right. I will not go into the details of his proposal, since I argue below
that cascades do not provide a satisfactory solution for the problem at hand.

1 Second, arguments cannot bind into stranded adjuncts in cases of VP
 2 topicalization in German, as illustrated in (15).

- 3
 4 (15) Hans sagte er würde jede Frau besuchen...
 5 Hans said he would every woman visit
 6 'Hans said that he would visit every woman...'
 7 *...und jede Frau_i besucht hat er an ihrem_i Geburtstag.
 8 *... and every woman visited had he on her birthday
 9 '...and visit every woman he did on her birthday.'

10
 11 This follows immediately from the scrambling approach to (14), since the
 12 direct object that is affected by VP topicalization in (15) cannot at the same
 13 time take scope over the adjunct that is stranded by this operation. If cascades
 14 are available in the syntax of German, then the contrast between (12) and (15)
 15 comes as a surprise. Thus the German data strongly suggest that the
 16 c-command effects of cascades are properties derived through movement and
 17 should not be accounted for with structures assumed to be base-generated in
 18 the vP in this language. At best Pesetsky could have a parametric account that
 19 links the availability of cascades to the (un)availability of scrambling in
 20 language.

21 Independently of this, it is argued by Hinterhölzl (2002) that the Larsonian
 22 approach to event-related adjuncts (which Pesetsky adopts and generalizes) is
 23 also inappropriate for English. On the basis of comparative and semantic
 24 arguments, it is proposed that these adjuncts are base-generated outside of the
 25 vP in the order T>P>M, as illustrated in (16), with the English order being
 26 derived from the German order via successive cyclic intraposition of verbal
 27 projections.

- 28
 29 (16) [Temp...[Place...[Manner [SU v [V DO]]]]

30
 31 In this unified account, an English sentence like (17a) is derived from the base
 32 structure in (17b) in the following way. First, the vP containing the verb and
 33 its arguments moves in front of the locative PP (17c), then the resulting
 34 structure is moved in front of the temporal PP (17d) and in the final step the
 35 subject is extracted to be licensed in Spec,TP or an appropriate Agreement
 36 position above TP, as indicated in (17e).

- 37
 38 (17) a. John visited them in Vienna on Friday.
 39 b. [... [on Friday [in Vienna [_{vP} John visited them]]]]
 40 c. [...[on Friday [[_{vP} John visited them] in Vienna <sub>t_{VP}]]]]
 41 d. [...[[_{vP} John visited them] in Vienna] on Friday]
 42 e. [_{IP} John_i [[[[_{vP} _{t_i} visited them]_k in Vienna _{t_k}]_j on Friday _{t_j}]]]</sub>

43
 44 This account derives the vP-constituency facts from a base common to
 45 German and English. To account for the c-command effects, Hinterhölzl

(2002) argues that English has preserved scrambling of the Dutch type—that is, movement of arguments across adjuncts in the syntax—but spells out the lower copy. In this approach, Pesetsky's paradox is resolved in that LF interprets the higher copy in the middle field, while PF interprets the lower copy in the vP and the bound reading in (12) is derived in the following way: at some point in the derivation (after merging the adjunct), the argument undergoes scrambling (as it does in German) to a position c-commanding the adjunct, but spells out the lower copy in the vP. vP topicalization can then affect the verb plus the argument and the resultant structure in (18) will then be shipped to PF and LF. LF finds a copy of the argument—the unpronounced one in the middle field—that c-commands the pronoun in the adjunct and gives rise to the bound pronoun reading (with unpronounced copies being crossed out in (18)).

(18) and [visit every girl] he did ~~every girl~~ on her birthday [~~visit every girl~~]

Hinterhölzl (2002) provides strong empirical evidence for the existence of (silent) scrambling in English. It is shown that the different properties of inverse linking in German and English and the cases of antecedent-contained deletion (ACD) in English can be better explained in terms of scrambling than by the traditional analysis in terms of QR.

To summarize, the unified comparative approach assumes: (a) that the basic word order is T-P-M-V-O; (b) that there is obligatory vP intraposition in OV and VO languages; (c) that there is scrambling both in German and English, but that English spells out the lower copy; and (d) that there is obligatory (Case-) licensing movement of the arguments out of the vP in the course of the derivation (see Zwart 1993) that is common to all UBH-based approaches. The novel proposal that I will make is that that this licensing movement spells out the higher copy in German, but the lower copy in English.

This proposal raises a number of questions that will be addressed in the subsequent sections. First, which kind of movement do verbal projections in German and English undergo and what is the trigger of these movements?. Second, given that vP intraposition also applies in German, how is the unmarked preverbal position of event-related adjuncts in German derived? Third, which factor is responsible for the differential placement of these adjuncts in German and English and which factor is responsible for the differential spell-out of licensing movement and scrambling in German and English? Fourth, is there a connection between the latter two properties in German and English? In the remainder of the paper, I argue that there is a unique condition that accounts for the positioning of event-related adjuncts as well as for the spell-out of licensing and scrambling chains. Furthermore, I will show that this condition follows from the prosodic restriction illustrated in (1). In the following section, I will start with

1 providing a rationale for obligatory vP intraposition (in German and
2 English).

3. The Licensing of Event-Related Adjuncts

6 In this section, I would like to address the question of why the syntax of
7 adjuncts should require vP intraposition. In the approach sketched above, we
8 noted that different answers have been given to this question so far. To my
9 knowledge, Barbiers (1995) was the first to propose that postverbal adjuncts in
10 OV languages are due to vP intraposition. His approach is very similar to the
11 approach that I develop in this paper. Barbiers argues that vP intraposition is
12 semantically motivated and targets a specifier position within the adjunct PP.
13 Pearson (2000) proposed that postverbal arguments and adjuncts in Malagasy
14 are derived via vP intraposition that serves to identify the categorial nature of
15 functional heads in the extended projection of the verb. This approach is
16 adopted and generalized by Cinque (2006).

17 My approach differs from these two approaches in that it is assumed that
18 adjuncts do not belong to the extended projection of the verb but are part of
19 separate projections. vP intraposition is argued to serve a licensing purpose
20 that involves the establishment of a predication relation. In this respect, my
21 account can be seen as a version of Barbiers's original proposal. In
22 contradistinction to his proposal, vP movement obligatorily applies in the
23 syntax. This has the advantage that restrictions and interpretive effects
24 connected with vP intraposition can be captured better in a phase-based
25 framework that allows for an influence of prosodic constraints in the course of
26 the derivation, as discussed in detail in sections 3.2 and 3.3.

3.1 *Modification and Predication in a Phase-Based Framework*

30 In the standard account to modification, it is assumed that adjuncts are
31 adjoined to the maximal category of the head they modify. Thus, the
32 attachment site of the adjunct is determined by its interpretation (it
33 minimally has to attach to the constituent it modifies). Second, the syntactic
34 operation of adjunction is interpreted semantically as intersection between
35 the set denoted by the adjunct and the set denoted by the maximal projection
36 of the modified head. In informal terms, this operation may be described as
37 identification of the individual variables introduced by adjunct and modified
38 head, as illustrated in (19) for the nominal domain and in (20) for the verbal
39 domain.

- 41 (19) a. red ball
42 b. $[_{NP} AP(y) [_{NP} N(x)]]$
43 c. identification: $x = y$ > there is an individual x such that $ball(x)$ &
44 red(x)
45

- 1 (20) a. meet in the park
2 b. [_{VP} [_{VP} V(e₁)] PP (e₂)]⁴
3 c. identification: e₁ = e₂ > there is an event e such that meet (e) & in
4 the park (e)
5

6 In Cinque's (1999) proposal, adjuncts are introduced as specifiers of functional
7 heads that are ordered according to a universal hierarchy in the extended
8 projections of the modified head. In this approach, (16) can be viewed as
9 representing a small section of the universal hierarchy of modifiers pertaining
10 to the verb (see Schweikert 2005 for a more complete picture of this
11 hierarchy). Cinque's proposal can thus be taken to provide an alternative
12 account to the question of how adjuncts are to be attached to the head they
13 modify, but it fails to address the question of how the individual variables of
14 adjunct and modified head are identified.

15 In other words, if we want to dispense with adjunction altogether, we must
16 consider how an adjunct, being base-generated as the specifier of a functional
17 head is interpreted and how, for instance, the event variable of the verb is
18 identified with the individual variable of an adjunct that sits higher up in the
19 tree in the specifier of a functional head, possibly separated from the verb by
20 various heads dedicated to the licensing of the arguments of the verb.

21 I would like to make the following proposal. The adjunct introduced as the
22 specifier of a functional head is interpreted as a predicate on the category it is
23 taken to modify in the standard theory. In other words, there is a predication
24 relation between the adjunct and vP in the clause, in which the vP acts as
25 subject of the predication by the adjunct. This predication relation is
26 established via movement in the following manner. Assuming that every
27 (complex) predicate provides a licensing domain for its arguments, introduc-
28 ing an adjunct in the functional skeleton of either CP or DP will always
29 involve two functional heads: the one that introduces the adjunct as an
30 additional predicate (called F1 in (21)) and the other one that licenses the
31 argument of this predicate (called F2 in (21)). In the course of the derivation
32 vP/NP moves into Spec,F2 and the two individual variables are identified via
33 predication, as illustrated in (21).⁵
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35
36
37
38
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40

41 ⁴ Davidson (1966) argued that events should be treated as referential entities in the logical
42 description of sentences (see also Higginbotham 1985, Parsons 1990, and Kratzer 1995 for
43 applications of this proposal).

44 ⁵ Cinque (2008) presents comparative data on the distribution of DP-internal modifiers in
45 Germanic and Romance that can be taken to support this general approach. For a more detailed
discussion of NP movement in the DP, I refer the reader to Cinque 2008. In this paper, I
concentrate on the issue of vP movement in the clause.

- 1 (21) a. $[[_{VP} V (e_1)] F2 [PP (e_2) F1 \dots [t_{VP}]]]$
 2 b. $[[_{NP} N (y)] F2 [AP (x) F1 \dots [t_{NP}]]]^6$
 3 c. λe [meeting (e) & in the park (e)]
 4

5 For the verbal adjunction structure in (20a), this means that the meeting event
 6 denoted by the vP is predicated to be an element of the set of events
 7 (happening) in the park. In (21c), the result of this predication is given in terms
 8 of a λ -expression. In other words, the vP that acts as (main) predicate in the
 9 clause, constitutes the subject of predication in the adverbial domain. One can
 10 reasonably expect that a phrase cannot act simultaneously as a predicate and as
 11 a subject in the very same domain. However, in a phase-based framework this
 12 possible complication can be avoided, if it is assumed that the vP obtains these
 13 interpretations in different phases in the clause.

14 Thus, I would like to propose that F1 and F2 in (21) constitute projections of a
 15 separate phase and are not considered as being part of the extended projection of
 16 the verb or the noun. F1 introduces an additional predicate in the clause (or DP)
 17 that has its own licensing domain, namely F2. In other words, Spec,F2 can be
 18 compared with Spec,IP in the clause. vP intraposition, therefore, has to be
 19 considered as a case of A-movement that serves to license the adjunct as a
 20 (secondary) predicate. Some evidence for the assumption that vP intraposition
 21 is a case of A-movement will be given in the following section.

22 Having said this, a note on the predication relation in (20a,b) is in order. An
 23 anonymous reviewer points out that a functional head typically mediates a
 24 relationship between the subject in its specifier and a predicate that constitutes
 25 its complement. The complement of F2, however, contains more than just the
 26 PP or AP that is to be predicated of the derived subject in (20a,b). At this point
 27 the phase status of the two functional specifiers in (20a,b) becomes relevant.
 28 F2 mediates a predication relation between its specifier and the constituents in
 29 its complement domain that belong to the same phase as F2, that is, Spec,F1.
 30 All other constituents below F2 belong to the extended projection of the verb
 31 and, as stated above, constitute material of a separate phase.

32 That the projections F1 and F2 and their respective specifiers constitute a
 33 separate phase follows from the following typology of phases. I propose that
 34 the main phases (the CP in the clausal domain and the DP in the nominal
 35 domain) comprise the following subphases: a predicate domain (roughly the
 36 vP in the clause) that introduces a predicate and its arguments, the I domain, in
 37 which the (properties of the) arguments of the predicate are licensed, and a C
 38

39 ⁶ Relative clauses are generally taken to be interpreted as predicates on the relative noun phrase.
 40 In the present account, it can be assumed that the relative clause is merged prenominally (see
 41 Cinque 2008) and that the relative operator just selects the variable that is to be identified with the
 42 variable of the head noun via predication, as illustrated in (i). Since the relative clause is pre-
 43 supposed, identification leads to the interpretational effect that the relative clause determines/
 44 specifies the reference of the relative head. See Cinque 2008 for good arguments for a combined
 45 head-raising and matching analysis of relative clauses.

(i) $[[_{NP} N (x)] F2 [[CP \text{ the } y \text{ such that } [IP \dots y \dots]] F1 \dots [t_{NP}]]]$

1 domain (or completing domain) that embeds the predicate in another clause or
2 in the relevant context. I will call these subphases *homorganic*, since they are
3 projected by the same phase predicate (in the sense of Grimshaw 1991).

4 This typology of subphases recapitulates the three ways in which two
5 predicates (and their projections) can be combined in the syntax. (A) A second
6 predicate, usually an adjectival, nominal, or prepositional small clause, only
7 projects a predicate domain and has its arguments licensed in the I domain of
8 the (main) predicate, that is, the verb in the clause. In this case, the second
9 predicate forms a complex predicate with the verb. (B) In the case of an
10 adjunction, the adjunct is argued to project a predicate domain (= Spec,F1) and
11 a licensing/I domain (F2P), but crucially does not project a completing or C
12 domain, which bars it from being embedded like a complement under the main
13 predicate, that is, the verb in the clause. (C) A second predicate may project a
14 predicate domain, a licensing domain and a completing domain, which allow it
15 to embed or to be embedded under another predicate.

16 In conclusion, adjuncts comprise a predicate domain and an I domain, but
17 lacking a completing domain, they are barred from being embedded like
18 complements. Instead of being embedded, they are superimposed in the I
19 domain of another predicate. To be licensed, event-related adjuncts must enter
20 into a predication relation with the vP in the clause. It also follows from the
21 above typology that the subphases of adjuncts are nonhomorganic with respect
22 to the subphases of the predicate they modify, because they constitute
23 projections of a separate predicate. This will become important when we talk
24 about the differences in prosodic-domain formation between arguments and
25 adjuncts in sections 6 and 7.

26 To summarize, I argued that vP intraposition is triggered by the licensing
27 requirement of adjuncts. The intraposed vP acts as subject of predication and vP
28 movement is thus to be considered as obligatory A-movement.⁷ Furthermore,
29 I propose that Tense is a separate predicate that projects its own subphases
30 (which are nonhomorganic with respect to the subphases projected by the verb)
31 in the I domain of the verb. In the following section, I provide an argument for the
32 claim that vP intraposition is to be treated as a case of A-movement.

3.2 *Argument Movement and Scope/Binding Asymmetry*

36 In section 1, we observed a peculiarity of the inverted order of adjuncts in
37 English—namely, that scope may go from right to left, whereas binding may
38 only go from left to right (see (6)). In the present account the strange
39 asymmetry between scope and binding can be explained as an effect of
40 A-movement of the extended vP into the *subject position* of adjunct

41
42 ⁷ I am not considering here the option of Agree at a distance or the use of (empty) expletives,
43 since we are not dealing with a simple feature-checking operation. I am following Barbiers (1995)
44 in assuming that the establishment of a predication relation is in need of a specific local rela-
45 tionship, as it is defined above as one between specifier and complement of a mediating functional
head that belong to the same phase.

1 predicates. This asymmetry parallels the effects of scrambling in German.
 2 Hinterhölzl (2004a) argues that scrambling is an instance of A-movement into
 3 the specifier of a functional head in the licensing domain of the verb. It is shown
 4 that scrambling can be reconstructed for reasons of scope but fails to reconstruct
 5 for reasons of binding. The relevant examples are given in (22) and (23).
 6

- 7 (22) a. weil [mindestens eine Frau] [fast jeden Mann]
 8 since at-least one woman-NOM almost every man-ACC
 9 liebt
 10 loves
 11 b. weil [fast jeden Mann] [mindestens eine Frau] *t*
 12 since almost every man-ACC at-least one woman-NOM
 13 liebt
 14 loves
 15

16 Example (22a), displaying the base order SU > DO > V, is unambiguous,
 17 whereas (22b), in which the direct object has scrambled over the subject, is
 18 ambiguous. In addition to the reading obtainable from the surface order, it has
 19 the additional reading that corresponds to the base order.

20 It is important to note that binding relations are strictly read off from surface
 21 relations, since scrambling represents a case of A-movement. Example (23)
 22 shows that scrambling may (not only create but also) destroy binding
 23 possibilities, as illustrated by the examples taken from Haider & Rosengren
 24 (1998), which is unexpected if scrambling could be reconstructed for reasons
 25 of binding.⁸
 26

- 27 (23) a. dass der Mann die Bilder einander anglich
 28 that the man the pictures-ACC each other-DAT made-alike
 29 b. *dass der Mann einander die Bilder *t*
 30 that the man each other-DAT the pictures-ACC
 31 anglich
 32 made-alike
 33 c. dass ich gestern jedem Professor_i seine_i
 34 that I yesterday each professor-DAT his
 35 Sekretärin vorstellte
 36 secretary-ACC introduced
 37 d. ?*dass ich gestern seine_i Sekretärin jedem
 38 that I yesterday his secretary-ACC each
 39 Professor_i vorstellte
 40 professor-DAT introduced
 41
 42

43 ⁸ To prevent confusion about what the basic word order in German is, it should be noted here
 44 that base orders are verb-class-dependent in German: *angleichen* (assimilate to) belongs to a small
 45 class of ACC-DAT verbs, whereas *vorstellen* (introduce) belongs to the large class of DAT-ACC
 verbs (see Haider & Rosengren 1998, Hinterhölzl 2006 for details).

1 Example (23a) corresponds to the base order in which the reciprocal is bound
2 and licensed by the higher argument in accusative Case. In (23b), scrambling
3 of the reciprocal leaves it without a licensing antecedent. The ungrammat-
4 icality of (23b) follows only if reconstruction is not available. Similar
5 considerations apply to (23c,d). Example (23c) represents the base order in
6 which the quantifier can bind a pronoun lower down in the structure. In (23d),
7 which represents the scrambling order, binding of the pronoun by the
8 quantifier is impossible. Again, this follows trivially, if interpretation cannot
9 make use of the lower copy of the scrambled phrase *his secretary*.

10 As said above, in the present account we consider movement of the
11 extended vP into the subject position of an adjunct predicate an instance of
12 A-movement and therefore expect it to behave like A-scrambling in German.
13 The asymmetry in (6), illustrated here again in (24), is explained if vP
14 movement, pied-piping an adjunct, can be reconstructed for reasons of scope
15 but cannot be reconstructed for reasons of binding.

- 16
17 (24) a. John met Mary in a (different) park every Sunday.
18 b. [Every Sunday [in a (different) park [John met Mary]]].
19 base structure
20 c. [[[John met Mary] in a different park] every Sunday].
21 derived structure
22

23 As illustrated in (24c), the temporal adjunct does not have scope over the
24 locative in the derived structure. The relevant reading can only be obtained if
25 the vP together with the pied-piped locative is reconstructed. An option,
26 however, that is not available for reasons of binding, as illustrated again
27 in (25a).

- 28
29 (25) a. *Sue met Mary in his_i house on everybody_i's birthday.
30 b. Sue met Mary on everybody_i's birthday in his_i house.
31

32 If binding out of an adjunct is at issue, vP-movement must be taken to extract at
33 the relevant steps even in VO languages such that c-command relations are
34 preserved in this process, as illustrated in (25b). In (25b), it must be assumed that
35 the vP extracts without pied-piping an adjunct when it moves from one subject
36 position to the other. This is possible since pied-piping is just the option that is
37 prosodically preferred in VO languages, as I argue in section 4.2. This in turn
38 implies that scrambling of adjuncts must be assumed, if inverse binding relations
39 obtain between a locative and a higher temporal adjunct, as in (26).⁹
40

- 41 (26) a. He happened to sing in each shop on its owner's birthday.
42 b. He happened to [on its owner's birthday [in each shop [sing]]].
43

44 ⁹ An anonymous reviewer correctly points out that in (26) the necessary binding relation obtains
45 neither in the base structure nor in the derived structure.

1 In the present approach, scrambling of the lower locative PP is the only option
 2 of obtaining the required configuration.¹⁰ In this case as well, the vP must be
 3 taken to extract at each step during its movement through the adjunct phases.
 4 I will come back to the issue of PP scrambling in section 5.

5 To summarize, the alternative account of adjunct licensing in terms of
 6 movement of the extended vP into an argument position can shed some light
 7 on the strange asymmetry in binding and scope between postverbal adjuncts
 8 and the arguments of the verb. In addition to the choice between pied-piping
 9 and extraction, scrambling of adjuncts must be assumed as well in order to
 10 derive all binding options.

11 3.3 Arguments against an LF Account

12 The present proposal is similar to Barbiers's (1995) account in proposing that
 13 a) vP intraposition is responsible for postverbal occurrences of event-related
 14 adjuncts (cf. (22a) and (22b)) that vP intraposition is semantically triggered. In
 15 his account, vP movement occurs to establish a qualification relation between
 16 vP and PP which requires a configuration of mutual immediate c-command
 17 between these elements. This is achieved by moving the vP into Spec,PP, as
 18 shown in (27c). Barbiers states that the interpretive result of moving vP into
 19 Spec,PP is that the PP qualifies the vP. For (27b), this implies that the PP
 20 qualifies the event denoted by *gewerkt* as being in the garden (Barbiers
 21 1995:33).
 22

- 23
 24
 25 (27) a. Jan heeft [in de tuin] gewerkt.
 26 John has in the garden worked
 27 b. Jan heeft gewerkt [in de tuin].
 28 John has worked in the garden
 29 c. Jan heeft [_{PP} gewerkt [_{PP} in the tuin]] *t*_{vP}.

30
 31 If the vP moves into Spec,PP in covert syntax, the nonextraposed order in
 32 (27a) is derived. In short, in Barbiers's account, vP movement serves to
 33 establish a qualification relation, but this can be done in syntax or by
 34 movement at LF. I see two problems with Barbiers's original proposal. First,
 35 I have argued in the previous section that vP intraposition constitutes an
 36 instance of A-movement. This property does not square well with the
 37 assumption that vP intraposition takes place at LF (to my knowledge this
 38 would constitute the only case of A-movement at LF). Second, in Barbiers's
 39 account, no interpretative differences between intraposed and nonintraposed
 40 vP are to be expected.
 41
 42
 43

44 ¹⁰ Frey (2003) argues that adjuncts belonging to the same class can be base-generated in any
 45 order. In this approach scrambling of adjuncts could be dispensed with and the vP must be taken to
 extract at each step to preserve the relevant binding configuration.

1 The problem with this LF-based account is that the intraposed and
2 nonintraposed versions are often not identical in their readings, at least in
3 German. The postverbal PP in (28) cannot be interpreted as being in the scope
4 of the adverbial *often* in (28b), as it must in (28a), and is interpreted obligatorily
5 as a frame adverbial (*when he is in the coffee house, Hans often sits*).

- 6
7 (28) a. weil Hans oft im Kaffeehaus sitzt
8 since Hans often in-the coffee-house sits
9 b. weil Hans oft sitzt im Kaffeehaus
10 since Hans often sits in-the coffee-house

11
12 Second, nonreferential adjuncts are generally bad in postverbal position in
13 German and quantified PPs lead to ungrammaticality, as illustrated in (29).
14 One possible explanation for the ungrammaticality of (29b) is that the
15 quantifier in postverbal position fails to bind the variable in the vP due to lack
16 of c-command (see Haider 1993).

- 17
18 (29) a. weil Hans in keinem Garten arbeitet
19 since Hans in no garden works
20 b. *weil Hans arbeitet in keinem Garten
21 since Hans works in no garden

22
23 Note that this explanation is not open to Barbiers (1995), given that, in his
24 account, the PP c-commands the vP in the relevant qualification relation. For
25 sure, Barbiers's account must be revised to do justice to the German data; the
26 question is only whether an LF-based account is appropriate for these data in
27 the first place, since the restrictions illustrated in (27)–(28) are induced
28 prosodically, as I argue in section 4.3. As an alternative, I propose that vP
29 intraposition always takes place in overt syntax with the different orders
30 following from an elementary choice in the syntax, namely vP extraction
31 versus vP pied-piping, as discussed in detail in the following section.

32 33 **4. Accounting for the Comparative Dimension**

34
35 To remind us of the general outline of the comparative approach that will be
36 developed in the following sections, I reenumerate the basic tenets (A–D) of as
37 analysis from section 2:

- 38 (A) I assume that event-related adjuncts are introduced preverbally, in OV
39 and VO languages alike, in the order T P M.
40 (B) The licensing of these adjunct involves vP intraposition both in OV and
41 in VO languages.
42 (C) C-command effects between arguments and adjuncts are captured by
43 scope-taking A-movement (scrambling) in English and in German rather
44 than by Pesetsky-style cascades.
45

1 (D) Arguments are licensed in the I domain in OV as well as in VO lan-
2 guages.

3
4 Furthermore, I will also argue for the assumptions in (E–G):

5 (E) The grammar allows for a limited amount of options that are fixed by
6 interface constraints.

7 (F) These options involve the spell-out of A-movement chains (overt versus
8 covert) and pied-piping versus extraction employed by vP intraposition.

9 (G) Syntax and the interfaces interact in a cyclic phase-guided fashion.
10

11 In this section, I will outline the general frame of this account and present two
12 interface constraints that are argued to be responsible for fixing the given
13 choices concerning spell-out and movement options. In section 7, I show in
14 detail how these interface constraints interact with the syntax to determine
15 word order in the course of the derivation in which syntactic computation and
16 prosodic evaluation operate in a cyclic fashion as determined by the relevant
17 phases.

18 As sketched in the derivation in (17) above, I have tacitly assumed that in a
19 VO language like English the vP pied-pipes the relevant PPs at each step.
20 However, this is just one option; the vP could also extract at each step. I will
21 argue that the latter option constitutes the unmarked case in OV languages,
22 where vP movement leaves the original order of adjuncts intact, but also
23 occurs in VO languages, when the order of adjuncts is not permuted, as in (6c)
24 above.

25 This account raises several questions. The first issue that we must address is
26 the question of whether the option that is taken, pied-piping or extraction, has
27 any semantic consequences. Second, there is the issue of which factors decide
28 which option is taken. Third, if the vP extracts at each step in the process of
29 licensing adjuncts in the middle field in OV languages, then there must be an
30 additional step that moves the entire middle field in front of the vP again
31 before the end of the derivation. In the following section, I argue that pied-
32 piping versus extraction constitutes a real option in the syntax insofar as the
33 option taken is irrelevant for the semantic interpretation of these adjuncts.
34

35 *4.1 Specified Events and Stacked Predication*

36
37 It is important for the present account, which rests on the assumption that there
38 is a basic option in the syntax between pied-piping and extraction, that this
39 choice does not have any semantic effect, since event-related adjuncts are
40 interpreted alike in OV and VO languages.

41 In other words, if the vP pied-pipes a lower adjunct this should not be
42 interpreted differently from the case in which the vP has extracted from the
43 domain of this adjunct. Note that even if a lower adjunct is pied-piped, the
44 predication relation at the next level up may only hold between the vP and
45 the higher adjunct; otherwise we would predict a reading akin to an embedded

1 predication. For instance, it would be wrong to assume that in (30), in which
2 the locative PP is pied-piped by the vP, the temporal predicate *at two O'clock*
3 is predicated of the entire constituent [vP F1 PP F2], that is, of the predication
4 between the event and the locative. The temporal adjunct is predicated of an
5 event-denoting category and the only event-denoting category in the specifier
6 of F1P of the temporal adjunct is the vP in (30b).
7

- 8 (30) a. John kissed Mary in the garden at two O'clock.
9 b. [[[John kissed Mary] in the garden] at two O'clock].
10

11 In fact, no semantic difference between pied-piping and extraction option is to
12 be expected since the pertinent semantic operation is associative, as illustrated
13 in (31).
14

- 15 (31) there is an event e [kissing (J, M, e) & in the garden (e)] & at two
16 O'clock (e) =
17 there is an event e [kissing (J, M, e) & at two O'clock (e)] & in the
18 garden (e)
19

20 An anonymous reviewer points out that in the example (32), *at two O'clock* is
21 predicated of *John kissed Mary in the garden* not just only of *John kissed*
22 *Mary*. If there is such an effect in (32), it is the result of the order in which
23 these predicates are stacked on each other and computed in the course of the
24 derivation, but not the result of whether pied-piping has applied or not.
25

- 26 (32) John kissed Mary in the garden at two O'clock and in the bedroom at
27 midnight.
28

29 Given that pied-piping versus extraction is a real option in the grammar, the
30 question arises of how the correct word order is achieved in OV languages in
31 which I have proposed that the vP extracts at each step in moving through the
32 row of sentence medial adjunct predicates. This question is addressed in the
33 following section.
34

35 4.2 TP Movement and vP Movement into the C Domain 36

37 Hinterhölzl (2006) proposes on the basis of restructuring infinitives that the
38 extended vP (AspP)¹¹ and the TP undergo licensing movement into the C
39 domain in German, as illustrated in (33). These movements are argued to
40

41 ¹¹ Hinterhölzl (2006) argues on the basis of VP topicalization data that AspP constitutes the
42 edge of the V domain. As will become evident, I propose that there is an AspP in the V domain
43 that defines different event types (see Vendler 1967) and there is an AspP in the T domain
44 (so-called viewpoint aspect) that together with an abstract Tense predicate defines different Tenses
45 (see Smith 1991, Kratzer 1998). For example, the English simple past tense (as in *Peter ran*)
expresses past tense and perfective viewpoint.

1 follow from a general theory of sentential complementation, in which the
 2 complementizer acts as a placeholder for the selectional requirements of the
 3 matrix verb. In particular, it is argued that movement of the AspP into FinP
 4 (see Rizzi 1997) (called Status Phrase in Hinterhölzl 2006) serves to check the
 5 morphological subcategorization of the matrix verb and that movement of the
 6 TP into MoodP serves to temporally link the embedded event to the matrix
 7 event time. In (33), ForceP encodes clausal force and represents the highest
 8 head in the C domain. In this account, the complementizer is taken to be
 9 inserted in Fin^0 and to move up to Force^0 , thereby establishing a checking
 10 configuration with the subcategorized categories in Spec,FinP and Spec,-
 11 MoodP . In a V2 clause, the finite verb is taken to undergo head movement
 12 from Spec,FinP to Force^0 , establishing the relevant checking configuration
 13 (see Hinterhölzl 2006).

- 14
 15 (33) a. $[\text{CP}=\text{FP} \text{ Force } [\text{MP} \text{ Mood } [\text{FinP} \text{ Fin } [\text{TP} \text{ T } [\text{AspP} \text{ V}]]]]]$
 16 base structure
 17 b. $[\text{CP}=\text{FP} \text{ Force } [\text{MP} \text{ Mood } [\text{FinP} [\text{AspP} \text{ V}] \text{ Fin } [\text{TP} \text{ T}]]]]]$
 18 finiteness
 19 c. $[\text{CP}=\text{FP} \text{ Force } [\text{MP} [\text{TP} \text{ T}] \text{ M } [\text{FinP} [\text{AspP} \text{ V}] \text{ Fin}]]]$
 20 temporal anchoring
 21

22 In this paper, I propose that this account be extended to nonrestructuring
 23 contexts. In particular, I propose that the dependency relations between C and
 24 T (Chomsky 2005) and between Fin and v (Rizzi 1997) are embodied via XP
 25 movement of TP and AspP into the C domain in English and German. The
 26 rationale behind these movements is that different speech acts (forces) are
 27 connected with different verbal moods that determine the situational and
 28 temporal anchoring of the event in TP and different verbal moods select
 29 different finite and nonfinite verbal forms that are expressed in the V domain.

30 On its way to the C domain the extended vP moves into the specifier of
 31 (viewpoint) Aspect in the T domain, as illustrated in (34). I will argue in the
 32 following section that interface conditions determine that the extended vP
 33 pied-pipes the containing Aspect phrase in English, while in German the
 34 extended vP extracts from the Aspect phrase when moving on into the C
 35 domain.¹²

- 36
 37 (34) $[\text{I domain } [\text{T domain} (\text{Spec Agr}_S) [\text{Spec PRES/PAST } [\text{vP Asp}]]]$
 38 $[\text{V domain } t_{\text{vP}}]]$ ¹³
 39
 40

41 ¹² For reasons of simplicity, I assume here that the relevant difference between English and
 42 German is extraction versus pied-piping. An alternative option is to assume that vP pied-pipes the
 43 Aspect phrase in the T domain also in German but spells out vP in its base position. Exploring this
 44 option is, however, beyond the scope of this paper.

45 ¹³ In (34), the specifier of the tense predicate contains a referential temporal argument (Stowell
 1996) with respect to which the event denoted by vP is situated.

1 Given this scenario, we can assume that on its way to the T domain, the
2 extended vP moves through all the *subject* positions introduced by modifying
3 adjuncts in the middle field. The modifying adjuncts will remain in the original
4 order in preverbal position, if vP is subextracted at each step, since TP
5 movement will then move the entire middle field anew in front of the extended
6 vP in the C domain. On the other hand, the adjuncts will appear in the mirror
7 order, that is typical of VO languages, if the extended vP at each step on its
8 way up to the C domain pied-pipes the respective functional projections
9 containing the adjuncts. In this case, as is typical for VO languages, the entire
10 middle field will follow the verb in the C domain, with only the subject and
11 possibly some higher adverbs being moved via TP movement to MoodP in
12 front of the verb (phrase) again.

13 Note, however, that we must assume that pied-piping in a VO language like
14 English is the preferred but not the only option. To derive the correct word
15 order in (6c), in which case the original hierarchical relationship between
16 temporal adverbial and local adverbial is preserved, we have to assume that vP
17 extraction may also take place in the derivation of (6c). In (6c), vP extracts
18 after having moved into the licensing position of the lower locative adverbial
19 and will induce pied-piping only after having moved into the licensing
20 position of the higher temporal adverb. The rationale could be that extraction
21 in this case takes place in order to preserve the binding relation between the
22 temporal adverbial and the locative adverbial. We see in (6b) above that
23 reconstruction cannot apply to establish the necessary binding relation if the
24 pied-piping option is taken. Given that I argued earlier that there is a real
25 choice from the syntactic point of view, vP extraction may apply deriving the
26 sentence with the grammatical binding relation in (6c).¹⁴ This implies that
27 pied-piping is the default option in a VO language. Although the two options
28 are equivalent from a syntactic/semantic point of view, I will argue in the
29 following section that they can yield prosodically more or less marked output
30 structures. The prosodically less marked option will then count as the default
31 option in a language.

32 However, this default can be overruled by interface requirements, like the
33 availability of certain binding relations. Another interface requirement that can
34 be taken to enforce extraction instead of the default operation of pied-piping is
35 focus articulation. Since VO languages like English demand that focused
36 constituents occupy the right edge within the intonational phrase, focussing of
37 the lower adjunct is expected to induce extraction in order to remain in clause
38 final position. In the following section, I argue that the default option of
39

40
41 ¹⁴ An anonymous reviewer points out that this case is reminiscent of reconstruction of anaphors
42 in cases of A'-movement that Chomsky (1995) discusses in connection with the Preference
43 Principle, as shown in (i). The cases are indeed similar insofar as both anaphors and bound
44 variables obligatorily require a c-commanding antecedent. No implications, however, follow from
45 this for avoiding violations of conditions B and C.

(i) John asked which friend of himself Mary would invite to her party.

1 pied-piping is due to a prosodic requirement that only allows light material
 2 (to be defined below) in the middle field of English.

4.3 *Prosodic Restrictions on Extraction/Pied-Piping*

6 In this section, I outline the interface conditions which derive why pied-piping
 7 is the default option in English, while in German the default option is vP
 8 extraction. Given that extraction versus pied-piping is a real option in the
 9 syntax and given that we want to dispense with the head–complement
 10 parameter and similar directionality parameters, the choice must be taken to be
 11 fixed by an interface requirement.

12 I will argue that there are two types of interface requirements that enforce
 13 uniformity in applying the extraction versus pied-piping option. One type
 14 pertains to the syntax–PF interface and is prosodic in nature. The other type
 15 pertains to the syntax–LF interface and involves restrictions on scope
 16 relations. I will outline two prosodic conditions (one for German and one for
 17 English) and discuss their effects on the choice of the extraction versus pied-
 18 piping option. In section 7, I provide some motivation for them and discuss in
 19 detail how they interact with the LF-based interface constraint that applies
 20 both in English and in German.

21 When the extended vP moves into the licensing domain of an adjunct in the
 22 middle field, the adjunct is licensed and the phase of the adjunct closes (see
 23 also Svenonius 2001, Epstein & Seely 2002), in the sense that the phase can
 24 be evaluated prosodically and semantically at this point of the derivation.
 25 Prosodic evaluation means that a prosodic constituent is computed, if possible,
 26 and that prosodic constraints that are relevant for the given phase (see below
 27 and section 7) apply. With the vP functioning as subject of the predication by
 28 the adjunct, the prosodic constituent that is derived is right-headed or has the
 29 pattern (w(eak) s(trong)), given that the relation between subject and predicate
 30 universally instantiates the metrical pattern (w s).

31 In a VO language this pattern conforms to the default and thus constitutes a
 32 valid prosodic unit. If we then assume that syntactic processes preferably
 33 affect (i.e., move) constituents that are also well-formed prosodically, the
 34 result is a preference for pied-piping in VO languages.¹⁵

35 In an OV language like German, on the other hand, the resulting prosodic
 36 constituent does not constitute a valid prosodic pattern, which would have to
 37 be (s w) for any constituent involving the verb. Note that German does not
 38 allow a postverbal focus and hence postverbal stress in the same intonational
 39 phrase that contains the verb. Thus, a postverbal focus is realized in a separate
 40 intonational phrase which leads to marked structures like (35).

41
 42
 43
 44 ¹⁵ This condition should follow from the economy of computation penalizing a derivation in
 45 which a prosodic constituent that has been computed at a particular point in the derivation is
 destroyed by a syntactic operation later on which only affects a part of this prosodic constituent.

- 1 (35) a. #Auf Gleis 5 fährt ein| der IR nach Straubing
2 at platform 5 comes in the Interregio to Straubing
3 b. [_{IP} (Auf Gleis 5) (fährt ein)] [_{IP} (der Interregio) (nach Straubing)]
4
- 5 (36) Focus constituents are mapped into the intonational phrase that
6 contains the verb. (Nespor & Vogel 1986)
7

8 The sentence in (35) is marked, since it violates the interface condition in (36)
9 and since DPs normally do not form intonational phrases on their own. Thus
10 no prosodic constituent comprising the vP and the adjunct is formed at this
11 stage of the derivation in German and movement will only affect the vP,
12 resulting in a case of extraction.¹⁶ In conclusion, the proposal is that the
13 unmarked option in German is vP extraction, given that pied-piping leads to a
14 marked prosodic pattern as long as the adjunct is to receive stress (i.e., is part
15 of the new information or focus domain of the clause).

16 What about the postverbal occurrences of these adjuncts in German? The
17 descriptive generalization that emerges from the data discussed in (28)–(29) is
18 that German only tolerates postverbal adjuncts that are part of the background
19 information in the clause. Note first that background material is generally part
20 of a separate intonational phrase from the one containing the verb (see
21 Frascarelli 2000, Kanerva 1989). Second, note that discourse-given informa-
22 tion as a rule scrambles to the top of the middle field in German (see
23 Meinunger 2000, Hinterhölzl 2006). This explains why the postverbal PP in
24 (28) is forced to have a high reading: postverbal material must be interpreted
25 as part of the background, since assigning stress to it, which is the prosodic
26 correlate of nonbackground material, would lead to a marked prosodic output
27 in German. In a similar vein, (29) is ungrammatical since the negatively
28 quantified PP does not qualify as background material (it does not introduce a
29 discourse referent nor does it qualify as a frame adverbial that defines a
30 spatiotemporal location for the assertion of the remainder of the clause).

31 At this point a note on my assumptions about the interaction between syntax
32 and prosody is in order. Following standard theory, beginning with Nespor &
33 Vogel (1986), I assume that prosodic structure is derived from syntactic
34 structure. Different syntactic structures thus may lead to different prosodic
35 patterns. Additionally, I assume that prosodic patterns are ranked according to
36 their frequency yielding a matrix of (prosodically) more or less marked
37 structures. If a certain prosodic pattern becomes too dominant, that is, its
38 frequency crosses a certain threshold, alternative prosodic patterns will become
39 highly marked and are in danger of being blocked by the default pattern unless
40 they give rise to a different interpretation (this explanation is parallel to the
41 blocking effect of alternative (morphological) forms in the lexicon). The
42

43
44 ¹⁶ I will also argue that there is another interface constraint, scope transparency, that favors
45 extraction over pied-piping in German so that the two types of interface conditions converge on
the same parametric option (see also section 7).

1 assumption of an extra prosodic evaluation matrix is necessary in order to
 2 account for very slow gradual change in word order, as argued in detail by
 3 Hinterhölzl (2004b). German has increasingly marginalized postverbal argu-
 4 ments and adjuncts in the course of its history. I propose that if a prosodic
 5 pattern becomes highly marked, the pertinent blocking effect can be modelled
 6 as following from an interface constraint. A possible candidate for the case at
 7 hand is (37), in which boldface letters mark a constituent that receives stress.
 8 Note that it will not do for (28) and (29) above, if we simply request that
 9 postverbal material needs to be background material. An account using just an
 10 information-structural restriction would rule out postverbal (extraposed)
 11 clauses in German that may and typically do provide new information.

12
 13 (37) Interface constraint on the syntax–prosody mapping in German:
 14 *_[iP ... (V) (XP)]

15
 16 (38) dat Jan het boek wil **lezen** (= _[iP ... (V) (VP)])
 17 that Jan that book wants read

18
 19 A correct account of vP intraposition must therefore take into consideration
 20 the complex interaction between syntax, prosody, and information structure.
 21 Such an account is best cast in a phase-based framework in which syntactic
 22 and prosodic computation work in parallel, as I will argue below.

23 Barriers (1995) does not report any restrictions on vP intraposition in
 24 Dutch. It is possible that similar restrictions also apply in Dutch or that Dutch
 25 is more liberal. The latter would not come as a surprise since Dutch allows for
 26 postverbal stress (on a predicate) within the same intonational phrases in cases
 27 of verb clusters, as illustrated in (38). However, I will have to leave this issue
 28 for further research.

29 Starting from an OV/VO base (Pintzuk 1999, Hinterhölzl 2004b), English
 30 has taken the inverse development by increasingly marginalizing preverbal
 31 arguments and adjuncts. Some important differences between modern English
 32 and modern German are that (a) German tolerates heavy constituents in the
 33 middle field, while English—with the exception of the subject—does not
 34 allow them (cf. (1)–(2) above) and (b) that the middle field in German is scope
 35 transparent in the sense that if a constituent A (an argument or adjunct)
 36 c-commands a constituent B, it precedes B. Assuming that condition (a) is
 37 prosodic in nature and that heaviness can be defined in terms of prosodic
 38 branchingness, I would like to propose the following pair of interface
 39 constraints in (39).¹⁷ It is this pair of interacting conditions that accounts for
 40

41
 42 ¹⁷ An anonymous reviewer asks what the conceptual rationale is behind making the condition in
 43 (39a) sensitive to the head of the predicate phase. Since (39a) is a condition that constrains the
 44 mapping between syntactic structure and prosodic structure, the reason seems to be that prosodic
 45 constituents are built around lexical heads (Nespor & Vogel 1986) and lexical heads in the syntax
 constitute the heads of predicate phases. In section 7, it will be argued that (39a) guarantees a
 monotonous mapping of smaller prosodic constituents into bigger ones.

1 the major differences in argument and adjunct placement in Germanic OV and
2 VO languages, as will be shown below and in section 7.

- 3
4 (39) a. Mapping Condition to PF (prosodic transparency): A right-headed
5 prosodic constituent (w s) may not sit
6 on a left branch with respect to the head of the predicate phase.
7 b. Mapping Condition to LF (scope transparency): If *a* scopes over *b*,
8 the spell-out copy of *a* should c-command the spell-out
9 copy of *b*.

10
11 The impact of scope transparency will be discussed in detail in section 7. Here
12 I will briefly outline the effect of the prosodic condition on the pied-piping/
13 extraction option in English. The prosodic condition in (39) is phase-based in
14 the sense that it may operate only in specific phases in a language. The
15 condition (39a) is introduced by Hinterhölzl (2006) to account for the spell-out
16 of verb clusters in German. It is restricted to the V domain in German in the
17 sense that it does not apply in the I domain or the C domain in this language.
18 Here, I would like to propose that this condition is also relevant in English and
19 that it applies in the V domain and in the I domain (with the exception of the
20 subject which is taken to be licensed in the T domain, a separate phase as
21 proposed above) in this language.¹⁸

22 Let us now see what this condition can contribute to explaining why the
23 default option is vP extraction in German and vP pied-piping in English. For
24 the sake of simplicity, I will assume here that this condition is checked at the
25 end of the derivation in the C domain, applying in the complement domain of
26 the Force head (this assumption will be refined in section 7). As outlined
27 above, the extended vP will move into the T domain in the course of the
28 derivation. Since the TP phase will be evaluated in the C domain, no prosodic
29 constituent is computed at this point and vP extraction is the default option. If
30 the extended vP extracts from TP, the entire middle field will be moved via TP
31 movement into the C domain.

32 In German, the result is grammatical, since (39a) does not apply in the
33 licensing domain (the I domain) of the verb. In English, the result will only be
34 grammatical if the middle field does not contain heavy, that is, right-branching
35 prosodic constituents. If the middle field contains heavy adjuncts, the extended
36 vP in the T domain must induce pied-piping such that the entire middle field
37 will be moved with the verb on top of it into the C domain, while the TP that is
38 moved into a higher specifier (in the C domain) will maximally contain the
39 subject that is exempt from (39a).

40 To summarize, since German tolerates heavy right-branching constituents in
41 the middle field, the option of vP extraction yields valid prosodic output, while
42

43
44 ¹⁸ As far as subjects are concerned, I propose for the sake of simplicity that this condition does
45 not apply to the specifier of a phrase that is headed by T (given that T defines an extra phase [cf.
section 3.1]).

1 it follows for English that the default option is pied-piping and that vP
 2 extraction (for scope reasons) will only be possible as long as the result at the
 3 end of the derivation does not yield heavy (right-branching) constituents in the
 4 middle field.
 5

6 **5. Silent Scrambling and the Problem of C-Command out of PPs**

7
 8 In this section, I address the issue of how to account for the fact that DPs
 9 contained in argumental and adverbial PPs can c-command constituents in the
 10 postverbal domain. In section 2, I briefly outlined Pesetsky's solution of this
 11 problem in terms of cascades. Cascades, however, presuppose that adjuncts
 12 are base-generated within the vP. In the present account, adjuncts are taken to
 13 be base-generated outside of the vP. Within this type of approach to adjuncts,
 14 Cinque (2006) proposes an account in terms of vP-remnant movement. I will
 15 discuss Cinque's proposal in detail and argue that an account in terms of PP
 16 pied-piping provides a better solution to this problem.
 17

18 *5.1 The Problem of C-Command out of PPs*

19
 20 As stated above, the present approach assumes that adjuncts are base-
 21 generated outside of the vP and silent scrambling is held responsible to
 22 account for the c-command effects between postverbal arguments and
 23 adjuncts. The explanation in terms of silent scrambling is sufficient in the
 24 case of (40a), where the argument is a simple DP, but obviously runs into
 25 problems when the argument of the verb is realized as a PP, as illustrated in
 26 (40b), or in general, if we want to account for cases where an original lower
 27 adjunct, realized as a PP, binds into a higher adjunct. In this case, simply
 28 assuming scrambling of the lower PP into a position c-commanding the other
 29 adjunct, will not do the job for lack of c-command out of PPs.
 30

- 31 (40) a. Mary called every professor on his birthday.
 32 b. Mary talked about every professor on his birthday.
 33

34 This problem is addressed by Cinque (2006), who proposes that PPs of all
 35 kinds, be they adjuncts or arguments, are base-generated as DPs in the vP and
 36 then joined with their selecting preposition in a second step via movement that
 37 can be assumed to be triggered for purposes of Case licensing. In this
 38 approach, an adjunct, like an argument, moves from its vP-internal position to
 39 the specifier of a functional head in the extended projection of the verb. In a
 40 second step, the preposition moves to a higher functional head and the
 41 remnant below the DP adjunct moves into the specifier of the higher head (see
 42 Kayne 1998), as illustrated in (40). The latter movement, according to Cinque
 43 (2006) and very much following Pearson's (2000) original idea, is motivated
 44 in order to identify the extended projection as a verbal category.
 45

1 (41) [VP [F1+P [DP [F2+t_P [t_{VP}]]]]]

2
3 I cannot go into the details of this proposal, but it should be obvious that the
4 problem of c-command out of PPs disappears in this account if one assumes
5 that DPs can bind from their Case-licensing positions into base-generated
6 positions in the vP. For instance, let us consider (40b). In this approach,
7 Cinque argues, there is a stage in the derivation where the DP *every professor*
8 in the specifier of the preposition *about* in the middle field c-commands the
9 DP *his birthday* in its base position, that is, its θ -position, in the vP.

10 This account has several merits. For instance, it provides an elegant uniform
11 mechanism for licensing both arguments and adjuncts. However, it runs into a
12 number of technical difficulties and cannot be taken to solve the c-command
13 problem with binding out of PPs, as I will argue in the following section.

14 5.2 Some Problems Concerning Cinque's Proposal

15
16 The first issue that I want to address in this section concerns overgeneral-
17 ization. The proposed mechanism must be appropriately restricted to prevent
18 overgeneralization. First, binding into the subject must be excluded in
19 principle, otherwise all kinds of ungrammatical sentences cannot be ruled out,
20 as illustrated in (42).

- 21
22
23 (42) a. *Friends of each other met them.
24 b. *Friends of each other met John near them.

25
26 A possible solution to this problem could be the so-called Base Constraint
27 (Lechner 2006), which states that subjects cannot be interpreted in their
28 θ -position. This, however, raises the question of why subjects should not
29 reconstruct while arguments and adjuncts must be taken to reconstruct in order
30 to solve the binding problem in Cinque's proposal.

31 Second, different types of surface constraints on the availability of the
32 purported binding relations must be assumed to exclude binding from a right-
33 peripheral adjunct (43) and to explain subject-object asymmetries in cases of
34 binding into adjuncts (44).

35
36 (43) *Sue met Mary in his_i house on everybody_i's birthday.

- 37
38 (44) a. They hit him_i [without John_i being able to defend himself_i].
39 b. *He_i was hit [without John_i being able to defend himself_i].
40

41 Granted, the coindexation in (43) can be taken to be ruled out by the Leftness
42 Condition on bound pronouns and the coindexation in (44b) can be taken to be
43 ruled out as a violation of condition C at S-Structure. Note, however that these
44 two surface constraints taken together are detrimental: On the one hand, there
45

1 is a valid coindexation early on in the derivation that needs to be excluded
 2 later on in the derivation. This is the case of (43). On the other hand, there is
 3 an invalid coindexation at an earlier level that is ruled in later in the derivation,
 4 as is the case in (44a). This state of affairs can be taken to imply that no
 5 coindexation relation should be established at such an early point in the
 6 derivation as envisaged by Cinque (2006).

7 The second issue concerns the comparative dimension. Cinque's approach,
 8 like Pesetsky's cascade theory, raises the interesting question of why VO
 9 languages use binding into θ -positions (or binding within the vP in Pesetsky's
 10 account), while OV languages like German and Dutch use scrambling to
 11 establish binding relations between arguments and adjuncts. It seems that no
 12 uniform account to the syntax of event-related adjuncts in OV and VO
 13 languages is possible within these approaches. Furthermore, we will see that
 14 scrambling cannot be dispensed with in a VO language either.

15 16 5.3 Reconsidering the Problem of C-Command out of PPs 17

18 The main problem with Cinque's proposal in my view concerns the fact that
 19 the proposed solution to the problem of c-command out of PPs cannot be
 20 taken to cover all cases where one would like to assume that c-command out
 21 of PPs holds. Note first that Cinque's solution only works for one
 22 A-dependency relation. But it fails in a case where two dependency relations
 23 are involved, as illustrated in (45). It is important for the understanding of (45)
 24 to remind ourselves that Cinque also assumes that temporal adjuncts are base-
 25 generated in a higher position than locatives.

26
27 (45) John met every girl in her school on its opening day.
28

29 To get the binding between the direct object *every girl* and the pronoun *her* in
 30 the locative in (45), it must be assumed that the locative DP *her school* is
 31 interpreted in its base position in the vP. However, in this position the locative
 32 DP cannot be taken to c-command the temporal DP *opening day*, which is
 33 base-generated in a higher θ -position in the vP. To get the dependency
 34 between the locative and the temporal adjunct, the locative DP should be
 35 interpreted in its Case position in the middle field. We arrive at a
 36 contradiction. Unless further scrambling of the direct object *every girl* is
 37 assumed the dependency relations in (45) cannot be accounted for in Cinque's
 38 approach.

39 I think that the argument in (45) already weakens the appeal of Cinque's
 40 proposal. But the argument can be strengthened further with cases of scope
 41 extension via A'-movement. First, there is the question of how to account for
 42 PP pied-piping in cases of *wh*-movement. The standard assumption is that
 43 either the head or the specifier, via feature projection or agreement, can induce
 44 movement of the entire phrase. To account for cases like (46a) a special
 45

1 mechanism of feature percolation from the complement to the head is
2 generally assumed.

- 3
4 (46) a. On which day did John meet Mary?
5 b. About which problem did everyone talk to Sue?
6

7 Note, however, that feature percolation is probably not enough to account for
8 the wide scope reading of the *wh*-object *which problem* over the subject
9 *everyone* in (46b). Assuming that scope is expressed via c-command, the
10 relevant c-command relation in (46b) cannot be taken to be established by
11 reconstructing the subject into its θ -position, since this would violate the Base
12 Constraint that was shown to be necessary for ruling out the ungrammatical
13 binding relations in (42).¹⁹ We must assume that A'-movement of the entire
14 PP to a position c-commanding the subject is sufficient for allowing
15 the *wh*-phrase to c-command the subject.

16 Given this observation, we can relatively safely reject Cinque's proposal as
17 a general solution to the problem of c-command out of PPs. Based on data like
18 (46b), I would like to propose that there is silent scrambling within PPs, as
19 shown in (47).

20 Hinterhölzl (2004a) argues that scope-taking is a trigger that motivates
21 scrambling in German. Hence, we can assume that if a DP within a PP needs
22 to take scope outside of the containing PP, it will undergo scrambling and
23 move into the highest specifier in the I domain of the preposition. From this
24 position the DP c-commands whatever is c-commanded by the entire PP,
25 according to the standard assumptions within the antisymmetry approach. In a
26 phase-based framework, we may assume that movement of phrase into the
27 edge of a domain not only allows this phrase to be seen from outside of this
28 domain, but also to look outside of this domain, which is to say, allows it to
29 c-command whatever is c-commanded by the entire domain.

30 This proposal may consequently be seen as a possible solution to pied-
31 piping in general: if a constituent that cannot be extracted out of a certain
32 domain needs to take scope outside of this domain, it will move to the edge of
33 this domain and cause the entire domain to move to the respective scope
34 position. What is special with PP pied-piping is that movement to the edge is
35 silent, in the sense that in this operation the lower copy is spelled out.
36

- 37 (47) Silent scrambling in PPs: [_I Domain DP [_{Predicate Domain} P DP]]
38

39 This solution might seem like a mere stipulation, but note that if it is taken,
40 then an interesting generalization emerges: in head initial structures,
41 scrambling spells out the lower copy; in head final structures, scrambling
42

43
44 ¹⁹ Note that this argument carries over to Pesetsky's account in terms of cascades. Given cases
45 like (46b), an approach in terms of cascades cannot account for all cases of apparent c-command
out of PPs.

1 spells out the higher copy. In other words, I am proposing that the prosodic
 2 mapping condition in (39) above applies in the I domain of PPs in German and
 3 English alike: DPs map into right-headed phonological phrases in German and
 4 English and the preposition arguably constitutes the phase head of the
 5 predicate domain of a PP, as illustrated in (47).

6 In fact, there is no reason to assume that PPs behave differently in German
 7 and English. Note that though cascades are arguably not available in German,
 8 it displays the same c-command effect with argumental and adverbial PPs, as
 9 English does:

- 10
 11 (48) a. John talked with every woman_i about her_i past.
 12 b. Hans sprach mit jeder Frau_i über ihre_i Vergangenheit.
 13 Hans talked with every woman about her past
 14

15 To conclude, I have argued that the solution of the problem of c-command out
 16 of PPs in terms of pied-piping is superior to Pesetsky's cascades as well as to
 17 Cinque's alternative, since it can account for all cases of C-command out of
 18 PPs, including those involving A'-movement. Furthermore, I argued that the
 19 pied-piping solution leads to an interesting crosslinguistic generalization about
 20 the spell-out of A-movement chains: the spell-out correlates with the
 21 headedness of the phrase. In section 7, I will show how the distinction
 22 between silent and nonsilent scrambling can be derived from phase-based
 23 mapping conditions at the PF and LF interface, which are argued to replace the
 24 traditional head-complement parameter.

25 26 **6. Phases and Prosodic-Domain Formation**

27
 28 In section 3, I proposed that adjuncts project separate phases, which therefore
 29 count as nonhomorganic with respect to the phases projected by the verb. In
 30 this section, I argue that the differentiation between homorganic and
 31 nonhomorganic phases plays an important role in prosodic-domain formation.
 32 In section 7, I will introduce two modes of prosodic composition that depend
 33 on this distinction. In this section, I provide some empirical arguments for the
 34 claim that prosodic-domain formation is phase-based, which will set the basis
 35 for the technical execution of this idea in a cyclic derivation in section 7. I will
 36 show that adjuncts cannot restructure with material that belongs to phases
 37 projected by the verb.
 38

39 40 *6.1 Adjuncts and the Verb Form Separate Phonological Phrases*

41 The first argument comes from the observation that the verb cannot restructure
 42 with an adjunct. Many researchers noted that there is an asymmetry in
 43 prosodic-domain formation between arguments and adjuncts (Gussenhoven
 44 1984, Krifka 1984, and Jacobs 1992, among others), as illustrated in (49).
 45 Every lexical word can form a phonological phrase on its own, as shown in

(49b), which represents phrasing in a case of slow speech. In normal speech the verb restructures with the adjacent direct object (see Nespor & Vogel 1986 for the restructuring of nonbranching prosodic constituents). In this case the nuclear stress (NS) is placed on the direct object (according to the rule that NS falls on the last phonological phrase within an intonational phrase that marks the clause), as illustrated in (49c).²⁰

- (49) a. weil Hans das Buch liest
since Hans the book reads
b. [(weil Hans) (das Buch) (liest)]
c. [(weil Hans) (das Buch liest)]

However, restructuring may not apply between an adjunct and the adjacent verb such that NS is placed obligatorily on the verb in this case, as illustrated in (50a). In the present account the phrasing in (50a) can be made to follow from the fact that adjunct and verb belong to nonhomorganic phases, if we assume that only phonological phrases that belong to homorganic phases can restructure with each other.

- (50) a. [(weil Hans) (im Garten) (LIest)]
since Hans in-the garden reads
b. [(weil der Vater) (im Garten)
since the father in-the garden
(ARbeitet)]
works (he is working on his book)
c. [(weil die Mutter (im GARten
since the mother in-the garden
arbeitet)] (she is doing some gardening work)
works

As the contrast in (50b,c) shows, restructuring is only possible if adjunct and verb can be taken to form a semantic unit with a specialized meaning like *doing some gardening work*. In this case, I propose that the PP and verb form a complex predicate. As I pointed out in section 1, the PP in this case does not project its own licensing domain and therefore does not give rise to separate nonhomorganic phases. I assume that PPs of this type, like small-clause APs and NPs, are licensed in a Predicate phrase (Bowers 1994, Koster 1994).

The data in (49)–(50) indicate that adjunct predicates can either be part of separate phases, in which case they cannot form a joint phonological phrase with the verb, or form a complex predicate with the verb, in which case they can (or must) restructure with the verb.

²⁰ In (49), main stress is indicated by capitalizing the accented syllable, round brackets indicate phonological phrases, and square brackets indicate intonational phrases.

6.2 *Adjuncts and Weak Pronouns Form Separate Phonological Phrases*

The second argument comes from the syntax of weak pronouns. The relevant observation is due to Vikner (1994). He observed that object shift in Danish cannot land a pronoun in between adverbs (51). That the restriction exemplified in (51) should not be treated as an intrinsic property of object shift but constitutes a general property of weak pronouns in between adjuncts is shown by the fact that the same constraint also holds in German (52).

(51) I gar laeste Peter (den) uden tvivil (*den) ikke (*den).
 Yesterday read Peter it without doubt it not it
 (Danish)

(52) Gestern hat (ihn) Peter (ihn) ohne Zweifel (*ihn) nicht
 Yesterday has (him) Peter him without doubt him not
 (*ihn) getroffen. (German)
 him met

The data in (51) and (52) follow if we assume that weak pronouns cannot form a phonological phrase of their own (Nespor & Vogel 1986) and have to form a joint phonological phrase with their host. Weak pronouns in German are enclitic and as indicated in (52) can be licensed by (restructuring with) a preceding verb or the preceding subject. In the present account, verb and subject belong to phases that are homorganic with respect to the weak object pronoun. The weak pronouns in (52) are ungrammatical in positions in which they are preceded by an adjunct or by negation. In the present account, an adjunct belongs to a separate phase that is not homorganic with respect to material that belongs to phases projected by the verb. Interestingly negation patterns exactly like adjuncts with respect to weak pronouns. It is not clear to me why this should be so. One possibility is that negation is to be analyzed as an adjunct. In the present account, it suffices to assume that negation introduces a phase of its own. I will leave this question for further research and will assume here for the sake of the argumentation that negation is part of a phase that is nonhomorganic with respect to the phases projected by the verb.

To summarize, the examples in (51) and (52) show that weak pronouns in general cannot be licensed in between adjuncts since they cannot form a phonological phrase of their own and restructuring with an adjunct is blocked. I have argued that this restriction can be explained on the basis of assuming homorganic and nonhomorganic phases.

6.3 *Object Shift and Phases*

The above observations about the licensing of weak pronouns offer a new account of the regularities behind object shift in general. The restrictions on

1 object shift can be subsumed under the general approach that has prosodic
2 conditions decide on spell-out options of A-movement chains that I am
3 pursuing in this paper, if we assume that (53) holds.
4

- 5 (53) a. Weak pronouns undergo A-movement to check their specificity
6 feature in a functional position in the I domain.
7 b. Weak pronouns are spelled out in the smallest domain that
8 contains a possible host to restructure with.
9

10 These assumptions will be important when we talk about the licensing of weak
11 pronouns in English in section 7. But let us first see how (53) can account for
12 the basic regularities of object shift in Scandinavian.

13 In a recent account called the “true nature of Holmberg’s generalization,”
14 Holmberg (1999) argues that object shift is blocked by any phonological
15 material intervening between the base position in the VP and its licensing
16 position. The only exception to this rule are adjuncts and negation. Holmberg
17 concludes from these observations that object shift should be treated as
18 phonological movement that is subject to a phonological type of minimality
19 effect. It remains mysterious in his account, however, why adjuncts and
20 negation fail to induce a violation of phonological minimality.

21 The basic data are given in (54). The difference between (54a,b) has often
22 been taken to be due to failure of head movement of the verb in (54b) that
23 could extend the domain for A-movement of the object pronoun. But as (55)
24 shows object shift is blocked, even when verb movement applies, by other
25 phonological material that intervenes between the base position of the object
26 and its licensing position. In (55a), the phonological intervener is a
27 preposition, in (55b), it is a verb particle. To unify the ungrammatical cases,
28 Holmberg (1999) proposes that object shift in (54b) is blocked by the
29 intervening participle.
30

- 31 (54) a. Jag kysste **henne** inte. (Swedish)
32 I kissed her not
33 b. *Jag har **henne** inte kysst.
34 I have her not kissed
35

- 36 (55) a. *Jag talade **henne** inte med. (Swedish)
37 I talked her not with
38 b. *Dom kastade **mej** inte ut.
39 they threw me not out
40

41 As stated above, I propose that object shift constitutes syntactic movement
42 after all, applying in all contexts its trigger is satisfied irrespective of
43 intervening phonological material. Since a weak pronoun cannot form a
44 phonological phrase on its own, as we have seen in the previous section, it has
45 to restructure with the phonological phrase of its host. Therefore, an

1 *intervening* verb, noun or preposition will induce the pronoun to be spelled out
 2 in its base position and to restructure with the adjacent verb, preposition, or
 3 particle in (54b) and (55), respectively.
 4

5 (56) (Jag) (kysste *henne*) (inte) (**henne*).
 6

7 Since weak pronouns cannot restructure with adjuncts and negation, as we
 8 have seen in the previous section, it follows that the pronoun in (54a) cannot
 9 be spelled out in its base position, since it can neither restructure with the
 10 phonological phrase preceding it nor form a phonological phrase on its own,
 11 as illustrated in (56). The round brackets in (56) are meant to indicate
 12 phonological phrases. Spell-out of the pronoun in the lower position will
 13 either yield a violation of a prosodic constraint at PF, if the pronoun is
 14 deaccented, or a violation of the givenness condition (that demands that given
 15 material is destressed), if the pronoun is stressed to form a valid separate
 16 prosodic constituent.

17 This proposal is similar to Erteschik-Shir's (2005) analysis of Danish
 18 object shift, which proposes that weak pronouns in Scandinavian undergo
 19 phonological movement since adverbs fail to form a prosodic unit with
 20 weak pronouns without providing an explanation for the latter fact. In the
 21 present account, restructuring is dependent on the phase status of host and
 22 weak pronoun. In the following section, I will bring all these observations
 23 together and show how the spell-out options of A-movement and the
 24 choice between extraction versus pied-piping can be fixed by the phase-
 25 based cyclic application of prosodic conditions in the course of the
 26 derivation.
 27

28 7. Interface Conditions and the OV/VO Parameter

29 The comparative account to adjuncts that I have been developing in the
 30 previous sections rests on the assumption that adjuncts are base-generated
 31 outside of the vP. The strength of Pesetsky's proposal in terms of vP-internal
 32 adjunct cascades rests on its ability to account for the c-command effects
 33 between postverbal arguments and adjuncts in English. To account for these
 34 c-command effects, I have proposed (silent) scrambling of arguments around
 35 adjuncts. The appeal of this alternative to Pesetsky's cascades crucially
 36 depends on a principled explanation of when a given A-chain is to spell out
 37 the higher or the lower copy.
 38

39 The purpose of this section is to specify the conditions that determine the
 40 spell-out of A-movement chains and also fix the choice between the extraction
 41 and the pied-piping option in adjunct licensing. I will argue that the choice
 42 between these options is determined by two types of interface conditions that
 43 apply in a phase-based derivation in which syntactic computation and prosodic
 44 computation and evaluation are intertwined. The two interface conditions,
 45

1 though universal, apply in different domains in German and English and are
2 argued to replace the traditional OV/VO parameter.

3 4 7.1 *Silent Scrambling and Prosodic Constraints* 5

6 The challenge for the present account is to provide a principled explanation of
7 when an A-movement chain spells out the lower or the higher copy in German
8 and English. Here are the basic facts that we need to account for:

9 In English, vP-internal phrases, that is to say DP and PP arguments, when
10 moved into the middle field, spell out the lower copy in the vP, while PP
11 adjuncts spell out the higher copy when they scramble to take scope over
12 another adjunct. PP-internal scrambling, however, always spells out the lower
13 copy. In German, on the other hand, A-movement of arguments and adjuncts
14 for scope-taking reasons always spells out the higher copy with only
15 PP-internal scrambling resorting to the spell-out of the lower copy. The
16 generalization that emerges is the following: argument scrambling spells out
17 the lower copy in VO structures (and the higher copy in OV structures) while
18 adjunct scrambling is not affected by the OV/VO Parameter and always spells
19 out the higher copy.

20 The basic idea that I will develop is that this generalization follows from
21 two basic modes of prosodic composition of arguments, adjuncts and heads.
22 Let us start with the more complex case that English represents. In sections 2
23 and 4.3 above, I argued that A-movement of arguments (scrambling) in
24 English spells out the lower copy since the English middle field does not
25 tolerate heavy constituents and formulated the prosodic mapping condition in
26 (39a), repeated here as (57). Furthermore I argued that this prosodic condition
27 motivates also pied-piping of vP-external material, that is, of PP adjuncts.

28 29 (57) Prosodic Mapping Condition

30 A right-headed prosodic constituent (w s) may not sit on a left branch
31 with respect to the head of the predicate phase
32

33 The first question that arises is why A-movement in English could not also
34 spell out the higher copy to obey this prosodic condition, given that vP
35 movement into the TP phase moves the verb around scrambled arguments
36 again any way. The answer to this question must be that the spell-out of an
37 argument is decided before Tense is merged.

38 In fact, there is ample empirical evidence that VO orders in English cannot
39 be derived by object movement that spells out the higher copy plus vP
40 movement around it. First note that the vP cannot be topicalized excluding
41 the direct object, as illustrated in (58). Furthermore, note that the object
42 cannot be separated from the verb and appear in its *scope position* between
43 adverbs, as illustrated by the contrast between German and English in
44 (59a,b). The intended reading of (59a) is possible in the order given in (59c),
45

1 indicating again that Pesetsky's cascades fall short of representing all scope
2 possibilities.

- 3
4 (58) a. John wanted to buy something yesterday...
5 *...and buy John did a book today.
6 b. Hans wollte gestern etwas kaufen...
7 ...und gekauft hat er heute ein Buch.
8
9 (59) a. *John met every day two girls in their classrooms.
10 (Temp > DO > Loc)
11 b. Hans traf jeden Tag zwei Mädchen in ihren Klassenzimmern.
12 c. John met two girls in their classrooms every day.
13

14 I propose that a constituent is spelled out at the point at which all its features
15 have been checked, guided by the prosodic constraints that apply in the phase
16 that contains it. The crucial distinction between argument and adjunct
17 scrambling follows from the point in time at which the condition in (57)
18 applies to right-headed constituents on a left branch in the I domain. I would
19 like to propose that this mapping condition applies at the time at which an
20 argument or an adjunct is joined with the head of the predicate domain into
21 a single prosodic constituent.
22

23 7.2 Modes of Prosodic Composition

24 We have seen that there is an asymmetry in prosodic-domain formation
25 between arguments and adjuncts. In section 6.1, I argued that adjunct and verb
26 form separate prosodic constituents (on a lower level as we will see below)
27 since they belong to nonhomorganic phases, while a verb may restructure with
28 an argument to form a single prosodic constituent since they belong to
29 homorganic phases. In analogy to recent work by Wagner (2005), I propose
30 that there are two modes of prosodic composition which are determined by the
31 phase status of the constituents to be phrased: subordination and coordina-
32 tion.²¹ Subordination pertains to arguments and their selecting head, that is,
33 material in homorganic phases: when an argument and a head are combined
34 the result is a single prosodic constituent (of a certain type), as shown in (60a).
35 Coordination pertains to the composition of an adjunct and a head, that is,
36 material in nonhomorganic phases: the combination of an adjunct and a head
37 yields two prosodic constituents of the same type (that can be combined at the
38 next cyclic level), as illustrated in (60b).
39
40
41
42
43

44 ²¹ Wagner (2005) calls them *subordination* and *sister-matching* and invokes a directionality
45 parameter. Here I assume that no directionality parameter is necessary to account for the data.

1 (60) Modes of prosodic composition

- 2 a. subordination: (DP) + V → ((DP) V)²²
3 b. coordination: (PP) & V → (PP) (V)
4

5 When a right-headed prosodic constituent that is an argument is licensed in the
6 I domain, the mapping condition applies immediately since according to (60a)
7 a single prosodic constituent with the verb is computed at this point.²³ A
8 sample derivation is given in (62). Note that we must assume that argument
9 licensing is interleaved with adjunct licensing in the I domain in our
10 comparative account. For the sake of illustration, I will assume the hierarchy
11 of licensing heads given in (61) that displays the unmarked order of arguments
12 and adjuncts in the German middle field.²⁴

13 (61) [Tense [Temp [SU [Place [IO [DO [Manner [vP]]]]]]]]]

14 Example (62) illustrates the case of the licensing/spell-out of the direct object.
15 Square brackets indicate syntactic constituents and round brackets indicate
16 prosodic constituents. The derivation will then proceed in a strict cyclic
17 fashion, as illustrated. First, the adjunct is licensed (62b) and the result is
18 prosodically evaluated (62c). Then the argument is extracted to be Case-
19 licensed by the higher head (62d) and prosodic evaluation creates a joint
20 prosodic constituent of verb and argument (subordination). At this point the
21 condition in (57) applies, with the result that the argument is spelled out in its

22 Subordination as defined in (60a) creates recursive prosodic structures. An alternative to
23 (60a) would be to assume that the verb restructures with the prosodic constituent of its comple-
24 ment, yielding the prosodic structure (DP V) that obeys the Strict Layer Hypothesis (Selkirk 1984,
25 Nespor & Vogel 1986). However, Ladd (1986), Selkirk (1995), and Peperkamp (1997) provide
26 arguments for the availability of recursive prosodic structures in certain languages. Truckenbrodt
27 (1999) points out that many languages lack the phonological evidence that could rule out recursive
28 prosodic structures, since they exhibit either phonological rules that are sensitive for right edges
29 but not for left edges and vice versa. Here I propose that syntax derives an initial recursive
30 prosodic phrasing which at a later level may be flattened by language specific rules that either
31 delete outer or inner boundaries according to global prosodic parameters like rhythm, length, and
32 branchingness of constituents and the like. Also information structure may play a role in the
33 selection of inner or outer boundaries (see Kanerva 1989 on Chichewa). Pursuing these questions,
34 however, is beyond the scope of this paper.

35 ²³ The deep reason behind (57) could be the preservation of peripherality of the head in
36 prosodic-domain formation. Note that when a right-headed prosodic constituent that is an argument
37 is joined with the verb, the result is a left-headed prosodic constituent, as is illustrated in (i).

38 (i) (w s) + V → (s w)

39 Note that no change in peripherality occurs if a prosodically left-headed argument is combined
40 with the verb on its right (as is typically the case in purely head-final languages, suggesting that
41 what really is at stake in (57) is a monotonous mapping of head status in prosodic-domain
42 formation.

43 ²⁴ I assume that German has two subject positions: a lower one in the I domain in which
44 Nominative Case is assigned and a higher one in the T domain which is reserved for specific DP
45 subjects. English has lost the lower position in the course of its history.

1 base position. The same rationale applies to DP scrambling within PPs both in
 2 English and German (modulo the effect of the presence of the adjunct).
 3

- 4 (62) a. [_{IP} ...[... Adjunct] [_{vP} V DP] adjunct licensing →
 5 b. [_{IP} [[_{vP} V DP] Adjunct] *t*_{vP}] coordination →
 6 c. [_{IP} [(V DP) (Adjunct)]] DP extracts for Case/scope
 7 checking →
 8 d. [_{IP} DP [(V DP) (Adjunct)]] subordination →
 9 e. [_{IP} (DP [V DP) (Adjunct)]] mapping condition → spell-out
 10 of the lower copy
 11 f. [_{IP} (DP [V DP) (Adjunct)]]

12
 13 When a right-headed prosodic constituent that is an adjunct is licensed in the I
 14 domain, the mapping condition does not apply immediately, since according
 15 to (60b) no single prosodic constituent is computed at this point in the
 16 derivation.

17 The actual prosodic composition of verb and adjunct can come about in two
 18 ways. (A) The adjunct has no scope feature to check: When the extended vP
 19 moves into the adjunct phase, a joint right-headed prosodic constituent can
 20 optionally be formed in accordance with (60) (and monotonicity), due to the
 21 fact that they are part of the same phase that closes. This will yield pied-piping
 22 of heavy event-related adjuncts in English, as already outlined in section 4.3.
 23 (B) The adjunct has a scope feature to check and moves out of the adjunct
 24 phase into the I domain of the verb, for instance, to take scope over another
 25 adjunct: After scrambling and checking its scope features (Hinterhölzl 2006),
 26 the adjunct has licensed all its features and decisions about its spell-out can be
 27 made. According to (60b) adjunct and verb are phrased separately (and the
 28 adjunct will spell out the higher copy according to the interface condition in
 29 (65), as we will see below). The mapping condition in (57) will apply to it,
 30 only when a single prosodic constituent is formed at the level of the C domain
 31 that combines the verb and other elements in the I domain. In this case, the
 32 application of (60) will ensure that only light adjuncts may remain in the
 33 middle field in English.
 34

35 7.3 A2-Movement and Prosodic Phrasing

36
 37 Before we take a look at the spell-out of pronouns, I would like to address the
 38 fact that PP and DP arguments in English can also undergo nonsilent
 39 scrambling, as shown in (63). Larson (1988) reports that (63a) represents the
 40 unmarked order, whereas the inverted order in (63b) is most natural when the
 41 outer complement is stressed or heavy. Pesetsky (1995) agrees with this
 42 observation and treats cases like (63b) as resulting from optional movement to
 43 a focus position, an operation that he subsumes under the traditional term
 44 heavy XP shift.
 45

- 1
2
3 (63) a. Max talked to Mary about Bill.
4 b. Max talked about Bill to Mary.

5
6 I propose that scrambling in (63) involves leftward movement into a focus
7 position in the I domain (or higher), as illustrated in (64).

- 8
9 (64) a. [Max talked [_F to Mary] about Bill] focus movement →
10
11 b. [_{I domain} to Mary [Max talked ___ about Bill] merger of Tense →
12
13 c. [_{T domain} [Max talked __ about Bill] [to Mary]]²⁵

14
15 We must assume that (60) does not apply immediately in the derivation in
16 (63). Since we are arguably dealing with a case of movement into a focus
17 position,²⁶ I propose that the DP/PP argument is not phrased with the verb in
18 step (64b) due to an interface property of focus. It has been observed that a
19 focused constituent induces additional prosodic boundaries (see, among
20 others, Kanerva 1989 for Chichewa, Hayes & Lahiri 1991 for Bengali,
21 Frascarelli 2000 for Italian), which appear on its right edge in VO languages.
22 If the boundary induced by focus prevents an argument from being
23 subordinated with the verb, leading to the coordination of focused argument
24 and verb in prosodic composition, then spell-out of the higher copy is not
25 excluded by (60). I leave this issue for further research.

26 27 7.4 *The Spell-Out of Pronouns*

28
29 It is clear that the mapping condition in (57) does not affect the spell-out of
30 pronouns. Given the basic assumptions adopted in the present account, we
31 would expect pronouns to be spelled out in the middle field in English. This is
32 certainly a problem for our account. However, note, that pronouns often have

33
34 ²⁵ How can we explain the binding facts in heavy XP shift constructions noted by Pesetsky
35 (1995), repeated here in (i)? I cannot give a full account of these facts here but will only point out
36 what type of explanation one can pursue in the present account. The condition C effect in (ia)
37 derives from obligatory scrambling of a given pronoun to a high specificity position in German (an
38 operation that remains silent in English). Note that with a narrow focus present, the rest of the
39 clause (including the pronoun) constitutes given information. As far as (ib) is concerned, note that
40 the operator is forced to scope over the focussed constituent, since focus is interpreted as (part of
41 the) nuclear scope. Since scope taking scrambling is an operation of A-movement, silent scrambling
42 in (ib) does not lead to a WCO violation (Hinterhölzl 2006).

- 41 (i) a. *We gave ___ to him_i on Friday [John_i's brand new toy].
42 b. Bill heard __ from each committee member_i on Friday [a report on his_i activities].

43 ²⁶ Note also that scrambling in (62) constitutes a case of A'-movement. A'-movement is
44 certainly subject to different types of spell-out conditions from the ones I have proposed here for
45 A-movement (both in English and in German) and I cannot venture into deriving these differences
in this paper.

1 a special syntax and exhibit particular prosodic licensing conditions. In VO
 2 languages like the Romance languages they are proclitic or enclitic to a
 3 specific host. Therefore, I propose that weak pronouns in English are analyzed
 4 like weak pronouns in Scandinavian, as has been discussed in detail in section
 5 6.3: they are spelled out in the smallest domain that contains an accessible
 6 phonological host to restructure with. Since the verb in English arguably never
 7 undergoes head movement, weak pronouns in English are thus always spelled
 8 out in their base position, that is, within the vP in the clause and within the
 9 containing PP, given that prepositions count as licensing hosts as argued in
 10 section 6.3.

11 12 7.5 *Overt Scrambling and Scope Transparency*

14 In German, the prosodic condition (57) does not apply in the I domain of the
 15 verb such that arguments, which move into the middle field for scope reasons,
 16 can be spelled out in their scope position and adjuncts—independently of their
 17 weight—can be stranded by vP movement in the clause. This raises the
 18 question of which factor is responsible for the spell-out of the higher copy in
 19 German and in all those cases in English in which the mapping condition (57)
 20 does not apply at the relevant point in the derivation.

21 Note that while we can say that VO structures (with right-headed arguments
 22 and adjuncts) guarantee a monotonous, more perspicuous mapping of word
 23 order onto prosodic structure on the PF side (see fn. 23), OV languages are
 24 more transparent with respect to the mapping of word order onto scope
 25 relations on the LF side of the computation. Arguments and adjuncts in
 26 German appear in their scope positions allowing scope to be read off directly
 27 from their respective surface positions. Therefore we can envisage, parallel to
 28 the interface condition on the mapping to PF in (57), an interface condition on
 29 the mapping to LF, as given in (65).

- 30
 31 (65) Scope Transparency
 32 If *a* scopes over *b*, the spell-out copy of *a* should c-command
 33 the spell-out copy of *b*.
 34

35 Let us now address the important question of how these two interface
 36 conditions interact with each other. The data discussed so far indicate that we
 37 do not need to resort to a mechanism like competition or constraint ranking in
 38 OT. Their application can be described with an elsewhere condition, where
 39 Scope Transparency presents the general condition which can be overruled by
 40 more specific prosodic conditions, as stated in (66).

- 41
 42 (66) The spell-out of an A-movement chain in a given phase is
 43 determined by prosodic constraints that hold in that phase, if
 44 applicable; if not, spell-out is fixed according to Scope Transparency.
 45

1
2
3 In this context, it is interesting to note that the Germanic languages started out
4 from a similar basis and developed into different directions. In Old High
5 German, Old Norse, and Old English, light elements tended to precede the
6 thematic verb whereas heavy (branching constituents) followed the verb
7 (Behaghel 1932). Although the placement of arguments and adjuncts in
8 modern German is thoroughly scope transparent (also PP stranding by vP
9 movement serves to preserve preexisting c-command relations among
10 adjuncts) and their placement in modern English is predominantly determined
11 by prosodic constraints, Icelandic has opted for a split solution: referential DPs
12 are spelled out in a low position obeying the prosodic condition, while
13 quantificational DPs (including negative quantifiers) are spelled out in their
14 scope positions in the middle field. I will come back to this issue in the final
15 section.

16 To sum up this section, I have been proposing that the properties of OV and
17 VO languages are not determined by directionality parameters but follow from
18 different choices in obeying two types of transparency constraints at the
19 interfaces.

20 21 *7.6 Unmarked Word Order and Focus Restructuring*

22 The spell-out of arguments in the vP is blocked in German by the interface
23 condition in (37) (introduced in section 4.3) repeated here as (67).
24

25 (67) Interface constraint on the syntax–prosody mapping in German:
26 *_[iP ... (V) (XP)]
27

28 In this final section, I want to address the question of what may lie behind
29 this interface constraint and pursue the idea that focus plays an important
30 role in fixing the unmarked word order in intonational languages. It has been
31 noted that a narrowly focussed phrase undergoes phonological restructuring
32 with an adjacent verb (Nespor & Vogel 1986, Frascarelli 2000). There are
33 languages in which the verb builds a joint phonological phrase with a
34 narrow focus to the right and languages in which it does so with a narrow
35 focus to the left. Thus, a preverbal focus will give rise to left-headed
36 phonological phrases and thus strengthen the prosodic pattern (s w)
37 involving the verb, while a postverbal focus will give rise to right-headed
38 phonological phrases, strengthening the prosodic pattern (w s) involving the
39 verb. Assuming that the direction of phonological restructuring is determined
40 by the direction of focus restructuring, a language with fixed word order can
41 be described as a language in which phonological restructuring of the verb
42 has been fixed to one direction. In German, the verb restructures obligatorily
43 to the left, as we saw in section 4.3 (see (35)). Given the mapping condition
44
45

1 in (68), it follows that German cannot license a postverbal focus within the
2 same intonational phrase.

- 3 (68) IS requirement on the prosodic mapping of syntactic structures:
4 A narrowly focused constituent introduces an intonational-phrase
5 boundary on one side and restructures with the adjacent verb on its
6 other side (generalized from Frascarelli 2000).

7
8 These observations have implications for the prosodic operation subordination.
9 If prosodic-domain formation by subordination ultimately involves
10 restructuring of phonological phrases—an issue that I have to leave for future
11 research—we can assume that the direction of subordination is open, but can
12 be fixed by interface properties like the realization of focus in terms of stress
13 prominence and phonological restructuring.

14 Assuming that the direction of phonological restructuring is relevant for
15 prosodic subordination²⁷ provides an explanation for the fact of why the
16 prosodic condition (57) does not apply in the I domain in German: Given
17 that prosodic restructuring of the verb is uniformly to the left in German,
18 the condition would always be violated. A condition that is always violated
19 in a given phase is irrelevant for selecting alternatives in this phase and can
20 be taken to be excluded from the evaluation of that phase. Assuming that
21 the direction of phonological restructuring is relevant for prosodic subordination
22 can also give us a handle on the Icelandic facts alluded to in the
23 previous section. Assuming that phonological restructuring may go to the
24 left and to the right in Icelandic, nonquantificational DPs are spelled out in
25 the vP obeying prosodic transparency since their interpretation is independent
26 of scope, while quantificational and negative DPs are spelled out in
27 their scope positions in the middle field. Given that their movement into the
28 middle field involves A-movement (rather than A'-movement), they would
29 violate prosodic transparency, but obey scope transparency. Note that
30 prosodic transparency must be taken to hold in the Icelandic I domain, as
31 evidenced by the placement properties of heavy (branching) adjuncts in this
32 language.

33 To sum up, in this paper I have first tried to develop an account of
34 unmarked word order without assuming any directionality parameter. In this
35 section, I provided two arguments that favor considering a directionality
36 parameter in prosody, namely the direction of phonological restructuring.
37 Thus, we can nevertheless conclude that directionality does not play any role
38 in the syntax, but enters the game at the PF interface, since prosodic phrases
39 (in contradistinction to syntactic phrases) are either left- or right-headed and
40
41
42

43 ²⁷ Given that subordination results in the prosodic constituent (i) ((DP) V), as given in (60a),
44 subordination may be seen as providing the precondition for prosodic restructuring of the verb,
45 which can be described in the simplest fashion as an operation that deletes the prosodic boundaries
of DP (the inner boundaries) in (i).

1 since phonological restructuring may be ambivalent or operate toward the left
2 or towards the right exclusively.

3 4 **8. Conclusions**

5
6 In this paper, I argued that syntactic directionality parameters in argument and
7 adjunct licensing can be dispensed with. The different distribution of event-
8 related adjuncts in OV and VO languages was argued to follow from a unique
9 derivation employing the single syntactic parameter extraction versus pied-
10 piping that is fixed language- and phase-specifically by interface constraints.
11 The different distribution of arguments in OV and VO language was argued to
12 follow from the high or low spell-out (silent scrambling) of A-movement that
13 is also fixed by the very same interface constraints.

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MARKED PROOF

Please correct and return this set

Please use the proof correction marks shown below for all alterations and corrections. If you wish to return your proof by fax you should ensure that all amendments are written clearly in dark ink and are made well within the page margins.

<i>Instruction to printer</i>	<i>Textual mark</i>	<i>Marginal mark</i>
Leave unchanged	... under matter to remain	Ⓟ
Insert in text the matter indicated in the margin	∧	New matter followed by ∧ or ∧ [Ⓢ]
Delete	/ through single character, rule or underline or ┌───┐ through all characters to be deleted	Ⓞ or Ⓞ [Ⓢ]
Substitute character or substitute part of one or more word(s)	/ through letter or ┌───┐ through characters	new character / or new characters /
Change to italics	— under matter to be changed	↙
Change to capitals	≡ under matter to be changed	≡
Change to small capitals	≡ under matter to be changed	≡
Change to bold type	~ under matter to be changed	~
Change to bold italic	≈ under matter to be changed	≈
Change to lower case	Encircle matter to be changed	≡
Change italic to upright type	(As above)	⊕
Change bold to non-bold type	(As above)	⊖
Insert 'superior' character	/ through character or ∧ where required	Υ or Υ under character e.g. Υ or Υ
Insert 'inferior' character	(As above)	∧ over character e.g. ∧
Insert full stop	(As above)	⊙
Insert comma	(As above)	,
Insert single quotation marks	(As above)	ʹ or ʸ and/or ʹ or ʸ
Insert double quotation marks	(As above)	“ or ” and/or ” or ”
Insert hyphen	(As above)	⊥
Start new paragraph	┌	┌
No new paragraph	┐	┐
Transpose	┌┐	┌┐
Close up	linking ○ characters	○
Insert or substitute space between characters or words	/ through character or ∧ where required	Υ
Reduce space between characters or words		↑