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Diachronic Clues to Synchronic Grammar
Edited by Eric Fuß and Carola Trips

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Language change versus grammar change

What diachronic data reveal about the distinction between core grammar and periphery*

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The paper focuses on two questions. A) How can we explain that language change often proceeds in a slow, gradual fashion, extending over long periods of time in which the old and the new pattern coexist side by side? This fact conflicts with the idea that grammar change via parameter resettings should give rise to abrupt changes. Alternatively, this paper proposes that the gradualness results from a change in language use which eventually may lead up to a change in grammar. More precisely, it is proposed that the grammar provides a limited amount of optionality in the form of stylistic or peripheral rules that can be exploited by speakers for their communicative purposes. These rules may affect word order and prosodic phrasing to derive information-structurally marked forms, which, over time, may loose their stylistic force and become reanalysed as (obligatory) rules of the core grammar. B) What is the nature of word order change? In a framework subscribing to the Universal Base Hypothesis (UBH), changes in word order cannot be relegated to changes in the head complement parameter. Based on the above conception of language change, this paper proposes a novel account of the well known OV-VO change in the history of English, in which word orders resulting from stylistic Light Predicate Raising are reanalysed as the result of obligatory VP-intraposition. Furthermore, it is claimed that a similar change (from OV+VO to OV) took place in the history in German, in which a stylistic rule that moved focussed DPs into a preverbal position led to a change in the syntax/phonology interface, affecting the possible unmarked word orders in the language.

1. Introduction

Diachronic processes are often characterized by a slow gradual change that eventually is followed by an abrupt change that marks the new parameter settings. Typically, before the innovative pattern replaces the old pattern, there can be a relatively long period of time in which both patterns are used in the language.

Examples of diachronic processes that proceed in this way actually abound. Take, for instance, the slow rise of VO-orders in the history of Icelandic. As Hróarsdóttir (1998) has shown, OV and VO orders coexisted in Icelandic for many centuries. A similar case is the slow decline of V-XP orders in embedded clauses in the history of German. This process starts in the 9th century (cf. Näf 1979 who diagnoses a major decline of postverbal accusative objects in the writings of Notker), but the declining pattern is still available in the present-day language in restricted contexts. Another example that does not come from the field of word order is the slow rise of expletive subjects in the history of Swedish as it has been described by Falk (1993).

Under the standard assumption that reanalysis and parameter resettings give rise to abrupt change (cf. Lightfoot 1991, 1999), the period of gradual change must be viewed as a period of language change without a change in grammar which sets the stage for the abrupt change instantiating the grammar change proper.

This scenario, plausible from an empirical point of view, raises the question of how language change is possible without a change in grammar. One approach that pays attention to the gradualness of change and the parallel availability of two (or more) alternative forms is the concept of grammar competition (cf. Kroch 1989; Pintzuk 1996). This approach was proposed to account for the development of English from an OV- to a VO-language, but clearly has applications beyond this particular historical process and beyond word order changes in general.

An alternative would be to assume change in language use within one grammar. In order for adult speakers to be innovative in their language use within the limits of the grammar they acquired, we need to assume that a grammar defines a certain space of limited options that can be exploited by innovative speakers to achieve certain communicative effects in specific discourse situations. I propose that the area of limited optionality pertains to the field of stylistic form, more particularly to what has been called information packaging (cf. Vallduvi 1992), that is, to the arrangement of information according to features like new/old or prominent/non-prominent and the like. Stylistic or

information-structural rules (in short IS-rules) involve mainly alternation of word order and alternatives in prosodic phrasing. In the following sections, I will provide concrete examples from German and English of the type of options that are available in languages.

To delimit the space of restricted options in grammar, I reinvoke the old distinction between the core grammar and the periphery and the notion of markedness as the distinguishing criterion (cf. Chomsky 1965). What is derived in the core grammar is unmarked and stylistically or information-structurally marked forms are derived by peripheral or stylistic rules.

Having introduced the distinction between core rules and peripheral/stylistic rules in an intuitive way, the question arises whether the distinction can be made in more general terms. The standard notion of a stylistic rule so far has been that they apply postcyclically, after the core derivation (hence also the name of a peripheral rule), that is, at PF. As PF-rules, stylistic rules may change the word order and alter the prosodic form of the syntactic output. Thus, it seems that relegating these rules to the PF-component derives the relevant properties that we would like to ascribe to stylistic rules.

However, a closer inspection reveals that this conception of "peripheral" rules is untenable. The case of stylistic fronting in Icelandic reveals that this rule cannot apply at PF, since it is subject to a syntactic restriction, namely that the subject position be empty (cf. Maling & Zaenen 1990). Since syntactic information cannot be taken to be available at the PF-interface, the effect can only be obtained if the rule applies in narrow syntax. This implies that so-called peripheral rules, a misnomer as it turns out, apply in the core derivation as well and that the distinction between core rules and stylistic rules should possibly be made on grounds of the type of features that they check respectively. In the remainder of the paper, I will argue on the basis of historical data that a peripheral/stylistic rule can be defined as a rule that leads to a marked prosodic output.

The goal of this paper is to evaluate the two accounts, the one using grammar competition and the one employing the distinction between core and periphery, by investigating the change from OV to VO in English as well as the development of the German sentence bracket.

The major claims of the paper are that a) we have to distinguish between the base order and the unmarked order in a language, b) language change can be caused by the rise of certain stylistic rules which when crossing a certain threshold in their use are reinterpreted as rules of the core grammar (cf. Lightfoot 1999) and c) the inspection of diachronic data provides important insights into the structure of synchronic grammars with respect to the division

of labour between core and peripheral rules and the realization of word order variations.

2. The change from OV to VO in English

Let us first look at the change of word order that occurred in the transition between the Old English period (OE) and the Middle English period (ME). The standard answer to the question of what the pertinent change consists in is that there has been a change in the head complement parameter. This analysis is based on two assumptions: A) OE was an OV-language akin to modern Dutch or German and B) the base order changed from OV to VO. The first assumption can be shown to be plainly wrong (cf. 2.2) and the second assumption can be shown to be insufficient. To evaluate the second assumption, let us take a look at the differences between a so-called typical VO-language like (Modern) English and a typical OV-language like (Modern) German.

2.1 Differences between German and English

In this section, I will discuss certain differences between German and English that cannot possibly be subsumed under the head complement parameter.

A property of adverbs in VO languages that is in need of an explanation is the fact that adjuncts that can occur between the subject and the VP in VO-languages are subject to restrictions absent in OV-languages.

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

Descriptively speaking, the head of the adjunct must not have material to its right. This is only possible if the adjunct appears in sentence final position. An option, on the other hand, that is not available in OV-languages, as the contrast illustrated in (2) shows.

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

From (1) and (2), I conclude that only light adverbs (of a restricted class that have been called adverbs of indefinite time by Ellegård 1953) can appear in the middle field in English. This property can of course not be derived by the head complement parameter. This distinction between English and German may seem to be just one (of many) stylistic difference between the two languages, but I will argue that it is part of a larger development that also affected the order of object and verb and can be given a uniform historical explanation.

A property that correlates with the position of the object with respect to the verb and that has received little attention in this connection so far, is the position of event-related adverbs, that is, Time, Place and Manner adverbs. These adverbs occur preverbally in the order T>P>M in OV-languages but postverbally in the exact mirror image in VO-languages (cf. Haider 2000; Hinterhölzl 2002). This is illustrated in (3).

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

The properties of event-related adjuncts raise various interesting questions. First, their distribution within OV- and VO-languages raises the question of what makes exactly these adjunct types special such that their positioning, but not the positioning of, say, higher adverbs seems to be correlated with the head complement parameter.

Secondly, given Cinque's seminal work on adverbs, these adverbials are peculiar in several respects (cf. Cinque 1999). A) They appear to differ from adverb phrases (AdvPs) proper in not being rigidly ordered. B) In contrast to AdvPs proper, they can be interchangeably in the scope of each other, as is illustrated in (4). C) They differ from AdvPs proper in being typically realised in the form of PPs or bare NPs. And D) Scope may go from right to left (cf. (5a)), but binding only from left to right as is illustrated by the contrast in (5bc). In Hinterhölzl (2002), I argue that properties A, B and D follow from property C and the assumption that English – contrary to the standard view – has preserved scrambling of the Dutch type. In particular, I have argued that they are base-generated in an unmarked order but that, due to their nature of being typically realized as PPs, they can scramble to satisfy their scopal requirements and their binding properties.

(4) a. *They met students everyday of the week in a different university.*
b. *They met students in each university on a different day.*

(5) a. *John met Mary in a (different) park every Sunday.*
b. **Sue met Mary in his house on everybody's birthday.*
c. *Sue met Mary on everybody's birthday in his house.*

Thirdly, event-related adverbs give rise to Pesetsky's paradox. The standard account of postverbal adverbs in VO-languages was given in terms of layered adjunction to the VP on the right, as is illustrated in (6). Right-adjunction structures, either base-generated or derived by movement, are incompatible

with the Universal Base Hypothesis (Kayne 1994). Independently of the Universal Base Hypothesis, Larson (1988), Stroik (1990) and Pesetsky (1995) have argued that the standard approach to the syntax of adverbs is mistaken, since it fails to account for basic c-command relations between them and the complements of the verb. Typical c-command diagnostics, as NPI-licensing (7a) and quantifier-bound pronouns (7b), indicate that postverbal adjuncts are in the c-command domain of postverbal complements.

(6) [$_{IP}$ SU [$_{VP}$ [$_{VP}$ V DO] Adjunct]]

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

Since in the representation in (6) the direct object fails to c-command the postverbal adjunct, Larson (1988) proposed that event-related adverb(ial)s are part of a (multi-) layered VP-shell in which these elements are deeper embedded than the complements of the verb as is indicated in (8).

(8) [$_{VP}$ SU V [$_{VP}$ DO t$_{V}$ Adjunct]]

In the Larsonian approach, event-related adverbs are analysed as a sort of (optional) complements in the VP. While this analysis neatly accounts for the c-command relations between postverbal complements and adjuncts, it fails to account for standard constituency tests such as VP-preposing and VP-ellipsis which show that verb and object form a constituent excluding postverbal adjuncts. This state of affairs is called Pesetsky's paradox and led him into proposing a dual structure: a cascading (Larsonian) structure to account for the binding facts and a layered structure (parallel to the traditional analysis given in (6)) to account for the constituency facts. This state of affairs is highly unsatisfactory. It would be advantageous to settle for one basic underlying structure and derive the effects of the other structure via movement.

In Hinterhölzl (2002), I have shown that the Larsonian approach is untenable. Here, I will briefly outline only the two decisive arguments. The first argument involves the semantic interpretation of event-related adverbs and the second argument pertains to the comparative dimension of accounting for the different distribution of these adverbs in OV- and VO-languages.

The Larsonian approach to the syntax of event-related adjuncts raises questions about the proper interpretation of these elements. In a Larsonian shell, temporal adverbs are deeper embedded than manner adverbs, as is shown in (9).

(9) a. *John wrote the letter carefully today.*

b. [$_{VP}$ *John wrote* [$_{VP}$ *the letter* t$_{V}$ [$_{VP}$ *carefully* t$_{V}$ *today*]]]

Following Ernst (1998), Haider (2000) and others, I assume that the attachment of adverbs is determined by their scopal properties. The scopal requirements of an adverb include selection for a clausal argument of a particular type. Ernst (1998) specifies a schema of abstract clausal entities relevant for the interpretation of adverb(ial)s.

(10) Speech Act > Fact > Proposition > Event > Specified Event

From (10) it follows, for instance, that evaluative adverbs like *unfortunately* selecting for a fact cannot attach lower to the clausal skeleton than modal adverbs like *probably* selecting for a proposition, though they can otherwise occupy various positions in the clause, as is illustrated in (11).

(11) a. (*Unfortunately*) *Eddie* (*unfortunately*) *has* (?*unfortunately*) *left.*
b. **Probably Eddie unfortunately has left.*

From a semantic point of view, manner adverbs specify an aspect of only a part of the event, namely the process component of the event, while temporal adverbs situate the entire event with respect to the speaking time.[1] Thus, standard assumptions about the interaction of syntactic structure and semantic interpretation predict that temporal adverbs should attach to the clause higher, not lower as in the Larsonian approach, than manner adverbs.

Secondly, here is what I call the comparative argument. If the English order is basic, then it is not clear how the German order is to be derived. A roll-up structure that moves a constituent containing the temporal adverb in front of the manner adverb and subsequently moves that larger constituent in front of the final position of the verb fails to account for the scopal properties of these adverbs in the middle field. In the German middle field an adverb always scopes over the adverb to its right. However, if a roll up analysis of this type is adopted, the temporal adverb still fails to c-command the manner adverb and therefore falls short of meeting the crucial condition for scope taking. A derivation in terms of movement of the adverbs by themselves raises several questions. First, the question arises why the hierarchy of adverbs in German is different from the hierarchy of adverbs in English, as is illustrated in (12).

(12) [$_{TP}$ [$_{VP}$ SU [V [DO V1 [Manner [V2 Temp]]]]]]
2.↑ 1.↑

Secondly, the question arises what the motivation of adverb movement in German is. It is not clear why these adverbs are licensed in situ in English but

have to undergo licensing movement in German. To the extent that we cannot find a satisfactory answer to this question, the Larsonian approach is rendered unattractive.

Given the above considerations, in particular taking serious the semantic argument, I concluded in Hinterhölzl (2002) that the order of event-related adverbs observed in German, namely T>P>M, is closer to the base than the English order and proposed that the English order is derived from the German order via successive cyclic intraposition of verbal projections. In the following, I assume that manner adverbs are base-generated in the VP while Time and Place adverbs are base-generated above VP as is indicated in (13).

(13) [Temp ... [Loc ... [v [Manner [V DO]]]]]

Under these assumptions, the English sentence in (14a) is derived from the base structure in (14b) via successive intraposition. In this derivation, first the VP containing the verb and the direct object moves in front of the locative PP and then the resulting structure is moved in front of the temporal PP, as is indicated in (14c).

(14) a. *John visited them in Vienna on Friday.*
b. [$_{IP}$ *John*$_i$ [*on Friday* [*in Vienna* [$_{VP}$ t$_i$ *visited them*]]]]
c. [$_{IP}$ *John* [[*visited them*]$_i$ *in Vienna* t$_i$]$_j$ *on Friday* t$_j$]]

This account derives the VP-constituency facts from a base common to German and English. To account for the c-command effects, I have argued that English has preserved scrambling of the Dutch type, that is, movement of arguments across adjuncts, but spells out the lower copy, as is indicated by underlining in (7'). The derivation of (7b) is illustrated in (7'), where 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.

(7') a. *John met every girl on her birthday.*
b. *John* [*on her birthday* [*met every girl*]]
=> base structure
c. *John* [*every girl* [*on her birthday* [*met every girl*]]
=> scrambling (+ binding)
d. *John* [[*met every girl*] [*every girl* [*on her birthday* [t$_{VP}$]]]]
=> VP-intraposition

If this account of Modern English is correct, then the question arises how the order with postverbal adjuncts came about and why it is exactly event-related

adverbs and not other adverbs that occur postverbally in English. It is this question that we turn to in the following section.

2.2 Word order and peripheral rules in the older stages of Germanic

In this section, I will scrutinize the assumption that OE was an OV-language of the modern German type, which is basic to the description that there was a change in the head complement parameter. I will evaluate the evidence from OE against the broader picture provided by its sister languages Old High German (OHG) and Old Icelandic (OI). In the traditional literature, descriptive generalisations abound according to which the distribution of arguments and adjuncts is determined crucially by stylistic factors in the older stages in Germanic. One such statement is given in (15).

(15) Light elements precede heavy elements in OE, OI and OHG.
(Behaghel 1932: *Das Gesetz der wachsenden Glieder*)

In contrast to the traditional view, word order variation in OE and ME is recently often modelled in terms of competing parametric choices that give rise to the variety of word order patterns observed in these historical stages of English. One such approach is the so-called double base hypothesis (Pintzuk 1999) according to which word order variation follows from the co-existence of competing grammars that differ with respect to the head parameter of VP and IP. One of the central assumptions of the double base hypothesis which is based on the idea of grammar competition is that VO orders are an EME-innovation that was brought about by language contact between Anglo-Saxons and the Scandinavian settlers in the 10th century. This thesis itself involves two assumptions which are questionable: A) OE was an OV-language and B) the grammar of the Scandinavian settlers was (already) VO. In the following section, I demonstrate that OE already contained a substantial amount of VO-structures.

As to the second claim about Scandinavian, there is simply no evidence that the grammar of the Scandinavian settlers in England was predominantly VO. The oldest written Old Nordic documents are Icelandic texts from the 12th century. These documents show a preponderance of OV-orders.[2] A recent corpus study of OI confirms the observations that have been made by traditional grammarians (cf. Hróarsdóttir 2002). A) There is variation between OV and VO structures and B) the distribution of syntactic elements is determined by stylistic/information-structural factors. Hróarsdóttir (2002) shows that the preverbal or postverbal occurrence of DP-arguments is determined by the in-

teraction of two factors: the heaviness of the argument and its discourse status (whether it represents old or new information).

A similar picture arises for OHG. My own studies of OHG texts warrant a strengthening of Behaghel's observation. Given that background elements are usually light and focussed elements, by virtue of carrying stress, count as (prosodically) heavy, the hypothesis in (16) is worth investigating.

(16) C background V focus

(16) expresses the hypothesis that in the older stages of English, German and Icelandic, which did not have a determiner system or were about to grammaticalize one, the discourse status of an argument was signalled by its positioning with respect to the verb.

To conclude, it is unwarranted to assume that VO-orders came about in the history of English by language contact with Scandinavians, since we find both OV and VO orders in the older stages of German and Icelandic as well, suggesting that the variation in argument positioning in OE, OHG and OI is simply part of the common Germanic heritage.

2.2.1 *VO-features in Old English*

There is consensus among researchers that the predominant word order in the clause is verb-final in subordinate clauses and verb-second in main clauses. Thus OE has been analyzed as an OV-language akin to modern German or modern Dutch (cf. Kemenade 1987). In fact, OE does display a couple of other features typical of OV-languages, according to typological criteria (cf. Greenberg 1963; Hawkins 1983). Next to the finite verb appearing in final position in embedded clauses, it is a typical feature of OV-languages that verbal particles precede the verb and non-finite verbs precede the auxiliary. All three properties are found in high numbers in OE and are illustrated in (17).

(17) a. *þæt ic þas boc of Ledenum gereorde to Engliscre spræce awende*
that I this book from Latin language to English tongue translate
'that I translated this book from Latin to English'
(van Kemenade 1987:16)

b. *þæt he his stefne up ahof*
that he his voice up raised
'that he spoke up'
(Pintzuk 1991:77)

c. *forþon of Breotone nædran on scippe lædde wæron*
because from Britain adders on ships brought were
'because snakes were brought on the ships from Britain'
(Pintzuk 1991:117)

However, OE also displays a number of VO-features. First, we find a considerable number of instances where the complement follows its selecting head in cases of Verb Raising (18a, b) and Verb Projection Raising (18c). These facts are not too surprising since we find the same kind of order in an undisputable OV-language like Dutch and its dialects, especially in West Flemish.

(18) a. *þe æfre on gefeohte his hande wolde afylan*
who-ever in battle his hands wanted defile
'whoever wanted to defile his hands in the battle' (Pintzuk 1991:102)

b. *& from Offan kyninge Hygebryht wæs gecoren*
and by King O. Henry was chosen
'and Henry was chosen by king O.' (Pintzuk 1991:102)

c. *þæt nan man ne mihte a meniu geniman*
that no man could the multitude count
'that no one could count the multidude' (Pintzuk 1991:33)

Secondly, we find a considerable number of extraposed PPs, CPs and DPs. While extraposed CPs and PPs are unproblematic, extraposed DPs are rather rare and marked in Modern Dutch and Modern German, though they did occur more frequently in older varieties of German.[3] Pintzuk and Kroch (1989) show on the basis of a metrical analysis of Beowulf that these DPs receive stress. A case in point is given in (19a). (19b) shows the parallel structure in modern German, which is ungrammatical.

(19) a. *þæt ænig mon atellan mæge [ealne one demm]*
that any man relate can all the misery
'that no one can tell all the misery' (Pintzuk 1991:36)

b. **?dass jeder Mann erzählen kann all dieses Elend*
that every man relate can all this misery

However, there is further evidence that points against a pure OV-character of OE. A) Verbal particles, though they cannot occur after a non-finite verb, can be moved along with the verb in V2-contexts, be stranded somewhere in the middle field and as such be followed by a DP (cf. (24) below). B) Small clauses can follow the finite verb in embedded clauses and can also follow the particle in V2 clauses, as is shown in (20a) and (20b), respectively. (20a') and (20b') show that the parallel structure is ungrammatical in modern German.

(20) a. *forðam ðe he licettað hie unscyldige*
because that they pretended themselves innocent
'therefore they pretended to be innocent' (van Kemenade 1987:35)
a.' **darum gaben sie aus sich selbst als unschuldig*
therefore gave they out themselves as innocent
b. *he ahof þæt cild up geedcucod and ansund*
he raised the child up quickened and healthy
'he lifted the child up which was refreshed and healthy'
(van Kemenade 1987:36)
b.' **er hob das Kind auf erquickt und gesund*
he lifted the child up refreshed and healthy

C) OE allows postverbal adverbs in embedded clauses, as is illustrated for manner adverbs in (21a). In Dutch and German, manner adverbs may not follow the finite verb in embedded clauses (cf. (21b) for German).

(21) a. *þæt hie þæt unaliefede dod aliefedlice*
that he the unlawful did lawfully
'that he correctly performed an unjust deed' (van Kemenade 1987:36)
b. **dass er das Unrechtmässige ausführte rechtmässig*
that he an unjust deed performed correctly

The conclusion to be drawn from these observations is that there is strong evidence that the finite verb moves leftward even in embedded clauses (cf. Pintzuk 1996, 1999). Note, however, that this rule will not account for all cases of VO-order. (22) shows a statistics by W. Koopman (1994). His corpus contains in addition to 340 OV-sentences all sorts of VO-structures involving non-finite verbs (total number = 84).

(22) a.	C...Vf DO IO	70	f.	C...Vf IO V DO	6
b.	C...Vf IO DO	86	g.	C...Vf V DO IO	22
c.	C...DO Vf IO	42	h.	C...Vf V IO DO	38
d.	C...IO Vf DO	29	i.	C...DO V Vf IO	2
e.	C...Vf DO V IO	11	j.	C...IO V Vf DO	5

In order to account for these and similar facts, in her dissertation Pintzuk (1991) (published as Pintzuk 1999; the idea is also adopted by Kroch & Taylor 1997) proposes, what I call, a doubly double base. She assumes that not only the VP can be head-initial or head final, but also that the IP can be head-initial or head-final in OE. Not only is this proposal cumbersome, it also allows for a grammar that overgenerates, as is acknowledged by Pintzuk (1999). We do not find sentences of the form V XP Aux, which would result from combining

a head-initial VP with a head-final IP (see Fuß and Trips 2002 for discussion and an alternative proposal in terms of grammar competition that excludes the order V-O-Aux).

Alternatively, I assume a VO-based grammar plus licensing movement of arguments and VP-internal predicates to designated positions in the middle field, as has been shown for Dutch by Zwart (1993) and for German by Hinterhölzl (1999). This will derive all the OV-properties of OE (cf. Roberts 1997 for a VO based account of OE) and is illustrated in (23). (23a) is derived from the VO-base structure (23b) in a cyclic fashion by XP-movement of the particle into a licensing position for predicates (23c) and by movement of the arguments into Case-licensing positions (23d).

(23) a. *þæt he his stefne up ahof*
that he his voice up raised
'that he spoke up'
b. [$_{CP}$ *þæt* [$_{VP}$ *he ahof his stefne up*]]
c. [$_{CP}$ *þæt* [*up* [$_{VP}$ *he ahof his stefne*]]]
d. [$_{CP}$ *þæt* [*he* [*his stefne* [*up* [$_{VP}$ *ahof*]]]]]

To account for the apparent VO-properties of OE, I will assume optional movement of an XP containing the verb to a medial position (light predicate raising, LPR). Assuming this rule has the following advantages: a) it can apply to finite as well as to non-finite verbs and b) it can pied-pipe verbal particles. Thus, the OE sentence (24a) is derived within a grammar that yields basic OV-structures (24b) by successive application of light predicate raising and V2, as illustrated in (24c).

(24) a. *þa ahof Paulus up his heafod*
then raised Paulus up his head
'then Paulus lifted his head (up)' (van Kemenade 1987:33)
b. [$_{CP}$ *þa* [$_{IP}$ *Paulus his heafod up ahof*]]
c. [$_{CP}$ *þa ahof*$_i$ [$_{IP}$ *Paulus* [$_{VP}$ *up* t$_i$] *his heafod*]]

If OE had a rule of LPR then the distribution of event-related adverbs in Modern English, especially their postverbal occurrence which distinguishes them from all other adverb classes is no surprise anymore. Note that event-related adjuncts are primarily realized as PPs or NPs and that (heavy) NPs and PPs are the prime candidates for appearing in clause-final position, as will be shown in the following section.

2.2.2 *The trigger of VP-adverb inversion*

In this section, I report on the results of a corpus analysis. I studied the distribution of DPs, PPs and adverbs with respect to non-finite verbs, that is, infinitives and participles, in main clauses in two OE-texts and three EME-texts. The results are given in (25). The data give us a pretty good idea of how VP-adverb inversion in the history of English came about. Secondly, I address a problem that is raised by the double base hypothesis but which is hardly dealt with by its proponents. How does a speaker that possesses two grammars, an OV-grammar and a VO-grammar, decide in which situations he uses which grammar? We either expect the choice to be arbitrary or, more likely, to be determined by sociolinguistic factors (the formal or informal character of the discourse situation, prestige and ethnicity of the interlocutors, etc.). But we do not expect the choice to be determined by language internal factors. However, this is exactly what we find when we take a closer look at the data.[4]

(25) *Old English Texts:*
Boeth = King Alfreds OE version of Boethius' *De Consolatione Philosophiae* (850–950)

postverbal adverbs	15/150	10%
postverbal objects (DPs only)	44/164	27%
postverbal PPs	69/113	60%

Aelive= Aelfric's Lives of Saints (950–1050)

postverbal adverbs	22/85	26%
postverbal objects	52/121	43%
postverbal PPs	89/137	64%

Middle English Texts:
Sawles Warde: West Midlands (ca. 1200)

postverbal adverbs	5/9	55%
postverbal objects	17/22	77%

St. Katherine: West Midlands (ca 1200–1220)

postverbal adverbs	24/47	50%
postverbal objects	58/89	62%
postverbal PPs	57/86	66%

Vices and Virtues: East Midlands (ca. 1200)

postverbal adverbs	11/129	7%
postverbal objects	89/363	25%
postverbal PPs	123/240	55%
postverbal Adjunct-NPs	8/27	29%

The two OE-texts are taken from the middle and the later period, just to see whether any development already happened in the OE-period. The ME-texts are all from the same early period. I discarded the results from *Sawles Warde* since the data are too small in numbers to warrant any statistically sound conclusions.

Two things can be read off these numbers. In both OE-texts as well as in *Vices and Virtues* we see a clear difference in postverbal occurrences according to syntactic category which can be explained most coherently as a length effect. It seems to me that this state of affairs is not easy to explain within the double base hypothesis. To explain the data in *Boethius*, the proponents of competing grammars would either have to claim that speakers use a VO grammar in 60% of the cases in sentences with PPs, but only in 27% and 10% of the cases with DPs and adverbs respectively. To assume this is certainly absurd. One way out for the proponents of the double base hypothesis would be to assume that there is a type of metagrammar which embodies statements like "Heavy and stressed elements are preferably placed at the right edge", according to which OV or VO-structures are selected. The alternative for the DBH is to accept the existence of optional, stylistic rules. For instance, Pintzuk (1999) explicitly assumes that OE had a rule of extraposition which optionally adjoined heavy material to the right of the clause. This opens the question when the placement of a given constituent is subject to stylistic rules or the result of the choice of the head complement parameter.

Note that these facts can be handled very elegantly by the peripheral rule of VP-intraposition that I proposed above if we assume that the rule is conditioned by the heaviness of the category that ends up at the right boundary of the clause. If the threshold is just around three words, then most of the PPs, around 60%, will end up in the postverbal domain, while much less DPs, namely only the longer ones and very few adverbs, very likely only those that are focussed, may trigger light predicate raising.

The data also show that the frequency of postverbal adverbs rises in the transition from OE to ME. When postverbal adverbs reached a certain threshold, the stylistic rule of LPR was reanalysed as an obligatory rule that applies

in the core grammar (cf. Hinterhölzl 2002 for the details). After this reanalysis had taken place, preverbal adverbs were analysed as the result of a (new) stylistic rule that placed light adverbs in a preverbal position. This is the situation that we find in Modern English.

At this point some remarks are in order as to the general assumption about the interaction between core rules and peripheral rules. Based on a quantitative analysis, Pintzuk (1999) shows that the rate/frequency of extraposition did not change over the centuries from OE to (Early) Modern English. This is one important argument of hers against Stockwell (1977) and the hypothesis that the outcome of (an increased use of) stylistic rules was reanalysed in terms of VO base structures.

However, if the analysis of postverbal adjuncts given in Section 2.1 is correct, then postverbal adjuncts have indeed undergone a process of reanalysis: what initially was a derived stylistic order became an unmarked base order. The important point here is not extraposition and its quantitative development per se. It is the category and the information-structural role of the postponed constituent that are crucial in this context. Extraposed CPs must and extraposed PPs can form an intonational phrase of their own. What matters is the prosodic status of postverbal arguments, adverbs and focussed PPs that are the result of LPR. These elements are typically integrated into the intonational phrase containing the verb and can thus alter the prosodic structure of the core IP. In the following section, I will outline how an alternation in the prosodic makeup of a language can lead to a change of what counts as marked or unmarked word order in that language.

Another question that arises at this point is whether LPR is triggered and, if so, by which (type of) feature. One option is to assume that LPR is untriggered and applies as a last resort to fulfil a PF-requirement that evaluates sequences of phonological phrases according to non-decreasing weight. The other option is to assume that LPR is triggered by pragmatic (information-structural) features. A good candidate would be the feature [+ background] that can be ascribed to a predicate that is either presupposed, prementioned or implied in a given context. Such a trigger that moves 'light' elements leftwards is in line with traditional accounts of other developments in Germanic (cf. Wackernagel's 1892 law about the placement of unstressed pronouns, Delbrück's 1911 characterization of the development of V2 from a prosodic rule to a categorical rule). At this point, I leave it as an open question whether 'light' in this case is to be interpreted as prosodically light or semantically light, that is to say, whether LPR is due to a PF- or an LF-interface requirement.[5]

To summarize, I have provided evidence that explains why it is exactly event-related adverbs and not other adverbs that are placed postverbally in English. The reason is that they were realized in their majority as NPs and PPs. As such they were placed in the postverbal field by the stylistic rule of LPR in OE and EME. Furthermore, I have shown that the nature of the variation between OV and VO orders that we (already) find in OE and in the transition to ME cannot be explained well by the double base hypothesis.

3. Unmarked word order and the Universal Base Hypothesis

If LPR occurred in the core derivation in OE, it yields, when combined with scrambling, a postverbal occurrence of a destressed (light) background element, as is illustrated in (26).

(26) a. [C … [Manner [$_{VP}$ V DO]]] *base structure*
b. [C … DO$_i$ [Manner [$_{VP}$ V t$_i$]]] *scrambling*
c. [C … [$_{VP}$ V t$_i$] DO$_i$ [Manner t$_{VP}$]] *VP-intraposition*

Elements that undergo scrambling in German and Dutch represent old information and are destressed. To obey the extension condition, the VP must move to a position above the position of the scrambled object in (26c). Thus, if LPR is more and more extensively used by speakers of early English, it will, over time, have a profound effect on the prosodic repertoire of the language and thereby on what counts as marked or unmarked word order in this language, as I will argue below.

We have come to identify as marked or unmarked word order in a language what goes against or conforms to the particular setting of the head complement parameter in this language. When we dispense with the head complement parameter and adopt the Universal Base Hypothesis (UBH) (Kayne 1994), then what counts as an unmarked order in a language is not a basic property anymore, but has to be derived from other properties in the language.

We may assume that the unmarked word order is defined by the amount of obligatory movement of the different constituents in a language. For instance, one can say that German has unmarked OV order because objects obligatorily move out of the VP and the verb stays low, presumably in the VP (except in cases of V2). This is a coherent notion which involves dissociating the unmarked order and the base order.

Dissociating base order and unmarked order may be problematic when it comes to the acquisition of the unmarked order in OV-languages. German

children virtually make no word order mistakes and use the correct word orders from very early on. If the child needs to learn all or the majority of movement operations in its language before it can produce unmarked word order patterns, one should expect that in early utterances the German child produces VO-structures, which conform to the base order. But this simply does not happen.

Note, however, that the standard account to the acquisition of the head complement parameter faces a similar problem as well. The common assumption is that in order for the child to set this parameter, it needs to be able to segment the speech stream into words. Thus, the head complement parameter cannot be set before the child has attained a substantial part of the lexicon.

Alternatively, Nespor, Guasti and Christophe (1996) propose that the head-complement parameter is set on the basis of prosodic information (the rhythmic activation principle). The advantage of this proposal is that the unmarked word order can be determined very early indeed, that is, before any lexical knowledge is attained. More specifically, they propose that the decisive information for the child is the placement of main prominence within the phonological phrase, a constituent of the prosodic hierarchy.

I will adopt this account and propose that the unmarked word order in the phrases of a language is determined, independently of obligatory movement operations, by the predominant, that is, unmarked prosodic patterns in a language.[6] If a language displays only one prosodic pattern, this pattern will define the unmarked word order. If a language displays several prosodic patterns, the predominant pattern or the predominant patterns will define the unmarked word order(s),[7] which have to be derived in the core grammar by obligatory movements, while less frequent patterns will be relegated as marked word orders to the periphery, to be derived by stylistic rules.

The frequency component within the definition of a marked prosodic pattern is important for explaining language change. If a peripheral rule like LPR is extended and more and more widely used (when it becomes popular), it will be less and less marked and may, when crossing a certain (statistical) threshold give rise to a new or an additional unmarked word order. When this happens a peripheral rule will be reanalysed as a rule of the core grammar.

4. Options in grammar and the role of prosodic constraints

In German, a question like the one in (27) can be answered either with (27a) or with (27b) with capitalized letters indicating the stressed (= focussed) constituent. In both versions, *das Buch* is destressed. Native speakers report that the answer in (27a) is preferred over or more natural than (27b).

(27) Q: *Wem hat Otto das Buch gegeben?*
Who has Otto the book given?
A: a. *Otto hat das Buch dem PETER gegeben.*
b. *Otto hat dem PETER das Buch gebeben.*
Otto has (the book) to Peter (the book) given

So we are dealing with a real option in grammar here. I have proposed in Hinterhölzl (2002) that one area of optionality in grammar may involve the spell-out of copies (the relevant condition seems to be that the feature that is checked by the pertinent movement operation is interpretable at both interfaces). More specifically I propose that scrambling that is triggered by the discourse feature *familiarity* may spell out either the higher or the lower copy. Thus, both in (27a) and (27b) the direct object has scrambled across the indirect object, with the difference in word order following from the difference in Spell-out.

The choice is determined by prosodic constraints, as is illustrated in (28). (28) shows the prosodic structure of both answers, where round brackets indicate phonological phrases (φs) and *iP* indicates an intonational phrase. We see that (28a) optimally fulfils the prosodic condition in (29), while (28b) violates this condition. I propose that this is the reason why (27a) is preferred over (27b). (27b) is repaired by being assigned a stronger pitch accent, while in (27a) the assignment of the normal sentence accent suffices to mark the focussed constituent. Thus (27b) is prosodically more marked than (27a), but speakers are free to use the more marked forms for their communicative purposes, whatever they are.

(28) a. [$_{iP}$ (φ *Otto hat*) (φ *das Buch*) (φ *dem PEter gegeben*)]
b. [$_{iP}$ (φ *Otto hat*) (φ *dem PEter*) (φ *das Buch gegeben*)]

(29) *Interface Condition:*
The phonological phrase containing the focus (main accent) must be rightmost within its intonational phrase.
(cf. Chierchia 1986; Hayes & Lahiri 1991)

Grammar change is dependent on a certain amount of variation. One source of variation, as I have argued above, is options in the grammar that can be exploited by (adult) speakers for stylistic purposes. Alternative phrasings and linear orderings are typically prosodically marked, which qualifies them as stylistic means for conveying different communicative effects. For instance,

the postponing of PPs in modern German allows the speaker to exbraciate information which forms the background for an assertion in a given discourse situation, as is illustrated in (30).

(30) *weil der Hans die MAria getroffen hat | gestern in Wien*
since Hans the Maria met has yesterday in Vienna

However, if a certain stylistic means is used regularly, it loses its stylistic force and an originally marked prosodic pattern is integrated into the core grammar, sometimes leading to the reanalysis of a derived word order pattern as a basic one.

5. Stylistic change? The development of the German sentence bracket

As already mentioned in the introduction, postverbal occurrences of arguments and adjuncts were slowly diminishing in the history of German. The process started in the middle of the 9th century, where scholars have diagnosed a sharp decline of postverbal accusative objects in the later texts of Notker (cf. Bolli 1975; Näf 1979; Borter 1982) and has not been fully completed till today. To illustrate the development, let us look at the statistics of Kavanagh (1979), cited by Lenerz (1984), who studied the development of the verb final position, traditionally called the sentence bracket, in German. His counts show that the verb final pattern has risen from 50% occurrence in OHG, via an average number of 80% in the period of Middle High German (MHG) to more than 90% in Modern German.

If this statistics is correct, it shows two things. First, as we have argued that OE cannot be considered an OV-language, 50% verb final patterns indicate that German in its oldest accessible stage cannot be considered an OV-language either. Secondly, the change was rather slow and gradual and we may assume that starting from the MHG period, V XP-orders represented marked options in the grammar.

However, the evaluation of word order regularities in OHG is a quite intricate and difficult task since the majority of texts are translations from Latin. Thus many researchers consider only those examples which deviate from the Latin word order as revealing real properties of the grammar of OHG. Based on this rationale, it was argued that already the earliest OHG records display much stronger OV properties than comparable OE texts (cf. Robinson 1997; Dittmer & Dittmer 1998; Fuß 2002).

It is interesting to note but compatible with the above rationale that while the change from OE to Modern English word order has been described as a grammatical change (a change in the head complement parameter), the inverse change in German has been characterized as mere stylistic in the German traditional literature.

Also Lenerz (1984) states that with respect to the development of verb positioning from OHG to ModG, no syntactic change in the strict sense has taken place: What has changed is the functional relation of certain verb orders to specific pragmatic types. He claims that the changes that you find should be treated as the variation of parameters which are not part of the core grammar (p. 126).

He backs up his position with the claim that in general the relative proportions of extraposable constituents have remained constant over the whole period. Citing Kavanagh (1979), he states that a) adjuncts are most frequently postponed and arguments least frequently and b) longer and heavier constituents are more easily postponible than short and light ones. Furthermore, he argues that the change cannot be a categorial one, since even arguments can still be postponed in Modern German, as is illustrated in (31).

(31) *Auf Gleis 5 fährt ein | der IR nach Straubing.*
at platform 5 comes in the Interregio to Straubing

The question only is whether this (traditional) picture of the development of German is correct. I think it is at least incomplete. Note also that the study of Robinson (1997) reveals that certain embedded clauses display only 50% verb final order: "in consecutive and purposive sentences it [non-final word order] occurs 12 times out of 24" (p. 83). If OHG was a simple OV-language, this result is rather surprising. Secondly, Robinson (1997) also points out that "predicative elements (predicate adjectives, nouns, prepositional phrases, etc.) regularly follow any non-finite element at the end of the clause." Postverbal predicates in Modern German are completely ungrammatical in any context and style. Thus, if the development of the sentence bracket in German was simply a matter of stylistic change, this fact cannot be explained.

The latter finding of Robinson (1997) is in line with the observations of Dittmer and Dittmer (1998) about reorderings in *Tatian* with respect to the original Latin text. With some writers reorderings are quite principled and systematic. Within DPs, postnominal adjectives are preposed regularly as is standard in Modern German. Within the sentence, pronouns are almost always preposed and the Latin verb complex is broken up to form the typical modern German sentence bracket by preposing light verbs. Dittmer and Dittmer (1998)

take these specific reorderings as indicative of elements of grammar that are typical of modern German. Two other conclusions, I think, are equally warranted. First, *Tatian* cannot be considered a simple word to word translation of a Latin text. Secondly and more importantly, it may be warranted to consider also as systematic and principled the orders which remain unchanged with respect to the Latin origin. In other words, the systematic non-reordering of postverbal non-light DPs may also be indicative of a grammatical element typical of OHG, especially in a context where verbs, whose positioning is anyway more fixed in the languages of the world, are rearranged quite freely. The rationale being that if writers felt free to rearrange verbs (and pronouns) they would also have rearranged DPs if the grammar of OHG had required it. Thus the word orders found in the earliest translation texts may all be indicative of grammatical rules of OHG. According to my own readings, *Tatian* shows an abundant number of verb-complement orders and it may turn out that the statistics of Kavanagh (1979) is actually correct.

Let us now return to Lenerz's argument that exbraciated arguments in Modern German are indicative of a mere change in style rather than of a change in grammar proper. Sentence (31), which involves a postponed subject is okay, but it is very rare and highly marked in modern German, as the corresponding prosodic structure in (32) indicates. The sentence with a postponed subject cannot be phrased with just one intonational phrase. Hence it is marked since DPs normally do not form intonational phrases on their own. As a result, the focussed subject may not be contained in the intonational phrase that contains the verb and thus violates the prosodic condition in (33).

(32) [$_{iP}$ (*Auf Gleis 5*) (*fährt ein*)] [$_{iP}$ (*der Interregio*) (*nach Straubing*)]

(33) Focus constituents are mapped into the intonational phrase which contains the verb. (Nespor & Vogel 1986)

Based on the above discussion, I conclude, contrary to Lenerz and the tradition, that there was a change in grammar, since it seems unreasonable to assume that there was a language stage, namely OHG, in which texts displayed such a high number of marked structures in the form of verb complement orders.

5.1 The role of information-structure

According to traditional grammarians, word order in OHG was determined to a high degree by stylistic factors. Behaghel (1932) observes that pronouns (definite and indefinite ones) and single nouns (remember that a determiner

system has not yet developed in OHG) occur mostly preverbally, while nouns modified by an adjective or a genitive complement occur mostly postverbally. This suggests that the positioning of arguments (and adjuncts) with respect to the verb was determined by the factor weight.

I have assumed above (cf. (16)) that the weight factor is just a corollary of another factor, namely the information-structural role of the respective constituent. According to (16), focussed elements occur postverbally and background elements occur preverbally. In this context, it is interesting to note that we find quite a number of postverbal occurrences of light arguments in OHG texts, some of which are given in (34) (examples from Behaghel 1932).

(34) a. *tar... dero goto rat festenoe **dia hitat***
there advice of these gods hardened the act of fathering
'in this place the advice of the gods confirmed the act of fathering'
(Notker 726, 1)

b. *so aber die sorgun gruozent **tiu herzen***
so but the sorrows make-beat the hearts
'in this way the sorrows make the heart beat' (Notker 788,3)

c. *daz tu mit tages liehte irbarost **tie nahtsculde***
that you with day light disclosed the sins of the night
'that you disclosed the sins of the night at the break of day'
(Notker 843, 32)

As I also noted above a determiner system was not established yet, and I assume that the positioning of an argument with respect to the verb signalled its discourse status, with elements representing old information preceding the verb and elements representing new information following it. But the grammatical system was in a state of transition. In the late OHG period, the grammaticalization of definite determiners from demonstrative pronouns, which originally only reinforced the referential interpretation of an argument, started. Behaghel notes that determiners first show up with NPs in preverbal position: 'Substantiva mit Pronomen stehen auf der Seite der einfachen Wörter; zum Teil mag das daher rühren, dass ihnen der Artikel früher fehlte' (Behaghel 1932:79).

So the introduction of an obligatory definite determiner could have contributed to the breakdown of a grammatical system in which the positioning of an argument (wrt. the verb) signalled its discourse status. The question, though, arises whether this could have been the decisive factor that led to the gradual loss of V-XP orders. One wonders why the grammaticalization of definite determiners did not yield the same effect in the history of English.[8] In the

following section, I propose that another factor played a decisive role in this development.

5.2 The grammar of focus

The question arises whether the picture that (16) draws of a language that has variation between OV and VO orders is complete. When we take a look at a modern Germanic language that has preserved OV and VO orders, namely Yiddish, the picture is a bit more complex. Diesing (1997) claims that definite und specific indefinite NPs in Yiddish precede the verb while indefinites follow it. Insofar as definites and specific indefinites can be taken to be background elements and indefinites to be focussed, this confirms our hypothesis. However, there is a third group of elements which disturb this picture. Diesing claims that arguments that are contrastively focussed also precede the verb. Three notions of focus are relevant for our discussion here: broad and narrow presentational focus and contrastive focus. These are illustrated in (35). In (35), brackets mark the focussed constituents and capital letters mark a high pitch accent, which is typical for contrastively focussed elements. The picture that arises for Yiddish is given in (36).

(35) a. *What did John do?* (broad presentational focus)
John [gave a book to Mary].
b. *What did John give to Mary?* (narrow presentational focus)
John gave [a book] to Mary.
c. *John gave Mary [a BOOK], not a pen.* (contrastive focus)

(36) C background contrastive focus V presentational focus

This distribution can be implemented into the following phrase structure representation. The verb moves into the head position of FocP. Contrastively focussed constituents move into [Spec,FocP]. Constituents that are part of the presentational focus remain in the scope of the head of FocP. Background elements move out of the scope of Foc into licensing positions in the higher middle field.

(37) [C background [$_{FocP}$ ContrastF V [$_{AgrP}$ PresentationF [VP]]]]

It is interesting to see that the grammar of Yiddish implements a syntactic distinction between contrastive and non-contrastive, that is, presentational focus. Note in this respect that prosody makes a distinction between narrow and broad focus. Constituents that are broadly focussed do not restructure with the verb. They are mapped into prosodic constituents according to the syntactic structure alone, while narrowly focussed constituents integrate into the phonological phrase of the verb (cf. Nespor & Vogel 1986; Frascarelli 2000).

Let us assume for the sake of discussion that the same situation as is exemplified by Yiddish held in OHG. Then we can envisage the following development. If speakers of late OHG, for whatever stylistic purposes, moved more and more narrowly focussed constituents into [Spec,FocP], then there will be a greater number of phonological phrases that, due to focus restructuring, instantiate the pattern (s w), with s being the focussed element and w being the verb. Since according to the rhythmic activation principle, unmarked order is determined on the basis of the metric structure of phonological phrases (cf. Nespor, Guasti, & Christophe 1996), such a stylistic rule, if it catches on and reaches a certain threshold, will have a profound effect on what counts as unmarked or marked word order in the language.

More specifically, we may assume that if the application of the stylistic rule crosses a certain threshold, it will cause the IS-prosodic parameter in (38) to be set to the value (F>V), that is, Focus restructures to the right. If this happens, postverbal focussed constituents will be literally exbraciated prosodically: They are excluded from the intonational phrase containing the verb and will thus be highly marked and be useable only for certain stylistic effects as was shown in (32).

(38) *IS-requirements on the prosodic mapping of syntactic structures:*
A focussed constituent introduces an iP-boundary on one side and restructures with the adjacent verb on its other side.
(generalized from Frascarelli 2000)

Harris and Campbell (1995) in their comparative survey of types of word order changes in the languages of the world, point out that it frequently happens that an originally pragmatically defined position provides the basis for the fixing of word order through reanalysis (p. 235). For example, Comrie (1988) argues that an earlier stage of Armenian placed focussed constituents in preverbal position and that in Modern East Armenian this word order has been fixed as a base order.

Thus, there is cross-linguistic evidence for the process of the neutralization of a focus position that I have proposed for German. Of course, the empirical investigations have to follow. But I have outlined the grammatical basis for such a development: namely prosodic bootstrapping in the acquisition of unmarked word order and focus restructuring.

To conclude, traditional grammarians were right in that the development of the German sentence bracket was brought about by stylistic rules. How-

ever, these stylistic rules as they crucially affected the prosodic make-up of the language eventually led to a change in grammar.

This happened when the IS-Prosodic parameter was set to or restricted to one out of three options, namely F>V.[9] Furthermore, I have argued that the head-complement parameter is dispensable. I have shown that German and English underwent changes that cannot be subsumed under the head-complement parameter. Instead, I have sketched an account in terms of the distinction between core grammar and peripheral rules embodying a dynamic concept of (prosodic) markedness and outlined the conditions and factors that led German and English to develop from a common source into opposite directions.

Along these lines, German can be claimed to be a VO-language, whose unmarked order happens to be OV, because the IS-prosodic parameter was fixed to F>V. Finally, I have argued that in the acquisition process, prosody helps the child to decide which structures belong to the core grammar and which ones are peripheral. This entails that the child acquires the prosodic patterns of its language first and ranks them in their markedness according to their frequency.

Notes

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1. More specifically, temporal adverbs specify the reference time (in a Reichenbachian sense) in relation to the speaking time. In non-complex tenses the reference time is identical with the event time.

2. An anonymous reviewer points out that the presence of OV orders as such (in OI) does not necessarily constitute a problem for the language contact scenario of OV-to-VO in English, the rationale being that these orders are derivable from a VO base by leftward movement operations. If the learner would be able to detect this VO base, this might still influence his grammar (that develops in a bilingual environment), so the argument goes. But this begs the question. In this line of reasoning, also the grammar of OE would have contained evidence for a VO base. Without any further argument as to why the contact situation in general would favour VO orders (rather than OV orders) or as to which feature of OI would favour a VO analysis, the contact scenario seems mute to me.

3. An anonymous reviewer points out that examples with right dislocation of arguments are very natural in Modern German (cf. (ia)). (ia) is indeed quite natural but immaterial to the point made above, since the core sentence contains an argument, namely the pronoun, in a non-extraposed position, while the DP 'den Peter' can be considered to be an afterthought. The crucial point here is that without resumption, extraposition of a DP argument is extremely marked (cf. (ib)).

(i) a. *weil ich ihn gestern getroffen habe, den Peter*
since I him yesterday met have, the-ACC Peter
b. *?weil ich gestern getroffen habe, den Peter*
since I yesterday met have, the-ACC Peter

4. Already Pintzuk (1999) points out that the choice of OV versus VO order is sensitive to various grammar internal factors such as clause type (cf. Fuß and Trips 2002 for an attempt to explain the impact of these factors). What is largely missing, however, is a framework which explains how these internal factors can be integrated into a theory that accounts for word order variation by competing grammars.

5. My intuition is that the conditioning factor in OE was semantic lightness and that the grammar contained a requirement that semantic light elements are treated as prosodically light elements. But more empirical work is to be done to evaluate these options.

6. To get prosodic bootstrapping off the ground, we have to assume that the child has access to the following universal principle that if a head and a non-head are combined in a single phrase it is the head (or the functional element) that is weak. So if the child encounters the pattern (weak strong), it knows that the head precedes the complement or that a functional element precedes a lexical category.

7. Note that a language may have several unmarked prosodic patterns. In German, the unmarked pattern with nouns and prepositions is weak-strong (w s), but with verbs it is (s w).

8. The question needs further investigation. At this point I can only offer some speculation: if determiners are just added to the nominal in the position where the nominal was placed originally we derive that the majority of DPs will occur preverbally (German). If, however, determiners are introduced and the corresponding phrase is positioned according to its weight, we derive that the majority of DPs will occur postverbally (this could be what happened in English). Ideally, the choice should depend on how reduced the determiner already was when it became obligatory (and in which positions it was introduced first).

9. We have to assume that in Yiddish, OHG and OE both options, V>F and F>V were available.

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The EPP, fossilized movement and reanalysis

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This paper addresses the question of whether all operations of movement necessarily have a clear morphological, semantic or pragmatic motivation, and how the EPP is to be understood as a trigger/motivation for syntactic movement. Considering patterns in Thai, Taiwanese and other languages of east and southeast Asia, it is argued that certain applications of movement have no genuinely understandable motivation when considered from a purely synchronic point of view, and that the use of EPP features to trigger movement is a formal mechanism made available by the grammar for the legitimization of a movement whose genuine semantic, pragmatic or morphological trigger has become lost over time.

1. Introduction

This paper sets out to provide answers to the questions below concerning movement and its motivations:

(A) Do all operations of movement necessarily have a motivation which can be identified and clearly understood in morphological, semantic or pragmatic terms, or are there also real occurrences of movement without such an identifiable trigger?
(B) How is the EPP to be understood as a trigger/motivation for syntactic movement?

Considering patterns found in Thai, Taiwanese and other languages of east and southeast Asia, it will be argued that certain applications of movement really have no genuinely understandable motivation when considered from a purely synchronic point of view, and that the use of EPP features to trigger movement is a formal mechanism made available by the grammar for the (continued) legitimization of a movement whose genuine semantic, pragmatic or morphological trigger has become lost over time. In Sections 2–4 evidence is presented