

The Morphosyntax of Constituent Ordering Patterns

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1. Introduction

The relationship between word order and syntactic structure is one of the most intensively discussed topics in syntactic research. On the one hand, syntax in a sense is supposed to cover phenomena concerning word order as one of its most essential and important issues (cf. phrase structure rules; Chomsky 1965, head parameter; Chomsky 1981). In the current generative theorizing, on the other hand, there is an increasing tendency toward excluding word order out of the syntactic component proper. For example, Kayne (1994) claims that the realization of a surface word order is a straightforward reflex of the syntactic structure, whereby the asymmetric c-command configuration is directly mapped onto the linear precedence relationship between constituents, i.e. word order. Within the newer generative model, researchers are developing the idea that the linear order is determined in the PF-component (cf. e.g. Richards 2004). According to this view, the syntactic component is concerned only with the hierarchical structure, but not with the relative ordering of constituents; there is no difference in formulating a syntactic structure as [X YP] or [YP X], both of which represent one and the same thing as a syntactic construct.

There appear to be, however, some phenomena that show a cross-linguistic systematic difference between the two kinds of surface ordering, i.e. X-YP vs. YP-X, in the way the constituents are combined with each other:

- (1) a. X-YP
b. YP-X

If there should exist such systematic differences, albeit as a tendency, between the two ordering patterns in (1), it seems natural to ascribe them to some property that would call for a principled explanation pertaining to the relative ordering of the constituents. One would miss an important generalization if such an observation, which apparently is closely related with word order, were to be dispelled into the PF-component, which is not rarely tantamount to giving no explanation at all, unless a substantial “PF-theory” would be postulated.

In this paper, I consider some phenomena that in fact show a cross-linguistic systematic difference

between the two ordering patterns in the morphosyntactic properties of the elements in question. In the next section, I discuss the subordination of embedded object clauses from a typological perspective, focusing on the constituent ordering and the nature of the subordination markers (“complementizers”). Section 3 brings forward further data that cross-linguistically exhibit a certain asymmetry between the two types in (1) that apparently differ solely in the relative ordering of the constituents. In section 4, I take up and discuss some independent approaches of a more general character that deal with the asymmetries of the sort being at issue here. Section 5 summarizes the present paper with some concluding remarks.

2. Positioning of subordinators

In this section, I provide and discuss data concerning the positioning of the subordinators (subordination markers or “complementizers”) of embedded object clauses, which serves as a starting point for the discussion in this paper. Thereby I partly recapitulate my own previous research (Inaba 2007: Ch.6.2, 2009).

First of all, it is well-known that in the case of sentential complementation the selecting matrix predicate (V_1) and the subordinator (Comp) of the selected embedded clause (S_2) tend to be adjacent cross-linguistically, as in (2) (cf. Hawkins 1994: Ch.5.6, 2004: 209, Dryer 1992, 2009, Bayer 1996: Ch.6, etc.):

- (2) a. V_1 [Comp S_2]
 b. [S_2 Comp] V_1
- (3) a. V_1 [S_2 Comp]
 b. [Comp S_2] V_1

As for the other logically possible ordering patterns, (3), it has been pointed out in the literature that VO-languages never have “final complementizers”.¹ So far as this observation is correct, the pattern represented as (3a) should be unattested. As for (3b), Hawkins (1994: 263) maintains that the “grammars that would potentially generate [(3b)] invariably seem to have an extraposition rule converting [(3b)] into [(2a)]”, and that in the languages he mentions, “Extraposition is *obligatory* in this environment” (emphasis by Hawkins). It may be concluded, at least as a cross-linguistic tendency, that the patterns in (3), in which the adjacency of V and Comp is not observed, are unacceptable, rare, marked or not canonical. Let us capture this state of affairs under the following generalization (cf. also Bayer 1996: 193):²

- (4) When a matrix predicate selects a sentential object, the subordination marker of the latter tends to be adjacent to the former.

Examples that instantiate this cross-linguistic generalization are given below:

[Japanese]

- (5) a. boku-wa [kare-ga kuru to] omou
 I-Top [he-Nom come Comp] think
 ‘I think that he will come.’
 b. #boku-wa omou [kare-ga kuru to]

[German]

- (6) a. weil ich denke [dass er kommt]
 I think [Comp he comes]
 ‘I think that he will come.’
 b. #/?*weil ich [dass er kommt] denke

[Bengali] (Bayer 1996: 255)

- (7) a. chele-Ta Sune-che [je [or baba aS-be]]
 boy-CF hear-Pst3 [Comp [his father come-Fut3]]
 ‘The boy has heard that his father will come.’
 b. *chele-Ta [je [or baba aS-be]] Sune-che
- (8) a. chele-Ta [[or baba aS-be] bole] Sune-che
 boy-CF [[his father come Fut3] Comp] hear-Pst3
 ‘The boy has heard that his father will come.’
 b. *?chele-Ta Sune-che [[or baba aS-be] bole]

(6) and (7) are interesting in this connection, because the rightward positioning of the sentential object apparently contradicts the otherwise OV-character of these languages. Especially noteworthy are the data in Bengali, which possesses both clause-initial and clause-final subordinators. Whichever one of these subordinators the language may adopt for signaling the sentential complementation relationship, its adjacency to the matrix predicate must be obtained, in accordance with (4).

At this point, I would like to comment on the cross-linguistic distribution of nominal and sentential objects. As will be taken up in some detail in section 3, languages are often classified as VO or OV, while for some languages researchers have not reached an agreement (without going into profound analyses). It should now be remarked that in such a discussion researchers have focused almost exclusively on nominal (and adpositional) objects and rarely on sentential objects. It is actually the case that in many languages the nominal and the sentential objects appear on the same side of the selecting verb. We have seen just above,

however, that there are some languages in which the two types of objects do not behave the same way with respect to their positioning relative to the matrix verb. For the sake of clarity, let us look at the following table:

(9)	V-nom.obj.	nom.obj.-V
V-sent.obj.	(a) English, etc.	(b) German, etc.
sent.obj.-V	(c) ---	(d) Japanese, etc.

As we will see, VO-languages (the sum of (a) and (c)) and OV-languages (the sum of (b) and (d)) are not significantly different in number. What deserves special attention here is the existence of the languages that fit in (9b) and at the same time the vacancy of the column (9c). As for (9b), alongside the languages presented above in the text, Dryer (1980), for example, lists a series of OV-languages in which the sentential objects do not appear in the expected “object position” but at the end of the matrix clause. Givón (1984: 215) also notes that “[i]n many strict SOV languages, sentential complements may *follow* the verb, while nominal objects rigidly precede it” (emphasis by Givón). On the contrary, no language has ever been reported to have the opposite ordering pattern (cf. Dryer 1980, Hawkins 1986, etc.). The consequence is that there are a significantly greater number of languages in which sentential objects follow the verb than those with the opposite pattern (cf. Dryer 2009: 199f). Disproportions of this kind concerning word order will be taken up later in section 3.

Now, a closer investigation reveals that the initial and the final subordinators are to be differentiated not only in their positioning within the embedded clause, but also in their morphosyntactic properties, as empirically established in Inaba (2009). On the one hand, initial subordinators are usually independent words and can often be qualified as a “general complementizer” in the sense that they can introduce not only the clausal object of a matrix verb, but also other types of clauses (e.g. N-dependent clauses or adverbial clauses). This is instantiated by the following data from English (10) and Twi (11/12), a Kwa language spoken in Ghana (see also C. Lehmann 1984: 86f, 93f for the “universal conjunction” *ke* in Persian, *in* in Nahuatl, etc.):

[English]

- (10) a. the people [that I have never met]
 b. the rumor [that she killed her husband]
 c. He must be crazy [that he should go out now].

[Twi] (Lord 1993: 159ff)

- (11) na ama nim [sɛ kofi yɛɛ adwuma no]
 Pst Ama know [Comp Kofi did work the]
 ‘Ama knew that Kofi had done the work.’
- (12) a. kofi yɛɛ adwuma no [sɛ yaw bepe n’asem] (purpose clause)
 Kofi did work the [so-that Yaw Fut-like his-manner]
 ‘Kofi did the work so that Yaw would like him.’
- b. [sɛ kofi ye adwuma no â] metua no ka (conditional)
 [Comp Kofi do work the Cond] I-Fut-pay him salary
 ‘If/When Kofi does the work, I will pay him.’
- c. oguaneɛ [sɛ/efisɛ osuro] (reason clause)
 he-ran-away [Comp he-was-afraid]
 ‘He ran away because he was afraid.’

Final subordinators, on the other hand, are usually particles or affixes, suffixed to the preceding element, rather than they are independent words. They cannot be regarded as a “general complementizer” in the above sense, but are better classified as nominalizers or Case-markers, for one thing, or citation markers, for another. Cases of the former are represented by the following examples:

[Uzbek] (Noonan 2007: 96)

- (13) Men [bu ɔdam-minj ʃoʃa-ni oʒir-la-gan-i-ni] bilaman
 I [this man-Gen chicken-Obj steal-Nrz-3Sg.Poss-Obj] know-1Sg
 ‘I know that this man stole the chicken.’

[Kanuri] (Noonan 2007: 57)

- (14) a. Àvá-nzó-yè shí-rò kùḡónà cîn.
 father-his-Nom him-Dat money give-3Sg
 ‘His father gives him money.’
- b. [Sá’vá-nyí íshín-rò] tàmǎḡónà.
 [friend-my comes-Dat] thought-1Sg-Perf
 ‘I thought my friend would come.’

Examples of citation markers functioning as final subordinators are found in Japanese (cf. *to* in (5)) and Bengali (cf. *bole* in (8)). See Inaba (2009) for more discussion with further data. The results are summarized

as follows:

- (15) a. Initial subordinators (V_1 [Comp S_2]):
 “general complementizers” (clause-linkers), independent words.
 b. Final subordinators ($[S_2$ Comp] V_1):
 particles or suffixes (Case-, nominalization or citation markers).

Although some authors have alluded to such cross-linguistic systematic differences between the initial and the final subordinators,³ a thorough investigation into this phenomenon has been, so far as I see, missing in the literature.

As for the order of “adverbial subordinator” (i.e. *because, although, when, while, if*, etc. in English) and clause, with respect to where and how the former is realized, Dryer (2011f) gives the statistic data (16a-c):

- (16) Adverbial subordinators (total: 660 languages)
- | | |
|-------------------------------|-------------|
| a. separate words, S-initial: | 399 (60.5%) |
| b. separate words, S-final: | 96 (14.5%) |
| c. suffixes: | 64 (9.7%) |
| d. S-final (b+c): | 160 (24.2%) |

Because in “most languages of [type (16c)], the language is verb-final and the suffixes on the verb are also at the end of the clause”, I add (16d) here for languages with final adverbial subordinators altogether. Dryer (2011f) finds “no clear example” for a “logically possible type” where “the adverbial subordinator is a prefix on the verb.” In the comprehensive typological work by Dryer & Haspelmath (eds.) (2011), there is no corresponding investigation for the subordinators of the object clauses we are discussing here, but the data presented as (16) should shed some light on it: Adverbial subordinators usually have specific meanings and are thus more likely to be realized as independent words than the subordinators for sentential objects are. In the latter case, the relationship between the matrix and the subordinate clause is rather clear due to the argument structure of the matrix predicate that selects the object clause, and these subordinators therefore need not have concrete semantic content. Remember that the subordinator *that* in English, for example, is often specified as nothing more than “Comp [-Q]” in theoretical work and can actually be deleted in proper contexts without significant difference in meaning. It then appears reasonable to expect that such semantically poor(er) subordinators are more likely to be realized as affixes than more contentful

adverbial subordinators are. Therefore, if a similar investigation as in (16) would be carried out for the subordinators for sentential objects, we would expect less number of languages for (16b) and correspondingly more for (16c). Dryer's (2011f) research presented here thus lends substantial support, although in an indirect way, to the claim made in this section.

Let us recapitulate the findings so far. At first glance, the representation with an initial subordinator ((15a); V_1 [Comp S_2]) and that with a final subordinator ((15b); [S_2 Comp] V_1) seem structurally to be identical, each constituting a mirror image of the other. The observations made hitherto in this section, summarized as (15), would then become just a coincidence, if linearity plays no role in syntax (cf. sec.1). In the next section, I present some more areas in which apparently symmetric syntactic representations possess different morphosyntactic properties, depending on the linear relationship between the constituents in question.

3. Asymmetries for structurally symmetric representations

Following the discussion on the asymmetry for the apparent symmetric syntactic representations in the field of sentential complementation, some other phenomena pertaining to the similar kind of asymmetry will be presented in this section. Before that, some remarks based on the hitherto typological investigations are in order.

3.1 Positions of heads

Languages can be classified according to the dominant word order between certain constituents. Now it is well-known that there are almost as many OV-languages as VO-languages in the world (cf. (18)). Likewise, languages with postpositions are not much greater in number than those with prepositions (cf. (19)). In order to make the contrast between the two variants in each case clearer, the other minor possibilities (e.g. data for languages with no sole dominant order) are put aside here and in the following:

(18) Object and verb (total: 1519 languages; Dryer 2011b)

OV: 713 (46.9%)

VO: 705 (46.4%)

(19) Noun phrase and adposition (total: 1185 languages; Dryer 2011c)

NP-P: 577 (48.7%)

P-NP: 512 (43.2%)

Let us take up the opposition OV vs. VO; for not a few researchers working on word order, that of verb and

object constitutes a starting point for the investigation of other features and is sometimes treated as a “primitive”, not only by typologists (cf. Greenberg 1963, Hawkins 1983, Dryer 1992, etc.)⁴, but also by some theoreticians (Haider 2010 and his other works, Svenonius ed. 2000, etc.). The numerical data in (18) apparently indicate that it is just a coincidence whether some language takes the OV- or the VO-order. Under the principles and parameters approach, one would say that out of the hierarchically identical structure, one language “by chance” sets the V-final parameter and another the V-initial parameter.

As for the ordering between adposition and noun phrase within the adpositional phrase, (19), it is well-known since the pioneering work of Greenberg (1963) that OV-languages tend to have postpositions⁵ and VO-languages prepositions. Dryer (2011g) gives the following results based on the investigation of total amount of 1142 languages:

(20)	NP-P	P-NP
OV	(a) 472 (41.3%)	(b) 14 (1.2%)
VO	(c) 42 (3.7%)	(d) 456 (40.0%)

It is clear that the sum of the two types, OV & NP-P (a) and VO & P-NP (d), constitutes the majority in the table. This observation can be subsumed under what Dryer (1992: 87) calls the Head-Dependent Theory (HDT), which claims that “a pair of elements X and Y will employ the order XY significantly more often among VO languages than among OV languages if and only if X is a head and Y is a dependent.”⁶ In the terminology of the principles and parameters approach, the presented state of affairs tells us that the values of the head parameters for V and P, respectively, tend to be the same, which brings about a welcome consequence with respect to language acquisition (i.e. Plato’s problem). Along this line, it is furthermore expected that OV- or postpositional languages tend to exhibit a head-final N within the NP and, conversely, VO- or prepositional languages a head-initial N.

Against these theoretical backgrounds, let us now turn to some relevant phenomena.

3.2 Relativization

Alongside the object clauses as dealt with in section 2, relative clauses can be considered another typical instance of sentential subordination. In this paper, I confine myself to the restrictive relative clauses that (i) contain a marker signaling relativization and (ii) appear either directly before or directly after the antecedent noun. As already pointed out in the literature (cf. Hawkins 1988, 1990, 1994: 264f, Dryer 2009: 200, etc.), relative clause markers or relativizers exhibit a tendency similar to the subordinators showing up under sentential complementation with respect to their positioning:⁷ According to Hawkins (1994: 264), we

find “productive instances” of languages with an initial relativizer in a postnominal relative clause (21a) as well as those with a final relativizer within a prenominal relative clause (21b). Of these, the former type is “extremely frequent”, comprising all head-initial languages as well as a number of otherwise head-final languages, while the latter type, surely “well-attested”, can be found only among strongly head-final languages:

- (21) a. N [Rel S]
 b. [S Rel] N
 (22) a. N [S Rel]
 b. [Rel S] N

Other than (21), there are “a handful” of languages showing (22a) (see also C. Lehmann 1984: 73ff for data), but no language with the order in (22b).

In the present paper I cannot provide a detailed analysis for the morphosyntactic properties of each relativizer in connection with its positioning. I would nonetheless like to make some suggestion based on what has been documented in the literature. Drawing on Andrews (1985), which deals with a wide range of data on relative clauses cross-linguistically, Andrews (2007) maintains:

RCs [= relative clauses; J.I.] often begin with some kind of marker, which may be unique to RCs, or appear in a wide variety of subordinate clauses. [...] The latter can be exemplified by English, where RCs can be introduced by the marker *that*, also used to introduce complement clauses and some other types [...]. (p.231)

The relative marker may also appear as part of the verbal morphology, [...]. Marking of the verb is most frequent when the verb is clause-final [...]. (p.231)

RCs that precede the domain nominal [= nominal antecedent; J.I.] are more likely to be nominalized than those that follow, but don’t appear to use special ‘relative pronouns’ to express NP_{rel} function [= the grammatical function that the antecedent NP would serve in the relative clause; J.I.], tending rather to lack overt NP_{rel}. (p.208f)

The first citation tells us that the *initial* relativizers are generally real clausal subordinators (cf. also Givón’s 1990: 656ff discussion on “relative pronouns”). The second and the third remarks speak of the final relativizers that appear typically in the verb-final configuration; “[_{RelS} ... V-Rel] N”, thus corresponding to (21b). The observation that the clause-final relativization marker, if at all, shows up as a verbal morphology (e.g.

in the form of a nominalizer) lends support to our speculation that the final relativizers are more of an affixal nature (see also Givón 1990: 663ff for the “nominalizing strategy” of relativization). In the examples discussed by Andrews (2007), this generalization actually goes through, except one counter-example from Swahili, in which the embedded verb to which the relative clause marker is affixed is not in the final position (p.223; see also C. Lehmann 1984: 100f).

What is interesting in this connection are data from languages that possess both prenominal and postnominal relative clauses, as reported in Andrews (1985: 33ff): In Turkish, whereas prenominal relative clauses are signaled by the verbal morphology at the end of the clause, postnominal ones are introduced by the “complementizer” *ki*. In Classical Tibetan, a basically OV-language, the verbal suffix that marks the relativization shows up in the prenominal, but not in the postnominal relative clauses. In Hottentot (in Southwestern Africa), the clause-initial relativizer, which apparently is not an affix, occurs only in the prenominal, but not in the postnominal relative clauses.

The above tendency holds true also for most of the data listed in the detailed typological work on relative clauses by C. Lehmann (1984): In some cases of prenominal relative clauses, the embedded verb in the final position takes the form of the “relative participle”, i.e. inflected differently from the finite verb.⁸ In other cases, the prenominal relative clauses have a relativization marker (e.g. nominalizer) affixed to the final verb.⁹ Both of these two types are represented by (21b). As for the postnominal relative clauses, there are, on the one hand, surely some languages, mostly verb-final, in which the relativization markers are realized as verbal affixes (cf. C. Lehmann 1984: 73ff), i.e. of type (22a). There are, on the other hand, more languages that are reported to have initial relativization markers, none of which is interpreted by C. Lehmann (1984: 85ff) as (verbal) affixes. Thus, when we concentrate on the simple cases depicted as (21), which actually constitute the majority, we detect the same tendency as was observed for clausal complementation in section 2: Markers of clausal embedding in the final position tend to be affixal more frequently than those in the initial position.

At the outset of this section, I mentioned the typological observation that, for V and P, neither the initial positioning nor the final positioning of the head outnumbers the other significantly. This may lead us to expect that something similar should hold for the head N within the NPs. This is, however, not the case. As for the ordering between the head N and the modifying A, for example, the number of languages with NA-order is significantly greater (cf. Dryer 2011d; 878 NA (64.2%) vs. 373 AN (27.3%) out of 1366 languages). The predominance of the N-initiality becomes more conspicuous when we turn to the ordering of the head N and the modifying relative clause, given as (23). The correlation of this observation with the OV vs. VO ordering is summarized as (24) (Dryer 2011h; out of 879 languages):

(23) Antecedent noun and relative clause (total: 825 languages; Dryer 2011e)

RelS-N: 141 (17.1%)

N-RelS: 580 (70.3%)

(24)	RelS-N	N-RelS
OV	(a) 132 (15.0%)	(b) 113 (12.9%)
VO	(c) 5 (0.6%)	(d) 416 (47.3%)

Languages falling under (24a) and (24d) are “harmonious” in the sense that the heads V and N appear in the same direction within their projections, VP and NP, respectively. Drawing on the idea presented at the beginning of this section, we would expect these two types of languages to constitute the majority, which is, however, not completely the case: Among the OV-languages, the expected type, (24a), does not significantly outnumber the other variant, (24b), compared to the contrast among the VO-languages, (24d) vs. (24c). It appears that the cross-linguistic tendency toward the N-RelS-ordering rather than the opposite is so influential that the “harmony” in the positioning of the heads (or the uniformity of the head parameter values) is suspended for the sake of the former.

It should have become clear so far that both V and N, when they subordinate a clause, show a similar tendency with respect to their positioning relative to the subordinated clause (cf. also Hawkins 1994: 263ff).¹⁰

3.3 Affixes and adpositions

Most of the languages utilize prefixation or/and suffixation as a means of affixation. When we recognize the complement-head relation between the stem and the affix as in the syntactic structure (cf. Aronoff 1979, Di Sciullo & Williams 1987, Hawkins & Gilligan 1988, Comrie 1981: 87), and when we restrict ourselves to the simple case of words consisting of a stem and either a prefix or a suffix, we get the following patterns:

- (25) a. Af-Stem (prefixation)
 b. Stem-Af (suffixation)

At first sight, these two variants seem to be the realizations of the same morphosyntactic representations, the relative positioning of stem and affix being just symmetric.

Already Greenberg (1963: 73) notices, however, the “general predominance of suffixing [over prefixing]. Exclusively suffixing languages are fairly common, while exclusively prefixing languages are quite rare.”

Based on 30 languages (6 VSO, 13 SVO, 11 SOV) investigated in his sample, Greenberg (1963: 73) furthermore establishes a close correlation between suffixing and postpositionality, on the one hand, and prefixing and prepositionality, on the other, expressed as his Universal 27. Hawkins & Gilligan (1988) confirm this observation on the basis of a more profound research (see also Hawkins 1988 and Hawkins & Cutler 1988 for the processing-based account of this and other relevant observations). Presupposing that “derivational and inflectional affixes are always the heads of their respective lexical categories” (p.226),¹¹ they hint at some correlation between prefixing vs. suffixing and VO (prepositional) vs. OV (postpositional) (p.228):¹²

(26)	only prefixing	only suffixing
VO (P-NP)	(a) 10 (11.2%)	(b) 17 (19.1%)
OV (NP-P)	(c) 0 (0.0%)	(d) 62 (69.7%)

One might have well expected the uniformity of headedness including the word-internal or morphological level. (27) is postulated, for example, by Hawkins & Gilligan (1988: 227) (cf. also W. Lehmann 1978: 23):

(27) The Head Ordering Principle (HOP):

The affixal head of a word is ordered on the same side of its subcategorized modifier(s) as P is ordered relative to NP within PP, and as V is ordered relative to a direct object NP.

Although the HOP is too strong, predicting the existence only of (26a/d) and the absence of (26b/c), the correlation shown as (26) is always in accordance with it: In head-final languages (OV, postpositional), the predominance of suffixing is actually overwhelming, just as predicted. In head-initial languages (VO, prepositional), too, affixes surely tend to be realized more as suffixes rather than as prefixes, but the tendency toward suffixing here is not so strong as in head-final languages. As a most comprehensive study based on 971 languages, Dryer (2011a) reports the following results:

(28) a. Little or no inflectional morphology:	141 (14.5%)
b. Predominantly suffixing:	<u>406 (41.8%)</u>
c. Moderate preference for suffixing:	<u>124 (12.8%)</u>
d. Approximately equal amounts of suffixing and prefixing:	147 (15.1%)
e. Predominantly prefixing:	<u>94 (9.7%)</u>
f. Predominantly prefixing:	<u>59 (6.1%)</u>

Here, the proportion of more suffixing languages (53b/c) vs. more prefixing languages (53e/f) amounts to 530 (54.6%) vs. 153 (15.8%). Considering the almost equal distribution of VO vs. OV across the languages of the world (cf. (18)), this asymmetry between prefixing and suffixing seems astonishing. Within words, the heads (i.e. affixes) are thus preferably located in the final position cross-linguistically, in complete opposition to the cases of clausal embedding (cf. sec.2, 3.2), where the non-sentential heads tend to precede the sentential non-heads.

The above findings have a further consequence for the cross-linguistic analysis of adpositions. In section 3.1, I have mentioned the research result on the order of adposition and noun phrase presented by Dryer (2011c) as (19), which is repeated here:

- (29) Noun phrase and adposition (total: 1185 languages)
 NP-P: 577 (48.7%)
 P-NP: 512 (43.2%)

In the terms of the principles and parameters approach, this observation can be restated that the value of the directionality parameter for P, which is likely to be deduced from that of V (cf. sec.3.1), is almost equally dispersed across the languages of the world. One might then as well imagine that the structures of the PPs are to be differentiated solely with respect to whether the head P precedes or follows the complement NP. Some authors remark, however, a certain asymmetry between prepositions and postpositions with respect to their morphosyntactic status. Specifically, Hawkins & Gilligan (1988: 242) and Hawkins & Cutler (1988) maintain that “prepositions in head-initial languages are generally independent words; postpositions in head-final languages are suffixed as often as they are independent words” (cf. also Hall 1988: 334). The predominance of suffixing we have ascertained just above is now completely compatible with this asymmetry between prepositions and postpositions. We can furthermore correlate this contrast with that observed between the sentence-initial and the sentence-final markers of subordination, namely the “complementizers” (cf. sec.2) and the relativization markers (cf. sec.3.2).

3.4 Coordination

In this subsection, we will survey coordinated structures, here concentrating on the simple cases in which two units of the same type X are combined into a larger unit of the same type X with the help of a single coordinator occurring in between (monosyndetic coordination; cf. Haspelmath 2007):

- (30) A co B

Other cases, for example those without any coordinator or with two coordinators, will not be considered here.

Haspelmath (2007: 9) claims, first of all, that there is no instance of a language in which A and B in (30) should be analysed as structurally symmetric (cf. also Zwart 2009: 1598) and that “[monosyndetic] coordination seems to be universally asymmetric.” That is, monosyndetically coordinated structures are to be represented not as (30) or “A-co-B”, but as either (31a) or (31b):

- (31) a. A-co B (postpositive coordinator)
 b. A co-B (prepositive coordinator)

The coordinator in (31a) is combined with the first element, while that in (31b) with the second.

As for their morphosyntax, coordinators can be divided in at least two subtypes (cf. Stassen 2011). There is, on the one hand, the class of “true coordinators”, “which are not currently used in any other function than coordination” (Zwart 2009: 1594), like English *and*. There are, on the other hand, those coordinators across the languages of the world that are at the same time used as comitative adpositions (cf. *with* in English) or case-markers, at least as far as the coordination of NPs is concerned (cf. Haspelmath 2007: 29ff). Note that Japanese, for example, avails itself of both types in (31) for *and* in English; postpositive *to*, meaning also *with*, for (31a), and postpositive *sosite* or *oyobi* for (31b), used exclusively as a conjunction.

Haspelmath (2007: 9) now maintains that “postpositive coordinators are typically suffixed and thus written as one word with the coordinand to which they are attached. Prepositive coordinators, by contrast, are rarely prefixed”. Along with this, Zwart (2009: 1598) furthermore derives the generalization, based on his sample of 214 languages, that “true coordination is invariably marked on the second conjunct, [i.e.,] on the second conjunct’s left edge.” If these observations are correct, the schemata in (31) will be supplemented as follows:

- (32) a. A-co B (postpositive coordinator; affix (meaning comitative))
 b. A co-B (prepositive coordinator; independent word, “true coordinator”)

Here, we come up again with a case of asymmetry that is hardly expected from the apparently identical syntactic structures, but is nonetheless witnessed as a typological tendency. In particular, the patterns in (32) remind us of the asymmetry we observed between the initial and the final subordinators as (15) as well as between the prepositions and the postpositions in section 3.3, namely the parallelism in contrast between

the constituent-initial (independent) and the constituent-final (affixal) elements.

3.5 Interim summary

Beginning with the subordination of object clauses in section 2, I have pointed out in this section further phenomena (relative clauses, adpositional phrases, and coordinated structures) that exhibit a certain cross-linguistic tendency:

- (33) object clauses:
 - a. V [Comp S]
 - b. [S Comp] V
- (34) relative clauses:
 - a. N [Rel S]
 - b. [S Rel] N
- (35) adpositional phrases:
 - a. [P NP]
 - b. [NP P]
- (36) coordinate structures:
 - a. A [co B]
 - b. [A co] B
- (37) a. constituent-initial: independent words
 b. constituent-final: affixes

All of these typological tendencies seem to be correlated with the cross-linguistic preference of suffixing over prefixing, which obviously contributes to the affixal status of the final elements (underlined in the (b)-schemata above).

We have also observed certain skews in the position of the head relative to its dependent in some cases, although VO- and OV-languages are almost equally distributed in number across the languages of the world: Under clausal subordination, the head-initial structures (33a/34a) are universally preferred over the head-final ones (33b/34b). Within words, on the contrary, the head (i.e. the affix) rather tends to occupy the final position. The rough generalization that emerges is that the “heavier” the non-heads (X), the more likely they tend to follow their heads (H):

- (38) a. X-H (X = words or smaller)
 b. X-H & H-X (X = NP, PP, etc.)
 c. H-X (X = sentential)

The hierarchy of this kind is also discussed by Tokizaki (to appear) and Tokizaki & Kuwana (to appear), who seek a phonologically based explanation of determining word order cross-linguistically (cf. sec.4.1). Other than this, see also the work by Hawkins cited in this paper for the parsing-based analysis dealing with the skews in the constituent ordering patterns across the languages.

4. Theoretical considerations for asymmetries in word order

In the previous sections I have reviewed certain asymmetries with respect to word order variations. In this section, I will turn to relevant discussions and proposals that are brought forward in a more theoretical framework and deal with more general phenomena.

4.1 Junctural asymmetry

Tokizaki (2008a, etc.) argues in a series of his works that the juncture between constituents in left-branching structures (cf. (39a)) is shorter than in right-branching structures (cf. (39b)). For the sake of optical obviousness, I depict his proposal schematically as follows:

- (39) a. YP+X
 b. X // YP

What is especially interesting in Tokizaki's claim is that this asymmetry is reflected in phonological, morphological, and syntactic phenomena. Let us take just one of his data supporting his proposal (Tokizaki 2008b: sec.3.2): Rendaku (sequential voicing) in Japanese affects the first consonant in a word preceded by another word ending with a vowel, as in (40). This voicing rule also applies to three-word compounds if they have a left-branching structure as in (41a), but it is blocked if they have a right-branching structure as in (41b) (cf. Otsu 1980):

- (40) a. nise tanuki → nise danuki
 mock badger 'mock-badger'
 b. tanuki shiru → tanuki jiru
 badger soup 'badger-soup'

- (41) a. [[nise tanuki] shiru] (left-branching) → nise danuki jiru
 mock badger soup ‘mock-badger soup’
 b. [nise [tanuki shiru]] (right-branching) → nise tanuki jiru
 mock badger soup ‘mock badger-soup’

Tokizaki now attributes the absence of the voicing in (41b) to his assumption that there is a “larger boundary” between the first constituent and the following branching one. Tokizaki discusses still further data that support this “junctural asymmetry” from various phonological and morphological phenomena across languages (cf. Tokizaki 2008a, 2008b, 2011, to appear, Tokizaki & Kuwana 2009, to appear).

It should be noticed that (39), the schematization of Tokizaki’s proposal, represents a generalized form of the asymmetries we have observed so far in this paper, summarized as (33)-(37): What corresponds to X in (39) tends to be affixal when it appears to the right of its sister constituent that branches (cf. (39a)), while it is likely to be realized as an independent word when occurring to the left (cf. (39b)). Tokizaki’s generalization thus seems to be a useful tool for the description of various phenomena that are in need of explanation.

Tokizaki (to appear: 8ff) and Tokizaki & Kuwana (to appear: sec.4) now argue that the “junctural asymmetry” can be ascribed to the phonological implementation of speech signals in relation with linearity. For that purpose, Tokizaki (to appear) presupposes some constraints that are already proposed in the literature: Starting from Cinque’s (1993) theory which claims that the most deeply embedded element receives stress, Tokizaki assumes, following Nagahara (1994), that there should be no “major phrase” boundary between the focused element receiving stress in the above sense (underlined in (42)-(45)) and the end of an utterance (“No Post-Focus Phrasing”). With these backgrounds, he demonstrates how the asymmetry between the left-branching (42a) and the right-branching (42b) structure is derived:

- (42) a. [[[waste] disposal] plan] (left-branching)
 b. [Alice [loves [hamsters]]] (right-branching)
- (43) a. * (waste) (disposal) (plan)
 b. (Alice) (loves) (hamsters)
- (44) a. * (waste disposal) (plan)
 b. (Alice) (loves hamsters)
- (45) a. (waste disposal plan)
 b. (Alice loves hamsters)

Both in (43a) and in (44a), the represented phonological phrasing for the left-branching structure violates No Post-Focus Phrasing. Only in (45a), in which there is no phonological boundary between the morpho-syntactic head and the element to the left of it, is the relevant constraint observed. The reasoning so far should thus, so Tokizaki, account for why the boundary in left-branching structures is smaller than in right-branching structures.

Here I will not go into the detail of whether or to what extent Tokizaki's (to appear) proposal is conclusive. It seems that, although his observation itself, schematized as (39), is empirically on the right track, as already pointed out, the analysis he provides for its explanation needs further scrutiny, which I cannot undertake in this paper. One might as well ask, for example, whether phonological properties or regularities, that sometimes contain exceptions and are idiosyncratically realized within and across languages, are so decisive in determining the constituent ordering that is at least in some languages rigidly fixed.

4.2 Final-over-final constraint

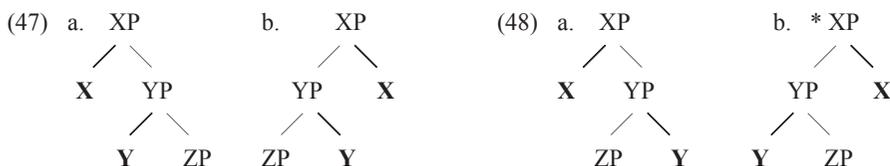
A group of researchers has now been working on word order with the aim of attaining a certain generalization within a formal syntactic framework. Their main proposal is dubbed “Final-over-final constraint” (cf. Holmberg 2000, Biberauer ed. 2008, Biberauer, Holmberg & Roberts (BHR) 2008, 2009, to appear, etc.) whose definition is given as (46):

(46) Final-over-final constraint (FOFC; BHR, to appear: 3):

If α is a head-initial phrase and β is a phrase immediately dominating α , then β must be head-initial.

If α is a head-final phrase, and β is a phrase immediately dominating α , then β can be head-initial or head-final.

What is meant to be achieved by this will be clearer when presented graphically in tree diagrams:



The structures in (47) are “harmonious”; (a) represents a head-initial structure and (b) a head-final one (cf. sec.3.1). Examples of each of them are easily encountered. The structures in (48) are disharmonious. Of the two representations here, we find not a few instances of type (48a); for example, the CP-(TP/vP-)VP-

structure in German, to name just one case. The FOFC now prescribes that the representation (48b) is universally ruled out.¹³

As the authors argue, the FOFC provides a straightforward account for numerous empirical facts observed across a wide range of languages. As for the structures with sentential complementation, the ill-formed ones (3) from section 2, repeated here as (49), are correctly excluded by the FOFC:

- (49) a. $V_1 [S_2 \text{ Comp}]$
 b. $[\text{Comp } S_2] V_1$

(49b) corresponds directly to (48b). The FOFC also rules out (49a) (cf. (50a)) as well as the existence of languages with the V-NP and the CP-V orders (cf. (50b); see (9)), when it is applied recursively:

- (50) a. $* [_{VP} V [_{CP} [_{TP} [_{VP} V CP] T] C]]$
 b. $* [[_{CP} [_{TP} [_{VP} V NP] T] C] V]$

Furthermore, the preference of suffixing over prefixing, as summarized as table (26) in section 3.3, can be predicted by the FOFC: We observed there that there is no OV-language that has only prefixes. The simple structure of the object-NP consisting of a prefix, which is the head (cf. sec.3.3)), and a stem in an OV-language should look like the following:

- (51) $* [_{VP} [_{NP} \text{Pref Stem}] V]$

This is just the structure corresponding to (48b), namely the one excluded by the FOFC. Although the question remains here with respect to such OV-languages that have both prefixes and suffixes, the FOFC is completely compatible with the tendency that prefixes are rather rare in OV-languages. The FOFC thus promises to be a valid generalization, with its cross-linguistic applicability for the wide range of phenomena as well as with its theoretical simplicity as its great advantages.

BHR (2008, 2009, to appear) try to derive the FOFC, based on the universal spec-head-complement order à la Kayne (1994), by way of the so-called roll-up movement triggered by the relevant feature inherited from below: For the structure (47a), there is no feature present that would trigger the movement, so the “base order” is preserved. In (47b), the feature first resides in Y and is inherited further onto X, so that both of the complements, ZP and YP, are raised to the respective spec positions, thus resulting in the head-final order in both layers. In the case of (48a), Y is equipped with the feature, which is, however, not

inherited onto X. Consequently, the head-final order is obtained only in the lower level, ZP-Y. Because the inheritance of the relevant feature takes place only bottom-up, the structure shown as (48b) cannot be derived.

For the FOFC, too, I refrain from discussing the whole range of its theoretical technicalities as well as its empirical validity. I would instead like to make a general remark concerning the derivation of the FOFC which rules out the structure (48b): Crucial for that purpose are the two premises; (i) universal base order à la Kayne (1994), and (ii) the null-hypothesis that the inheritance of the feature, that triggers the complement-to-spec movement, takes place only bottom-up, but not top-down. These work together to exclude the structures in which the “high” parts are right-headed and the “low” parts left-headed (BHR, to appear: 36). One could now wonder whether both of these assumptions are well-motivated. It seems to me that a profound consideration on these matters is still needed.

What is remarkable in the analysis proposed by BHR is that they take recourse exclusively to formal syntactic apparatus. In their most recent paper (BHR, to appear), they take up each of the apparent counter-examples they encounter, and argue for each case that they are not real counter-examples and do not therefore falsify the FOFC. As already hinted at in the present paper, however, it appears very questionable whether typological implications are truly without exceptions (cf. Newmeyer 2005: 118). One may therefore as well wonder whether it is appropriate to account for the typological “tendencies”, which surely hold true for the majority of the languages, in terms of the formal grammatical theory of the sort advocated in the so-called Chomskyan tradition. This point will be taken up directly below.

4.3 Discussion

We have so far observed phenomena that show common properties across a wide range of languages and can thus be subsumed under typological generalizations. Let us now turn to the methodological question of whether they are to be derived from the theory of UG, which likewise focuses on universal properties of languages. Newmeyer (2005) is explicitly negative on this point:

[...] the [Chomskyan generative; J.I.] model should not be expected to explain why typological generalizations exist. [...] UG tells us what a *possible* human language is, but not what a *probable* human language is. (p.104; emphasis by Newmeyer)

If Newmeyer (2005) is correct, the strategy taken by BHR toward the cross-linguistic generalization, represented as FOFC (cf. sec.4.2), becomes questionable, so long as it remains a “frequency-based typological generalization” (Newmeyer 2005: 117). Newmeyer (2005) further writes:

If a particular feature is manifested in 90 per cent of languages in a properly construed sample, then that is a fact in need of explanation. [...]. But crucially, it does not follow that the explanation of such facts needs to reside within grammatical theory. That is, it might be wrong to derive the overwhelming preference for the feature that show up in 90 per cent of all languages from a principle, or set of interacting principles, within generative grammar. (p.104)

[...] it is not the job of generative theory to account for typological generalizations. [...]. Such generalizations belong to the domain of performance, rather than to the domain of formal grammar [...]. (p.126f)

There are actually researchers, like Hawkins (see the literature cited thus far), who pursue such a performance-based line of analysis for cross-linguistic generalizations holding true for *most* of the languages.

In this paper, I cannot conclusively argue for or against such a standpoint, but just mention one aspect of the relevant problem: In the currently prevalent syntactic model (cf. sec.1), the pairs of the constituents dealt with so far are to be represented as symmetric ones, i.e. as [A B] or [B A]. The syntactic structure then does not let us infer anything about the asymmetry that is actually present in the two variants. Once out of the syntactic component, however, there is one aspect in which they crucially differ, namely the order of processing (or production) of the two elements. This results from the obvious fact that the processing occurs in the same direction independently of the head-dependent ordering. This reasoning should invite us to act on the proposal that such phenomena as we are dealing with here are to be better pursued within the model that takes into account the processing of utterances from left to right.

In this connection, let me shortly mention Ackema & Neeleman (2002). They are concerned with certain asymmetries between leftward and rightward movement operations that have been analysed (almost exclusively, at least for the former) by way of formal syntactic apparatus. Based on empirical evidence, Ackema & Neeleman (2002) first reject the antisymmetric approach by Kayne (1994) and admit the “symmetric theory of phrase structure”. Within this framework, they argue, it is less promising to derive asymmetries observed between leftward and rightward movement out of the symmetric syntactic structure. They instead take notice of the undoubted difference between the two kinds of movement operations, i.e. whether the filler precedes the gap or vice versa, and accordingly posit an analysis that ultimately results from the parsing from left to right. Although I am not in the position of judging here whether the proposal by Ackema & Neeleman (2002) is on the right track, it is surely noteworthy that a new light can be shed on the problem that has, in spite of the relatively intensive discussion so far, long eschewed satisfactory analyses within the generative model.

I would like to close this section by commenting the remarks by other researchers on the methodo-

logical problem at issue here. Haspelmath (2008: 99) maintains that “[t]he functional explanations do not contradict the idea that there is a Universal Grammar [...].” This seems actually to be the case; there are surely phenomena that are better explained by way of “competence” and others by “performance” (cf. Chomsky 1965). In the words of Newmeyer cited above, one might as well say that the UG picks out “possible languages”, while “probable languages” are determined or predicted by way of “performance” factors. The strict separation of these two categories, as advocated by Newmeyer (2005), might apropos deserve due consideration, when he says that (p.118) “[g]rammatical generalizations and typological generalizations belong to two different domains.” If a certain non-trivial linguistic feature is manifested in 99% of all the languages of the world, is it not the task of the grammatical theory or UG any more to give an account for that observation, because it cannot “be represented by the either-or (or yes-no) switch settings implied by Chomsky” (p.117) and is “incompatible with the ‘algebraic’ nature of UG” (p.118)?¹⁴ Dryer (2007b), for example, takes the position against Newmeyer (2005: 247) and implies that there are “some ways in which usage or performance factors render certain hypothetical languages [not (only) improbable, but also] impossible.” See also Hawkins (2004) for a similar view on grammar. It is surely beyond the scope of this paper to fully discuss these matters.

5. Concluding remarks

In this paper, I have discussed some observations concerning word order from a typological perspective. The target of the present research included clausal objects of verbs, relative clauses, adpositional phrases, coordinated structures as well as affixing within words. In the combination of these semantically associated two constituents, realized either as H-X or X-H, there are some asymmetries that can be established as cross-linguistic tendencies:

- (53) a. H-X
b. X-H

The typological investigation has revealed, first, that the initial element, H in (53a), tends to act as independent words, while the final element, H in (53b), is generally of an affixal nature, suffixed to the final element of X. A theoretical implementation of this observation was the “junctural asymmetry” proposed by Tokizaki (2008a, etc.), as reviewed in section 4.1. Second, in spite of the almost equal number of the VO- and the OV-languages in the world, there were detected certain skews in other areas of constituent ordering: When X in (53) is a word or smaller and H an affix, the order (53b) predominates typologically, while (53a) constitutes the majority with X being sentential, like object or relative clauses. Some of these asymmetries

or typological generalizations were subsumed under the FOFC, which the researchers are striving to derive by way of formal-syntactic or generative apparatus (sec.4.2).

Through the research conducted in the present paper, more questions seem to have emerged than the findings it has brought about. Although we have come up with certain generalizations that apparently hold cross-linguistically, we are still in need of a principled explanation for the attained observations. As a starting point for that, I briefly sketched two theoretical proposals made in the current literature that each seem to provide an explanation for some aspects of the descriptive findings here. Their theoretical coherence as well as their empirical adequacy certainly still deserves scrutiny. It appears particularly interesting to investigate whether or eventually how the two analyses can be correlated with each other. Other than these, so-called performance-based or functionalistic approaches, most influentially advocated by Hawkins, are also well worth further pursuing. As a non-trivial methodological problem, we also have to ask ourselves whether or how the formal (or generative) and the functional (or typological) approaches can work together with a view to attaining a proper explanation for the relevant linguistic phenomena.

I have to leave all these matters for future research, as well as, inherently to the work of this kind, a more thorough and a wider range of investigation of empirical data for each of the phenomena taken up here. The relationship between the syntactic structure and the word order with a cross-linguistic or universal perspective is surely an interesting and exciting topic of linguistic research. I hope the present work serves as a first step toward this goal.

Notes

¹ Cf. Dryer (1992: 101f): “[...] it may be an exceptionless universal that final complementizers are found only in OV languages.”

² Unfortunately, some counter-examples can be detected:

[Basque] (C. Lehmann 1984: 59, Hawkins 1994: 389f)

i) Esa-ida-zu [zer ari z-era-n]

tell-Imp-Dat-Erg [what do Abs-Aux-Comp]

‘Tell me what you are (in the process of) doing.’

[Harar Oromo, in Ethiopia] (Dryer 2007a: 100)

ii) [akká-n d’ufé-n] beexa

[Comp-1Sg came-1Sg] know

‘I know that I came.’

Dryer (2007a: 100) considers the case like (ii) “atypical among OV&CompClause languages in that the complement clause occurs in normal object position before the verb”. See also Dryer (2009: 200).

- Apropos, there are also languages or, within a language, constructions in which the subordination marker does not show up; see, among others, Givón (1990: Ch.13.3.2) for relevant data and discussion.
- ³ Kayne (2005: 240): “[...] (with few exceptions) there can be no ‘final’ counterpart of *that*, and that in languages that have only final complementizers there is likely to be no counterpart of English *that* at all.” Davison (2007: 179): “[...] the initial and final markers are lexically distinct, both in content (semantic features) and also in category.”
- ⁴ Vennemann (1973) and W. Lehmann (1973: 55f) apparently take this position, reducing the original three-way distinction by Greenberg (1963) (VSO, SVO, SOV) to VO vs. OV. Hawkins (1990: 16, 114ff) is, however, of the opinion that prepositions and postpositions are “much better and more general type indicators”.
- ⁵ Cf. Greenberg’s (1963: 62) Universal 4: “With overwhelmingly greater than chance frequency, languages with normal SOV order are postpositional.”
- ⁶ This is Dryer’s (1992) formulation of the proposals to the similar effect that had been hitherto made by some other authors (e.g. W. Lehmann 1973, Vennemann 1973, Hawkins 1983, etc.). Dryer (1992, 2009) himself rejects the HDT and replaces it with the Branching Direction Theory (BDT), which dictates that “languages tend towards being either consistently left-branching or consistently right-branching.” The essential part of the argumentation in the text is not affected by the slight difference between these proposals.
- ⁷ There are also languages in which relative clauses need not have a marker in the both types of (21), as documented by C. Lehmann (1984: 70ff, 80ff). Andrews (1985: 38) mentions the genitive-marking of the embedded subject and the lack of the relativization markers in some cases of prenominal relative clauses (cf. e.g. Turkish) and attributes it to the avoidance of “center-embedding of S”. Cf. also Hawkins (1988: 340f).
- ⁸ The languages C. Lehmann (1984: 49ff) discusses in this respect are Dravidian languages, Turkish, Quechua (a native South-American language in the Andes), Mari (Uralic), and Mongolian, all of which are basically OV-languages. The so-called attributive participial constructions in languages like German, Russian, Finnish, etc. can also be subsumed under this group. Note that many authors regard this type, although non-finite, also as a relative clause; cf. Comrie (1981: 143): “we need a functional (semantic, cognitive) definition of relative clause, on the basis of which we can then proceed to compare relative clauses across languages, neglecting language-specific syntactic differences in our over-all definition of relative clause, but using them as the basis of our typology – for instance, the distinction between finite and non-finite relative clauses is one typological parameter.” C. Lehmann (1984: 47f) also includes here not only finite subordinate sentences but also “sentence-like constructions” (‘alle untergeordneten Sätze

und satzartigen Konstruktionen'). For Andrews (1985: 4f), "a relative clause is any clause with approximately the semantic structure and function of a relative clause [...] in English."

⁹ As examples of this type, C. Lehmann (1984: 59ff) investigates Basque, Lahu (in Southeast Asia), Abkhaz (a Northwest-Caucasian language), Tibetan, Burmese, etc. Classified in this group, but somewhat different are Chinese, in which the embedded verb is not in the final position, and Amharic (a Semitic language in Ethiopia), in which the relativizer is prefixed to the verb.

¹⁰ For the postposing preference of the subordinate clauses, Hawkins (1988: 340f, 346f) provides a processing-based account; "when complementizers are clause-final in an SOV language, a direct object complement will not be formally marked as such in any left-to-right parsing up until the complementizer is reached, and its daughter constituents can be parsed as belonging to the matrix [...]." This parsing difficulty should lead to the "extraposition" of the sentential constituent.

¹¹ But see Hall (1988: 325) and the literature cited there for the claim that the affix is not always the head of the word.

¹² The affixes Hawkins & Gilligan (1988) discuss are primarily inflectional rather than derivational, the reason being that "[i]nflectional categories are more constant across languages [...], whereas derivational categories are more language-particular and idiosyncratic" (p.236). At issue are nominal and verbal morphology; case, gender, plural, nominalization, (in)definiteness, possessive; mood, tense, aspect, valence, causative, person-marking, negation, voice.

¹³ In this paper I abstract away from the provisos that the authors assume in order to make the system work. To mention just one, there is the "Category Proviso":

i) α and β are non-distinct in categorial features.

Drawing on the notion of "extended projection" (cf. Grimshaw 1991, 2001), V and P, for example, are distinct in categorial features; neither one is the extended projection of the other. This proviso correctly rules in the structures such as $[_{VP} [_{PP} P NP] V]$ commonly found in languages like German.

¹⁴ The opposite is apparently not the case: Even if a certain feature holds true of *every* language, it need not necessarily fall under the realm of UG-based explanations.

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Die Morphosyntax der Wortstellungsvariationen

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Typologische Untersuchungen seit Greenberg (1963) haben ergeben, dass Sprachen auf Basis der (dominanten) Abfolge von bestimmten Konstituenten klassifiziert werden können (z.B. VO vs. OV). In der vorliegenden Arbeit wird aus sprachübergreifender Perspektive die Morphosyntax zweier Wortstellungsvarianten thematisiert, in denen die jeweiligen zwei Konstituenten in der gleichen semantischen Relation stehen (H = Kopf):

- (1) a. H-X b. X-H

Aufgegriffen werden in dieser Arbeit (i) Verb und Satzobjekt, (ii) Nomen und modifizierender Relativsatz, (iii) Adposition und Nomen, sowie (iv) monosyndetische Koordinationsstruktur. Unter dem heutzutage geläufigen Syntaxmodell, dem zufolge die lineare Konstituentenabfolge in der syntaktischen Struktur keine Rolle spielt, lässt sich erwarten, dass die Varianten in (1) in der Kombination der zwei Elemente dieselben morphosyntaktischen Eigenschaften aufweisen. Empirische Untersuchungen zeigen jedoch, dass zwischen ihnen für die Fälle (i) – (iv) sprachübergreifend ein tendenzieller Unterschied besteht: Während der Kopf in (1a) generell als unabhängiges Wort realisiert wird, tendiert er in (1b) dazu, auf dem vorangehenden Element affigiert zu sein.

Weitere Asymmetrien finden sich darin, welche der zwei möglichen Abfolgevarianten in (1) für welche Kombinationen von H und X typologisch vorherrschend ist. Empirischen Befunden zufolge gibt es zunächst ungefähr gleich viele VO- bzw. präpositionale Sprachen und OV- bzw. postpositionale Sprachen. Im Falle der Affigierung überwiegen jedoch deutlich Sprachen mit Suffixen, also Typ (1b), was offensichtlich mit der hier gemachten Beobachtung in Zusammenhang steht. Im Gegensatz dazu tendieren hingegen mehr Sprachen dazu, dem Muster in (1a) zu folgen, wenn X satzwertig ist, d.h. wenn ein Satzobjekt bzw. ein Relativsatz vorliegt.

Für jede dieser Asymmetrien werden in der Literatur Analysevorschlage gemacht, wie etwa der formal-syntaktische Ansatz (FOFC; cf. Biberauer, Holmberg & Roberts, to appear), ein das Zusammenwirken von Syntax und Phonologie vorantreibender Vorschlag (“junctural asymmetry”; cf. Tokizaki 2011), eine auf Satzverarbeitung gestutzte Analyse (cf. Hawkins 2004), etc. In der vorliegenden Arbeit werden einige dieser Ansatze diskutiert. Besprochen wird auch, ob die formal-theoretische (generative) und die funktionalistische (typologische) Vorgehensweise zusammenarbeiten konnten bzw. ob und ggf. wie die erstere fur die Klarung typologisch beobachteter Tendenzen einzusetzen ware.