

Slavic languages – "SVO" languages without SVO qualities?

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Abstract

Slavic languages are commonly filed under SVO languages, with an exceptional property, though, namely an atypically extensive word order variability. A systematic comparison of Slavic languages with uncontroversial SVO languages reveals, however, that exceptional properties are the rule. Slavic languages are 'exceptional' in so many syntactic respects that SVO appears to be a typological misnomer. This fact invites a fresh look. Upon closer scrutiny, it turns out that these languages are not exceptional at all, but regular members of a different type. They are representative of a yet unrecognised type of clause structure organisation. The dichotomy of 'head-final' and 'head-initial' does not exhaustively cover the system space of the make-up of phrases. In addition, there arguably exists a third option. This is the type of phrasal architecture in which the head of the phrase is directionally unconstrained. It may precede its dependents, as in VO, it may follow, as in OV, and it may be sandwiched by its arguments. From this viewpoint, the Slavic languages cease to be exceptional. They are regular representatives of the latter type, and, crucially, their syntactic collateral properties match the properties of this type.

1. Introduction

There is a remarkable consensus in the literature¹ that Slavic languages deserve their place in the SVO type of the Greenbergian word order typology, although this verdict is based first and foremost on a forced choice among the three options *VSO*, *SVO*, *SOV*, that is, Greenberg's (1963:41) types² I, II, III, respectively. SVO seems to be merely the least inappropriate label, given the apparent consensus that Slavic languages are exceptional when compared with other Indo-European SVO languages, such as North-Germanic, Romance, or English:

"Apart from the location of clitics there are virtually no syntactic constraints on the ordering of phrases in main declarative clauses. Thus in each of the Slavic languages all twenty-four possible combinations of a subject, direct object, indirect object and verb occur as grammatical declarative orders." Siewierska & Uhliřová (2010:109).

If Slavic languages are assigned to the least inappropriate class of the Greenbergian word order types, the predictive gain with respect to syntactic properties of Slavic languages is little but the loss of predictive accuracy for typology with respect to the SVO type is high. This should raise concerns. Dixon (2011:183) makes the following point: *"More of the world's languages are like Russian than are like English."* If taxonomic considerations coerce a grouping of Slavic languages together with English, North-Germanic or Romance, then Slavic languages have to be acknowledged as highly exceptional when comparing their syntactic profile with that of

¹ "It is generally acknowledged that Russian is an SVO language in neutral contexts" (Bailyn 2002: 280). For Dryer (2013), Slavic languages are SVO, with two exceptions, namely Sorbian, filed under SOV, and Belarusian, with "no dominant order". Given the uniformity of word order patterns across neighbouring languages, Mayo's (1993) assessment of Belarusian seems to be appropriate also for Polish, Russian, and Ukrainian. Sorbian is not strictly SOV, as (i) illustrates: (i) *hdyž pak přidže tutón twój syn* (Kaiser & Scholze 2008: 315)
if however comes this-one your son

² Greenberg (1963:66-67) lists Serbian in appendix I, and Slavonic in appendix II, and in each case as SVO.

uncontroversial SVO languages. This indicates that the type assignment misses essential generalizations.

The fact that the word order in (1a) and (1b) happens to be identical is not a sufficient justification for assigning English and Russian to the same clause *structure* type. The shared S-V-O linear order in a minimal sentence such as (1a) is a partial overlap only since English lacks all the other word order variants, e.g. (1c,d). It is a general property of Slavic languages that depending upon the information structure setting, any of the six permutations of the three major constituents yields an acceptable sentence, three of which are (1a,c,d). This is clearly not true for English and other [S[VO]]³ languages. And there are additional and systematic differences (see Table 1, below). It is worth emphasizing that these differences are not language specific but systematic differences between typical [S[VO]] languages and Slavic languages.

- (1) a. Bol'shaja sobak-a *gonjala* malen'k-uju košk-u. Russian
 big-Nom dog-Nom *chased* little-Acc cat-Acc
 b. A big dog chased a little cat
 c. Malen'k-uju košk-u *gonjala* bol'shaja sobak-a.
 d. Bol'shaja sobak-a malen'k-uju košk-u *gonjala*.

Already in the early days of Generative Grammar, Ross (1967:75) has coined the term "scrambling" for word order variation in Russian (1970: 251) in his account of gapping. In Generative Grammar, from then on, and without *independent* positive justifications, Slavic languages are regarded as SVO languages with the special property of excessive scrambling. If this were an accurate characterization, Slavic languages would justly be expected to share relevant syntactic properties of uncontroversial [S[VO]] languages except for those which scrambling accounts for. However, this is exactly not the case, as summarized in the following Table 1.

Table 1 – Synopsis of [S[VO]], SOV, and Slavic commonalities and differences

Syntactic properties	[S[VO]]	SOV	SLAVIC	sect.
i. S-V-O as an acceptable order	☑	no	☑	1
ii. obligatory preverbal subject	yes	no	no	2.1
iii. subject wh-in-situ restriction	yes	no	no	2.2
iv. adverbial wh-in-situ restriction	yes	no	no	2.3
v. left-adjoined adjuncts	adjacent	unconstr.	unconstr.	2.4
vi. fillers for left branch gaps	no	yes	yes	2.5
vii. rigid word order	yes	no	no	2.6
viii. rigid relative order of auxiliaries	yes	no	no	2.7

Slavic languages do not share characteristic grammatical properties of languages with an [S[VO]] *clausal architecture*. They share properties found in SOV languages to a large extent.

³ The bracketing is to signify that the relevant type property is the clausal architecture, rather than the serialization, with a head-final VP and a VP-external, obligatory structural subject position in the case of [S[VO]].

Hence, if Slavic languages are assigned to the [S[VO]] type, this covers 1/8th of the properties listed in Table 1, namely the least significant one (i), and only by begging the question.

The contrasts listed in Table 1 are contrasts between types of phrasal architectures. On the one hand, there is the *structurally highly constrained* type that consists of head-*initial* phrases only, namely the [S[VO]] setting. Since a VP is at the base of the clausal architecture, an SVO clausal architecture reflects properties of head-initial VPs plus the unique structural positioning of the subject in SVO.

On the other hand, and for principled reasons to be explicated in section 3, the SOV architecture is structurally less 'tightly knit', and so is the – yet to be characterized – type that Slavic languages are argued to belong to. What SOV and Slavic languages share is the *absence* of constraints that apply to a strictly *head-initial* phrasal architecture with a VP-external, obligatory subject position. In other words, they do not share the [S[VO]] clause architecture. It is the *absence* of particular constraints that is responsible for the parallels between SOV languages and Slavic languages in the preceding table.

Given the systematic absence of parallels between [S[VO]] and Slavic languages, it would be unreasonable to characterize them as an "exceptional" subset of [S[VO]]. This would be tantamount to the claim that Slavic languages are [S[VO]] languages without the defining properties of [S[VO]] languages.

In syntactic typology, "SVO" is understood ambiguously, at different levels of analytic depth. Greenberg's original notion is the phenomenological one. A language is assigned the label SVO if in a simple clause, subject-verb-object is an acceptable and common word order for a minimal declarative clause in the given language, consisting of a verb plus subject and object.

In this purely descriptive sense, which takes the order S-V-O as a type marker, Polish (2a), English (2b), and German (2c) would count as SVO languages,⁴ which is highly uninformative, of course. For German, this would not acknowledge the fact that the order (2c) is just one of alternative within the range of possibilities of a verb-second language, that is, with respect to the choice of the clause-initial phrase. In typology, the verb-second property is known at least since Mallinson & Blake (1981:129).⁵ For Polish (2a), the SVO attribution would obscure the fact that the word order variants of a simple declarative clause differ significantly from the English word order (2b). In fact, any one of the 4! (= 24) possibilities of sequencing the four words of (2a) is a grammatical Polish sentence and acceptable in an information-structurally adequate context.

- | | |
|--|--------|
| (2)a. Marek <i>dał</i> Ewie kwiaty. | Polish |
| Marek _{Nom} gave Eve _{Dat} flowers | |
| b. Mark <i>gave</i> Eve flowers. | |
| c. Markus <i>gab</i> Eva Blumen. | German |
| Markus gave Eve flowers | |

⁴ Appendix II, Greenberg (1963:67), files German, Dutch, and Slavic languages all as type II, that is, SVO. Gell-Mann and Ruhlen (2011) agree with this type assignment (see the appendix of their paper).

⁵ "The order used for a stylistically unmarked version of John saw Mary in German would be SVO, too, but to simply call German an SVO language would disguise the verb-second nature of its word order."

The classification used by Haspelmath & Dryer (2013) in WALS is essentially phenomenological, too. In chapter 81 (Order of subject, object and verb), Russian is characterized as follows: "*Russian is an example of a language with flexible word order in which SVO order can be considered dominant, so Russian is shown on the map as SVO.*" The only criterion for this assignment is the fact that SVO is "*the order that is more frequently used.*"⁶ Reliable typological criteria cannot be based on such a weak and equivocal criterion.

In the theoretically informed reading of SVO, i.e. [S[VO]], the label refers to languages with a particular clause structure, namely a clause structure based on a head-*initial* VP plus an *obligatory, structurally determined* VP-external subject position. This reading has a broad and a narrow construal. In the narrow one, SVO refers to the particular clause structure, based on the head-initial VP. In the broad reading, SVO stands for languages with uniformly head-*initial* phrases, in combination with the special structural position for subjects. English is SVO in the narrow as well as in the broad sense. In English, all phrases are head initial. Analogously, languages are SOV in the narrow sense if the clause structure is based on a head-final VP. In the broad sense, this label covers languages in which every phrase with a lexical head is head-final, as for instance in Japanese.

German or Dutch are SOV languages in the narrow sense only, that is, with a head-final VP, but with head-initial NPs and PPs. On top of this, these languages are 'V-second'. In a declarative main clause, the finite verb figures in a VP-external, clause-initial position, preceded by a single slot for an arbitrary constituent. This is the hallmark of the Germanic V2 property. Whenever a subject is put into the clause-initial position and the clause contains only a single verb plus an object, the resulting order happens to be S-V-O. However, the clause-initial position is not reserved for the subject.⁷ This has been understood and stated explicitly already in the 19th century, by Erdmann (1886: 183). In a declarative main clause of Germanic V2-languages, irrespective of being [S[VO]] or SOV, there are always two structural positions for a verb, namely the head-position in the VP, and a secondary, fronted position, for the *finite* verb.

Slavic languages in general, and Polish in particular, do not neatly fit into the defining schemes for VSO, SOV, or [S[VO]] languages, although each of these word orders is a grammatically admissible sequence for a Polish declarative clause, as illustrated by (3). Evidently, Polish could not be filed as an [S[VO]] language that is simultaneously a VSO and an SOV language. If someone insists that (3a) is an object scrambling variant of (3c), and (3b) a subject-postponing variant of (3c), this is just an ad-hoc reaction to counterevidence for the SVO conjecture, as long as this conjecture is *systematically* contradicted in other relevant aspects (see Table 1).

(3) a. Marek książkę czyta.	SOV?	Leszkowicz (2015:121)
Marek _{Nom} book _{Akk} reads		
b. Czyta Marek książkę	VSO?	
c. Marek czyta książkę.	SVO?	

⁶ Frequency counts are not given. In addition, this criterion must have been waived for Belarusian, which is filed under "*no dominant word order*" as the only Slavic language, But Russian, Belarusian, Ukrainian, and Polish, and in fact all Slavic languages share the word order variability, cf. Siewierska & Uhliřová (2010:109), above.

⁷ Here is the result of a Google search filtered for news pages (Dec. 16, 2019). The number of hits for (i), with an initial adverbial, is almost twice the number of hits with the subject "er" (he) in initial position:

i. "*Damit hat er*" ('with-it has he' ...): 42.300 ii. "*Er hat damit*" ('he has with-it' ...): 23.900

If it were legitimate to file Slavic languages as [S[VO]], they would be expected to share a substantive set of the defining properties of [S[VO]] languages, that is, the properties that follow directly from this particular clausal architecture. [S[VO]] languages just like other languages may vary in peripheral properties, but not in their typological core properties. Slavic languages, however, differ from uncontroversial [S[VO]] languages in syntactic core properties.

In the following section, the properties listed in Table 1 will be checked on Slavic languages and compared with uncontroversial [S[VO]] languages on the one hand and non-SVO languages on the other hand. The results of this check do not support the hypothesis that Slavic languages are typed best as – perhaps somewhat bizarre – [S[VO]] languages.

2. Defining characteristics of [S[VO]] languages in comparison with Slavic languages

The frame of reference for cross-checking the syntactic properties in Table 1 is a comparison of Slavic languages with Indo-European [S[VO]] languages such as English, North-Germanic and Romance. A comparison within a sample of diachronically related languages guarantees a close enough setting of potentially shared grammatical features. Comparison across language families would incur a higher risk of potentially interfering, irrelevant factors that might be responsible for at least some of the observed contrasts. In other words, if a subfamily of languages of the same phylum turns out to be systematically different, then the likelihood that this difference is the effect of independent, interfering factors is sufficiently small and the onus of proof is on the side of those who suspect that there might exist independently interfering factors that account for the differences.

2.1 A structural subject position is obligatory in [S[VO]] but not in Slavic

In the [S[VO]] clause structure, there is a VP-external, preverbal, obligatory position for the subject. This is a unique and defining property of [S[VO]] languages, with the effect that on the one hand, the distribution of subjects is positionally restricted and on the other hand, clauses may not end up truly subjectless. (4) illustrates a consequence of this property. In the absence of a subject candidate of the verb, the obligatory subject position of an [S[VO]] clause is obligatorily filled by a dummy item, that is, an expletive subject.⁸ Otherwise, a subjectless clause is ungrammatical in an [S[VO]] language. SOV or VSO⁹ languages are not subject to such a restriction.

- | | |
|---|----------------------------|
| (4) a. Ofte vart <i>det</i> telefonert.
often was EXPL telephoned | Norwegian (Åfarli 1992:85) |
| b. Sedan dansades <i>det</i> hela natten.
then dance _{PASS} EXPL whole night _{Def} | Swedish (Falk 1993:106) |
| c. Heute wird (*es) nicht gearbeitet.
today is (*EXPL) not worked | Ger. |

⁸ In Generative Grammar (Chomsky 1982:10) this property has wrongly been overgeneralized into a universal: EPP = Every clause has a subject. Chomsky's (1981:40) original formulation was the correct one: "*The subject of a clause is obligatory in English and similar languages.*"

⁹ McCloskey (1996) has stressed that the Celtic VSO languages do not admit subject expletives. As for SOV languages, there is no language known that requires an obligatory subject expletive in otherwise subjectless clauses. German is a clear case of an SOV language that does not tolerate an expletive subject (Haider 2010:11).

- d. Vandaag wordt niet gewerkt op het bouwterrein Du.¹⁰
today is not worked on the building-site

In [S[VO]] languages such as Norwegian and Swedish (4a,b), the subject expletive is mandatory. In German, which is SOV, a subject expletive is ungrammatical. There is no structural space for it. English is the only Germanic language in which intransitive verbs cannot be passivized, the reason being that there is no suitable subject expletive available for satisfying the mandatory subject position; see Haider (2019, sect. 5.1). The same is true for Romance null-subject languages.

In *pro-drop* [S[VO]] languages, and consequently in all Roman ones, too, the standard passive applied to intransitive verbs is ungrammatical. Spanish (5a) or Italian (5b,c) is representative. In French (5d,e), on the other hand, this is not so, since French is not *pro-drop* and employs a pronoun (the counterpart of which falls prey to the null-subject property in *pro-drop* languages) as expletive subject.

- | | | |
|-----|--|-----------------------------|
| (5) | a. * Fue trabajado duro aquí.
was worked hard here | Spanish |
| | b. * È stato dormito in questo letto
has been slept well in this bed | Italian |
| | c. * È stato tossito per il fumo
has been coughed because-of the smoke | |
| | d. Il a été dormi dans ce lit
EXPL has been slept in this bed | French
(Rivière 1981:42) |
| | e. Il a beaucoup été fumé dans cette salle
it has much been smoked in this room | (Gaatone 1998:124) |

The Romance facts are particularly instructive since they testify against the oxymoronic concept of "*null expletives*" (e.g. Safir 1985, Sternefeld 1985). According to this still widely adopted assumption, there is the same kind of subject position in an [S[VO]] and in an SOV clause structure, but in SOV, it is deemed to be 'filled' with an *empty expletive* [sic!], as for instance in (4c,d). This assumption cannot be upheld if tested seriously. If a null expletive were an option, (5a-c) would be the perfect null-expletive counterparts of the French expletive '*il*' in (5d,e). However, such constructions are ungrammatical in any Romance null-subject language.¹¹ Romance languages are [S[VO]], hence a specified subject is obligatory.

The Russian (6a-c) or the Bulgarian examples (6d,e) are counterparts of (5e) and (5b), with the essential difference that there is no expletive subject attested in Russian or Bulgarian. In any [S[VO]] language – *pro-drop* or not – the pattern represented by (6) would have to be ungrammatical, as (5a-c) and the Scandinavian languages (4a,b) show.

- | | | |
|-----|--|--------------------------------------|
| (6) | a. Bylo nakureno v komnate
was smoked in room | Russian
(Было накурено в комнате) |
|-----|--|--------------------------------------|

¹⁰ <https://www.blikopnieuws.nl/nieuws/271552/hekwerk-bouwterrein-aldi-aan-de-fellenoord-in-boxtel-omgewaaid.html>
(Dec. 14, 2019)

¹¹ In Veneto, the vernacular of the Italian province Veneto, intransitives can be passivized, but only in the presence of an obligatory expletive of the '*there*'-type. Gratefully acknowledged source for data confirmation: Cecilia Polletto (p.c.). i. Z'è stà parlà de ti Variant: Gh'è stà parlà de ti
there has been spoken about you there has been spoken about you

- b. Bylo napisano ob ètom v gazete
was written about this in newspaper (Было написано об этом в газете)
- c. bylo dobavleno saxaru v smes'
was added sugar_{Gen} into mixture (было добавлено сахару в смесь)
- d. V stajat e vlizano
in room is entered Bulgarian
Desclés & Guentchéva (1996:56)
- f. Po trevata est xodeno
on grass_{def} is walked_{IMPF-PPP}

Perlmutter & Moore (2002, sect. 3) explicitly adopt Sobin's (1985) "*Silent Expletive Hypothesis*" according to which "*impersonal clauses have a silent expletive (dummy) as subject.*" Hence, in (7b), the subject is deemed to be a "silent expletive", that is, an expletive null subject. Their account, however, is flawed, since they fail to justify their assumption by means of independent evidence. Had they tried to locate an *uncontroversial* [S[VO]] language in which such a construction is grammatical, they would have learnt that there are none. Either there is an overt subject expletive or the construction is ungrammatical.

- (7) a. Takie stat'i ne byli opublikovany za granicej. Russian
such articles_{NOM} NEG were_{PL} published_{PL} beyond border
'Such articles were not published abroad.'
- b. Za granicej ne bylo opublikovano takix statej.
beyond border NEG were_{NEUT} published_{NEUT} such articles_{GEN}
'There weren't any such articles published abroad.'

In an earlier paper, Moore & Perlmutter (2000) had tried to demonstrate that Russian admits 'quirky subjects', that is, dative noun-phrases in a subject position that function as subjects. Hitherto, this phenomenon had been attested only for Icelandic, which is an uncontroversial [S[VO]] language. If correct, this would be a noteworthy indication of an obligatory structural subject position in Russian. However, Sigurdsson (2002: 697), who evaluates their arguments for subjecthood in detail and in comparison with Icelandic dative-subject constructions, concludes that "*M&P's arguments in favor of their position are seriously flawed and in fact untenable.*"

2.2 Restrictions on interrogative subjects in SVO

Multiple wh-constructions are infrequent enough to be free of normative regulations. Hence, they provide direct insight into grammatical restrictions of [S[VO]] languages that are absent in OV languages. The two characteristic restrictions of [S[VO]] languages with respect to multiple-wh constructions are the restriction against wh-*subjects* in situ and the restriction against in-situ wh-adverbials of a higher semantic type (see Szabolcsi & Zwarts 1993), that is, '*why*' and '*how*'. English (8a,b) is representative also for SVO-Germanic¹² and Romance SVO languages for the restriction against wh-subjects in-situ.

¹² Here are two data points from Swedish (Google search; 'unrestr.' = without filter; N= news, B = books)

i. Vem har sagt vad? (Who has said what?).	Google: unrestr.: 3690;	N: 8;	B: 7.
ii. Vad har vem sagt? (What has who said?).	Google: unrestr.: 3	N: 0;	B: 0.
iii. Vem ska göra vad? (Who will do what?).	Google: unrestr.: 48.800	N: 83;	B: 40.
iv. Vad ska vem göra? (What will who do?).	Google: unrestr.: 13	N: 0;	B: 0

- (8) a. Who(m) has this/**what* shocked?
 b. It is unclear who(m) this/**what* has shocked.
 c. Where did he hide this/*what*? – What did he hide *where*?
 d. It is unclear where he hid this/*what* – It is unclear what he hid *where*.

In OV languages, there is no asymmetry of this kind. Both orders are grammatical and acceptable, as the German (9a,b) Dutch (9a,c) counterparts of the English examples show. Both, the unacceptable as well as the acceptable order of English are acceptable orders in an SOV clause. For a detailed cross-linguistic explication of this phenomenon, please consult Haider (2010, ch. 3.4).

- (9) a. Wen hat *was* schockiert?
 whom has what shocked
 b. Es ist unklar, wen *was* schockiert hat.
 it is unclear whom what shocked has
 c. [...] afspreken wanneer *wie* een casus voorbereid op de volgende bijeenkomsten¹³
 arrange when *who* a case prepares at the coming meetings
 d. Wie bepaalt hoe lang *wie* de gelegenheid krijgt zich waarvoor hoe te kwalificeren?¹⁴
 who determines how long who the chance gets REFL what-for how to qualify

The crucial issue is this. In [S[VO]], the subject is VP-external. It is assigned a unique structural position reserved for the subject.¹⁵ In OV, the subject remains in its original position within the directionality domain of the verbal head, viz. the VP. Hence the subject shares structural properties with the other VP-internal arguments, namely those staying in their base positions.

Slavic languages allow for multiple fronting of *wh*-words (see, among many others, Rudin 1988, Bošković 1997, 1998; Meyer 2003, 2004). The examples in (10) are taken from Czech, since it is a Slavic language in which multiple *wh*-phrases definitely cannot be assumed to form a *single* constituent that is fronted to the sentence initial position.¹⁶ Czech canonically fronts all interrogative phrases to the left¹⁷, but allows for material *intervening* between the initial *wh*-phrase and a second one (10c,d).¹⁸

- (10) a. Kdo co doporučil komisi? (Meyer 2004: 253)
 who_{NOM} what_{ACC} recommended committee_{DAT}
 ‘Who recommended what to the committee?’
 b. Co kdo doporučil komisi?
 what_{ACC} who_{NOM} recommended committee_{DAT}
 c. Kdo *ho* kde viděl je nejasné? (Toman 1981: 298)
 who him_{CLITIC} where saw is unclear

¹³ <http://devriesenrijke.nl/wp-content/uploads/Vervolg-2016-2017.pdf>

¹⁴ p. 231: Kees van der Wolf & P. Huizenga (Red.) 2011. Het Nederlandse Beroepsonderwijs: valt daar iets aan te doen? Antwerpen: Garant.

¹⁵ The head position is the position of the finite auxiliary or of the expletive auxiliary ‘do’.

i. [In English, [_{FP} a subject_i [_F does_{FP} [not [_{e_i} follow an object]]]]]

¹⁶ This is a common analysis for Bulgarian (cf. Rudin 1988, Bošković 1997, 1998).

¹⁷ Marginally, *wh*-phrases may appear in the postverbal position (*wh*-final) without having an echo-reading (cf. Meyer (2004) for a detailed discussion; esp. p. 217).

¹⁸ Sturgeon (2007) argues that the interrogative elements that follow the position of the second position clitic are adjoined to VP.

- d. Kde *ho* kdo viděl je nejasné? (Toman 1981: 298)
 where him_{CLITIC} who saw is unclear

As illustrated by (10b,d), there is no English-like restriction on an in-situ *wh*-subject in Czech. Just like in German, an interrogative phrase may precede an interrogative subject in a multi-interrogative question. With inanimate objects, there is not even a preferred order. With an animate object *wh*-phrase, *koho* ‘whom’, instead of *co* ‘what’ in (10a,b), there is a preference for the order subject > object, but the order object > subject is by no means ungrammatical (cf. Meyer 2003 and 2004 for details). Stepanov (1998) confirms an analogous picture for Russian (11) and Bošković (1997, 1998) for Bosnian/Croatian/Serbian (12).

- (11) a. Kto kogo ljubiti? Russian
 who whom loves
 b. Kogo kto ljubiti?
 c. Kto kogo ty xočeš', čtoby pobil?
 who whom you want that-subj. beat
 ‘Who do you want to beat whom?’
 d. Kogo kto ty xočeš', čtoby pobil?
 (12)a. Ko je koga vidio? Bosnian/Croatian/Serbian
 who is whom seen ('Who has seen whom?')
 b. Koga je ko vidio?
 whom is who seen

Each of these variants is grammatical but of course these variants are not equivalent in their information structure effects. The order in (13) presents 'kogo' (whom) as the sorting key for the <object, subject> pairs asked for. This presupposes a discourse setting in which *object-participant before subject-participant* is an adequate order in terms of the discourse structure.

- (13) Kogo_j kto_i ty xočeš', čtoby e_i pobil e_j? Russian
 whom who you want that -- beat --

This difference in information-structure fitting is reflected in comparative judgments with a slight preference for the pattern (11a, 12a) over (11b, 12b), respectively, when such sentences are judged in isolation, that is, out of a context that favours the other order.

Another source of preferences among otherwise equally grammatical variants is processing-based. Even if the grammar of a Slavic or an SOV language such as German does not block fronting of a *wh*-object across a *wh*-subject, the computation of the filler-gap structures faces different demands by different serializations, as illustrated by German (14a,b) in contrast with English (15a,b); see Haider 2010:126-128).

- (14) a. [?]Was_i hat sie *wen* gebeten [für sie e_i zu recherchieren]? German
 what has she *whom* asked [for her to investigate]
 b. Ich weiß nicht, *wen* *was* geärgert hat.
 I do not know whom *what* bothered has
 (15) a. *What did she ask *who* to investigate for her?
 b. *I do not know who *what* has bothered.

In (14a), the parser meets a second wh-item *before* the gap for the first item can be identified lower in the tree. This extra load for the buffer¹⁹ would not arise in the equally grammatical variant of (14a) in which '*wen*' is fronted and '*was*' remains in situ. In (14b), such an effect does not materialize since the gap comes right after the in-situ wh-subject. In an SVO language such as English, however, it is the grammar that is at stake. (15a,b) are not merely degraded for processing reasons, they are ungrammatical and fully unacceptable. An in-situ wh-subject is ungrammatical in multiple wh-constructions.

2.3 Restrictions on adverbial wh-items in the preverbal position

In English, in Romance, and in the Germanic [S[VO]] languages, '*why*' and '*how*' are the odd balls among adverbial interrogatives, as (16a) illustrates. In OV-languages, this contrast is unknown (16b,c).

- (16) a. Who has answered this question *when/where/*why/*how*?
 b. Wer hat diese Frage *wann/wo/weshalb/wie* beantwortet? German
 who has this question *when/where/why/how* answered
 c. Dare-ga *naze* soko-ni itta no? Japanese (Saito 1994:195)
 who_{-nom} *why* there-to went Q-PARTICLE

Semantically, '*why*' and '*how*' are higher-order quantifiers. '*Who*', '*what*', '*when*', '*where*' ask for individual *items* such as objects, points of time, points of location, '*why*' and '*how*', however, ask for *properties* of events. They do not quantify over individual-type variables but over sets. In other words, they quantify over properties of the denotation of the phrase headed by the verb. So they have to c-command it. The domain of higher order quantifiers must contain the base position of the (finite) verb. Consequently, the wh-adverbial has to precede the VP and its in-situ position should be the position of the corresponding adverbials. (17) illustrates the dilemma of SVO clauses. Although adverbials may precede the VP (17a,b), their wh-counterparts are ungrammatical in this position (17c,d). The structural reason that rules out the pre-VP position in VO is explicated in Haider (in press).

- (17) a. He has *very carefully/therefore* answered the question.
 b. He has *very often/therefore* asked the same question
 c. *Which question has he *how* (carefully)/why answered?
 d. *Which question has he *how* (often)/why asked?

Eventually, the only position left for this kind of wh-adverbials is the clause-initial one (18a). However, there is a competition for this position in case the subject is a wh-phrase as well. This leads into a no-win impasse (18b). For (18b), there is no acceptable alternative. If '*who*' is placed first, there is no licit position left for '*how often*', and if '*how often*' is fronted, '*who*' is ill-placed.

- (18) a. *How often* has he asked which question?
 b. *How often has *who* asked this question?

For English, this set of facts is without any exception. In an aggregated 5.8-billion-word corpus, that is BNC, CoCA, and NOW, taken together, there is not a single sequence attested for "*has*

¹⁹ If the two involved wh-items are formally identical, this leads to a processing break-down, as expected.

i. **Wen_i* hast du *wen* gebeten, [*e_i* zur Party einzuladen]?
 whom_{Acc} did you *whom_{Acc}* ask [to the party to invite]

how often", *"has how carefully"*, or *"has why"*, followed by a verb. English is representative of the Germanic SVO languages²⁰ in this respect. Romance languages confirm the picture. If Slavic languages were SVO languages, they should pattern like the other SVO languages in this respect, but they don't. Russian is an apt test case since Russian does not obligatorily front multiple *wh*-items.

- (19) a. Mne interesno, kakoj fil'm Boris *kak často* smotrel Russian
 me interests which film Boris *how often* saw
 b. *Mne interesno, kakoj fil'm Boris smotrel *kak často*
 me interests which film Boris saw *how often*
 c. Mne interesno, kakuju poezdku Maša *kak dolgo* planirovala
 me interests which journey Mary *how long* planned
 d. *Mne interesno, kakuju poezdku Maša planirovala *kak dolgo*
 me interests which journey Mary planned *how long*

In Russian as well as in other Slavic languages, '*how*' may precede or *follow* an interrogative subject, and, as Russian illustrates, the second interrogative does not need not to be in the clause initial position, but it must *precede* the finite verb. This, however is exactly the position where an in-situ interrogative item may not be placed in an uncontroversial [S[VO]] language.

2.4 Left-adjoined adjuncts

Let us remain in this area of grammar but switch the focus to another syntactic property of adjuncts. *Left* adjuncts of *left-headed* phrases, that is, of head-initial phrases, are constrained in yet another way (see Haider, in press). The head of the left-adjoined adjunct of a head-*initial* phrase must be adjacent to the phrase it is adjoined to. Crucially, this constraint does not hold for left adjuncts of right-headed, that is, head final, phrases.

This constraint is operative in Germanic as well as Romance languages and arguably it is a cross-linguistically operative constraint. For brevity's sake, let us call it LLC, that is, the *left-left-constraint*. In both sub-families – Germanic and Romance – noun phrases are head-initial, and in Romance and the North-Germanic group plus English, the VP is head-initial, too. Hence, in both groups, the LLC applies to adjuncts of noun phrases, and in the Romance, English, and North-Germanic, the LLC constrains adjuncts of VPs as well.

- (20) a. He has [[much more profoundly (*than others)] [studied this phenomenon]].
 b. This is a [[much more powerful (*than a missile)] [weapon]]
 c. Lausanne a [[plus souvent (*que Berne)] perdu]. French
 Lausanne has more often (than Bern) lost
 d. une [[fière (*de soi)]_{AP} femme]
 a proud (of herself) woman

²⁰ Fanselow (2004:85) reports that three of his five informants rated (i) as acceptable. (ii) went unchecked. Internet searches of Swedish do not produce a single sentence with a fronted *wh*-item followed by *varför* (ii) or *hur ofta* (how often). This in contrast with facts from OV-Germanic. Google searches for German produce these results: "*wer wie oft*" (who how often): 2120 (Books), 939 (News). "*wer warum*" (who why): 6820 (B), 2150 (N).

i. *Det spelar ingen roll vem som skrattade *varför*.

it plays no role who that laughed *why*

ii. *Det spelar ingen roll vem som *varför* skrattade.

In German and Dutch, only NPs are head-initial, while VPs and APs are head final. So, the LLC applies only to adjuncts of NPs but not to adjuncts of VPs or APs.

- (21) a. Sie hat das Problem *genau so schnell wie ihr Konkurrent* gelöst German
 he has the problem *exactly as fast as her competitor* solved
 b. eine ebenso geniale (*wie Newtons) Lösung
 an as ingenious (as Newton's) solution
 c. De ziekte heeft zich [veel sneller dan werd verwacht] verspreid. Dutch
 the disease has itself [much faster than was expected] spread
 h. een veel sneller (*dan een paard) dier
 a much faster (than a horse) animal

The prediction for Slavic languages is obvious. If they are SVO languages, they have to pattern with SVO languages and consequently their *preverbal* adverbial phrases must be constrained by the LLC. This is not the case, however. The following illustrations taken from an East, West, and a South Slavic language are representative of Slavic languages in general.

- (22) a. V prošlom godu [gorazdo bol'she čem Igor] vyigrala tol'ko Maša Russian
 in previous year [much more *than Igor*] won only Mary
 ‘Last year, only Mary has much more won than Igor.’
 b. [?]W zeszłym roku [dużo więcej niż Jarek] pracowała tylko Roza Polish
 in last year much more *than Jarek* worked only Roza
 c. Prošle godine je [mnogo više od Želimira] radila samo Branka B/C/S
 last year has much more *than Želimir* worked only Branka

If the position of the verb in (22) was the position of the head of a head-initial VP, then the LLC would apply, but it does not. Preverbal adverbial phrases in Slavic behave just like preverbal adverbial phrases in OV languages. If they get lengthy, they tend to be postponed, but not because they would be ungrammatical otherwise.

In Slavic languages, not only VPs but also NPs evade the LLC, as the following examples from Bulgarian, Russian and Polish demonstrate (23a-c). What this implies is that an NP does not count as a strictly head-initial phrase in these languages either. But, this is apparently not a cross-Slavic property. Languages of the B/C/S-group seem to be subject to the LLC, as (23d) testifies.

- (23) a. [verni-jat (na žena si)] mąż Bulg.
 faithful_{Def} to wife his_{REFL} husband
 b. [vernyj (svoej žene)] muž Russian
 faithful his wife_{DAT} husband
 c. [wierny (swojej żonie)] mąż Polish
 faithful his wife_{DAT} husband
 d. [v(j)eran (*svojoj ženi)] muž B/C/S
 faithful (his wife_{DAT}) husband

2.5 Fillers of gaps in left branches (LBE – left-branch extractions)

The following examples (24) illustrate a well-known property of Slavic languages.²¹ Adnominal attributes may be fronted and thereby get separated from their NP. This is common for questions (24a), and also for the corresponding answers (24b).

- (24) a. Kakuju_i Alexandra kupila [--_i knigu]? Russian
 which Alexandra bought [-- book] ('Which book did A. buy?')
 b. Xorošuju_i Alexandra kupila [--_i knigu]
 good bought Alexandra [-- book] ('It was a good book that A. bought'.)

This kind of fronting results in a filler-gap constellation, according to accepted analyses of the construction for Russian (Baylin 2012: 62-64) and other Slavic languages (Bošković 2005, 2014, 2017) and therefore, this construction is a perfect testing ground for the SVO thesis. It is a cross-linguistically robust property of SVO languages that preverbal phrases are grammatically illicit domains for gaps of fronted fillers. As (25) illustrates, a filler may relate to a gap in a postverbal phrase but *not* to gaps in a *preverbal* phrase.

- (25) a. What_i has she preferred [dealing with --_i]?
 b. *What has [dealing with --_i] been real fun for her?
 c. Which book did he plagiarize [a chapter of --_i]?
 d. *Which book was [a chapter of --_i] plagiarized?
 e. Which surface_i would large impacts cause cracks [on --_i]?
 f. *Which surface would [on --_i], large impacts cause cracks?²²

Given this cross-linguistically valid constraint, the prediction for SVO languages is evident. Whenever a phrase ends up in a position preceding the main verb in its VP-internal position, the phrase in its derived position is opaque for filler-gap relations terminating within this phrase. Let us call it the 'gap-phrase'.

Here comes the crucial prediction. If Slavic languages are SVO languages, they are expected to show the typical pre- vs- postverbal asymmetry for extractions. Left-branch extractions are predicted to be acceptable only for gap-phrases in *postverbal* positions but excluded when a gap-phrase is in a *preverbal* position. The prediction turns out to be wrong, and so the hypothesis must be wrong, too.

- (26) a. Kakuju_i Ivan [--_i mašinu] kupil svoej žene? Russian
 which_i Ivan [--_i car] bought his wife
 b. Japonskiju_i Ivan [--_i mašinu] kupil svoej žene.
 Japanese_i Ivan [--_i car] bought his wife
 c. Koj_i Petar [--_i knjigu] daje svojoj ženi? B/C/S
 which_i Petar [--_i book] gives his wife
 c. Jaki_i Jarek [--_i samochód] kupił swojej żonie. Polish
 which_i Jarek [--_i car] bought his wife

²¹ Only Bulgarian and Macedonian do not share this property. Bošković (2005, 2014) correlates this with another exceptional fact of their noun phrase syntax, namely the so-called article system of these two languages. Bulgarian and Macedonian are languages with definiteness markers suffixed to the noun.

²² Note that PPs may be fronted in English, as the following example from the BNC illustrates:

i. that *on such a small surface*, large impacts would shatter the surrounding terrain, causing cracks.

In each example in (26), the gap-phrase is preverbal. Nevertheless, each construction is acceptable, given an appropriate context for the information structure effect of the particular word order with a preverbal object. The respective grammars of these languages do not rule out such a construction.

An SOV counterpart of gaps in left-branches are gaps in clauses adjoined to head-final phrases, that is, to VPs. West-Germanic NPs are head-initial, so their syntactic properties are identical with the syntactic properties of NPs in SVO languages. The examples in (27) are taken from German. First, left-branch extractions comparable to (26) are – as predicted – licit for quantified *wh*-items (27a,b). Second, German scrambles, and it scrambles clauses as well as noun phrases and prepositional phrases. In (27c), the infinitival object clause is scrambled across the subject. In an SVO setting, a filler-gap relation into such a scrambled clause would be ruled out, under any analysis of scrambling. If scrambling *adjoins* the scrambled phrase to a head-initial VP, the gap is in a left branch and therefore it should be ungrammatical. If, on the other hand, the scrambled phrase is deemed to end up in a pre-VP functional *specifier* position, the gap would be in an inaccessible position, too. In each case, the predicted result would be 'ungrammatical'. However, in SOV, filler-gap relations terminating in a scrambled clause are grammatical and acceptable (Haider 2010: 155-157).

- (27) a. [Wen aller/alles] hat er angerufen? German
 [whom_{Acc} all_{Gen}/all_{Acc.neuter}]_{Acc} has he phoned-up?
 'Who of all has he phoned up?'
 b. Wen_i hat er --_i *aller/alles* angerufen?
 what has he *all* phoned-up
 c. Was_i hat denn [--_i damit zu beweisen]_{CP} gerade jemand versucht?
 what has PARTICLE with-it to prove right-now someone_{Nom} attempted
 'What has someone attempted to prove with this right now?'

What (27) re-confirms is the fact that gaps contained in *left* branches of head-*final* phrases are accessible. The left-branch constraint is a constraint on *left* branches of head-*initial* constituents.

2.6 Rigid word order in head-initial phrases

If Slavic languages are SVO languages, their VPs are head-initial. A characteristic collateral property of head-initial phrases is the rigid word order of head-initial phrases. It is a popular legend that free word order directly correlates with overt morphological markers for case. It is easy to falsify the legend. On the one hand, there are languages with free word order in the absence of morphological marking, and on the other hand, there are languages with morphologically distinct case marking that do not permit word order variation at all. Bulgarian (28) is an example for the former, and Icelandic (30) for the latter constellation. The variability of word order in Bulgarian is as free as in any other Slavic language. The subject and the objects may be serialized freely, with the familiar, concomitant effects on information structuring. (28a,b) are just two variants (see Avgustinova 1997:132) out of the set of variants.

- (28) a. Ivan izprati kuklata na decata Bulgarian
 Ivan sent doll_{Def.} to children_{Def.}
 b. Kuklata Ivan na decata izprati (with focus on 'na decata')

In English, an unambiguous morphological identification does not warrant word order variation, as (29) illustrates. (29b) would be a fully licit serialization variant in Bulgarian, however.

- (29) a. Bill gave dolls to children
b. *Bill gave to children dolls

In Icelandic, the word order is rigid in spite of rich case marking by distinctive paradigms. In (30), dative and accusative are distinctively marked on the nouns. This notwithstanding, Dehé (2004: 94) reports that "*the inverted order was rejected*", that is, the order (30b), was rejected by all her informants, without exception.

- (30) a. Þau sýndu foreldrunum krakkana. Icelandic
They showed parents-DEF-DAT kids-DEF-ACC
b. *Þau sýndu krakkana foreldrunum
They showed kids-DEF-ACC parents-DEF-DAT

Dutch (and the other OV-Germanic languages) contribute another facet to this picture. In Dutch, as well as German (Haider 2013:207-210), Frisian or Afrikaans, prepositional objects may be 'scrambled' within a head-*final* phrase such as the VP (Geerts et al.1984: 989f.), but the very same phrases crucially may not get scrambled in a head-*initial* phrase, such as an NP. This can be demonstrated in a minimal-pair context. VPs are head final, NPs are head initial, and a verb can be converted into a noun, as a nominalized infinitive. This yields the closest possible context for comparisons. The facts show that 'scrambling' is not a holistic property of a given language. It is a property of phrase structure. Head-final phrases enable scrambling, head-initial phrases impede it; for details see Haider (2015).

- (31) a. Toen hebben [de autoriteiten *het kind* aan de moeder teruggegeven]_{VP}
then have the authorities the child to the mother back-given
c. Toen hebben de autoriteiten aan de moeder_i *het kind* --_i teruggegeven
d. het [teruggeven van het kind aan de moeder]_{NP}
the back-give of the child to the mother
b. *het teruggeven aan de moeder_i van het kind --_i

If Slavic languages were filed as genuine SVO languages, their word order variability would appear to be truly exceptional in more than one respect. First, they allow for VP-internal word order variation in a head-initial VP, and second, they allow for word order variation across the boundary of a VP and in particular to positions preceding the allegedly head-initial verbal head of the VP. In other words, they would have to be acknowledged as SVO languages that freely scramble within the VP and out of the VP. This serialization freedom for objects is absent and ungrammatical in uncontroversial SVO languages such as English, North-Germanic, and Romance VO languages.

2.7. Rigid word order of auxiliaries

The final property to be called up in this paper is once more an invariable property of SVO languages. If a simple clause contains more than one verb, the verbs are serialized in an invariant relative order. In other words, auxiliaries and quasi-auxiliaries, such as modals or causative verbs, are invariably serialized in such a sequence that the morpho-syntactically dependent verb follows the verb it depends on. In English, modals select a bare infinitive, the tense auxiliary

'have' selects a participle, and the auxiliary 'be' selects the "-ing"-form when coding the durative aspect, or a participle when coding the passive. In each case, the selected form invariably follows the selecting verb.

(32) a. She *would*→*have*→*been*→ willing→ [to go further] (from BNC)

b. It [certainly *may*→ [possibly *have*→ [indeed *been*→ [badly *formulated*]]]]

(Quirk et al. 1985: §8.20, 495)

Evidence from OV languages shows that invariable ordering is a type-dependent property. In almost all²³ Germanic OV languages, there is order variation among the verbs in a simple clause, and this is of course independent of the fronting of the finite verb due to the V2-property of Germanic languages. (33) illustrates this property for Dutch and (34) for German. These sequences are all clause-final sequences of verbs. The numbers are the Google search hits with the filter 'News', followed by those with the filter 'Books', followed by the number of unfiltered hits. All variants are synonymous.

(33) a. (dat iets) gebeurd *zou* kunnen zijn (111; 827; 24.000)

(that something) happened_{Participle} *would* can_{INF} be_{INF}

'that something would be possible to have happened'

b. *zou* kunnen gebeurd zijn (32; 128; 3.000)

c. *zou* kunnen zijn gebeurd (4; 4; 28.000)

The highly frequent order in Dutch (33c) is ungrammatical in German, and the same is true vice versa, that is, the order (34a) is ungrammatical in Dutch.

(34) a. (dass es so) *hätte* gewesen sein können (94; 2420; 16.100)

(that is so) had_{Past-SUBJ} been be_{Inf}. can_{Inf}.

'that it had possibly could have been so'

b. gewesen *hätte* sein können (4; 597; 6530)

c. gewesen sein *hätte* können (4; 178; 2600)

This kind of verb order variation is absent in those SOV languages in which verbs are confined to their base position. In these languages – for example Japanese or Frisian – the relative order is the mirror image of the relative order in VO languages. The dependent verbs precede the verbs they depend on. The crucial difference between the OV and the VO situation is this: For VO not a single language is attested that would allow for verb order variation in the sense that in a simple clause, a dependent verb may follow *or* precede the verb it depends on. If there is word order variation in the relative order of the verbs of a simple clause, the language cannot be an SVO language.

The Slavic languages do not offer as ample testing opportunities as the Germanic languages provide. This is due to the fact that, first, a lot of Slavic languages either have a very restricted set of auxiliaries (e.g. Russian) or the auxiliaries in most cases appear in a clitic version (e.g. B/C/S, Czech) or as what has been labelled "mobile inflection" in Polish by Embick (1995).

²³ Only Frisian does not permit order variation among the verbs. In other non-standardized varieties of German, for instance in Swiss-German regional varieties, the variation is even more extensive (see Wurmbrand 2004) in the sense, that the auxiliaries may precede objects. This is rare in standard German, but it is attested:

i. dass er für ihn nicht *hatte* die Firma am Leben *halten wollen* (Thomas Mann, Buddenbrooks).

that he for him not *had* the company at life keep_{Inf} want_{Inf}

Second, a lot of Slavic languages lack modal verbs altogether. However, in those cases in which one can observe modal verbs or non-clitic auxiliaries, Slavic languages rather pattern with OV languages than with VO languages in terms of observable verb order variations.

- (35) a. We wtorek *poukladać musisz* w szafie. Polish
 on Tuesday *tidy-up must*_{2nd.sg.} in wardrobe
 b. We wtorek *musisz poukladać* w szafie.
 c. Sutra *pospremiti moramo* samo našu sobu. B/C/S
 tomorrow *tidy-up must*_{1st.pl.} only our room
 d. Sutra *moramo pospremiti* samo našu sobu.
 e. Zavtra *ubirat' budem* v Izmajlovskom parke. Russian
 tomorrow *tidy-up shall*_{1st.pl.} in Izmajlovo Park
 f. Zavtra *budem ubirat'* v Izmajlovskom parke.

In Polish and B/C/S, the sequence of verbs must not be interrupted by inserting an adverbial. This may be an indication that the verbs form a cluster as it is known from OV languages, and the cluster may precede or follow arguments and pattern like a single verb.

3. There is more than head-initial and head-final

The above survey of syntactic characteristics of Slavic languages has produced two general results. First, the Slavic language-family is *uniform* across a sundry set of properties. Second, this set of properties does not match the syntactic profile of typical SVO languages.

In this situation, the obvious question to ask is the following. Is this a problem of Slavic languages or is it a problem of a taxonomy that files Slavic languages as SVO languages? It is a problem for a taxonomy that does not provide adequate space for languages such as the Slavic languages, and there are a lot more languages that closely resemble Slavic languages cross-linguistically. Dryer (2013) lists 181 languages of his sample as languages "*lacking a dominant word order*" and this list needs to be extended by those languages that are misclassified as SVO, such as the Slavic language.

3.1 Taxonomic space for Slavic languages

The taxonomy of clause structuring is part of the taxonomy of cross-linguistically attested phrase structuring. A hitherto unquestioned assumption in phrase structure taxonomy is the *peripherality axiom*. Kornái & Pullum (1990:34) refer to Stowell's (1981:70) wrap up of X-bar theory, in terms of a list of "*plausible and potentially very powerful restrictions on possible phrase structure configurations at D-structure*". One of these restrictions is the head-peripherality axiom.

The head of a phrase is assumed to appear "*adjacent to one of the boundaries of X'*." Consequently, phrases would be either head final (36a) or head initial (36b). (36c) is a more complex structure with a head-initial VP and a VP-external subject position. (36) is but a sketch of the clause structure with or without a clause-initial complementizer. The arrow indicates the parametric *directionality property* of the head that structurally licenses its dependents and thereby determines whether the complements are to follow or to precede.

Presently, the theory of phrase structures acknowledges only phrases with a *peripheral* head position.²⁴ For VPs, the peripherality constraints admits only (36a-c). For the head-initial option, (36c) is the special case, in addition to VSO, with the verbal head preceding *all* of its arguments.

- (36) a. (C) [_{VP} S \leftarrow [O \leftarrow V]] \leftarrow : unidirectional final = SOV, VP-internal subject
 b. (C) [_{VP} V \rightarrow S O]] \rightarrow : unidirectional initial = VO, VP-internal subject
 c. (C) [S [_{VP} V \rightarrow O]] \rightarrow : unidirectional initial = VO & VP-external subject

The evidence from Slavic and similar languages points to the conclusion that (36a) and (36b,c) do not exhaustively cover the system space of phrase structuring in natural languages. The peripherality generalization is arguably based on too narrow a sample of languages. Let us therefore assume that the peripherality constraint is not universal but characteristic of languages with a *specified* directionality of the head of the phrase (see Haider 2015).

Peripherality of the head of a phrase characterizes merely the subset of admissible structures with a *unidirectionally* licensing head. In other words, the licensing domain of the head is directionally constrained in these languages. In a parameter perspective, the directionality property for heads is parametrical. It permits the initial and the final setting. But there is a third option, namely an *unspecified* value, that is, a directionally *unspecified* option, in addition to the two *specified* options. This amounts to a '*third type*', in addition to the two types resulting from the parametrically *specified* directionality. In this third type (i.e. head-initial, head-final, and third, VHP) – "T3" – a head may admit complements in either direction (37).

- (37) (C) [_{VP} ... \leftarrow [V \rightarrow ...]] \leftrightarrow : ambidirectional ("T3"), e.g. Slavic

T3 admits the VO-like order (38a), the OV-like order (38b), and, in addition, a pattern that is excluded in both OV and VO, in which the verbal head is sandwiched by its objects (38c), and eventually even the VSO order (38d). In each case, the relative order of subjects and objects remains unaffected, but scrambling may apply. In comparison with SVO and SOV, it is the position of the verbal head that varies. In (38), the arguments of the verb are each in an admissible base position since an argument may join the head on either side in the T3 setting. Only from the perspective of an SVO language would (38b-d) appear to be of a derived status, with a 'scrambled' dative in (38b), two 'scrambled' objects in (38c), and a fronted verb in (38d).

- (38) a. (że) Marek \leftarrow *dał* \rightarrow Ewie kwiaty. SVO-like Polish
 (that) Marek_{Nom} gave Eve_{Dat} flowers_{Acc}
 b. (że) Marek Ewie \leftarrow *dał* \rightarrow kwiaty. -----
 c. (że) Marek Ewie kwiaty \leftarrow *dał*. SOV-like
 d. (że) *dał* \rightarrow Marek Ewie kwiaty. VSO-like

There are many languages that resemble the Slavic languages in their word order characteristics and they are likely to outnumber the genuine SVO languages since, as in the case of Slavic languages, these languages tend to be misidentified as SVO languages in a kind of taxonomic

²⁴ In language typology, '*flexible order*' has been recognised as well: "There are many other languages in which all six orders [of S, O, and V]_{HH} are grammatical. Such languages can be said to have flexible order. Flexible order languages are sometimes described as having "free" word order, though this is misleading, since there are often pragmatic factors governing the choice of word order." (Dryer 2013).

last resort strategy. After all, a pattern such as (38a) is a frequent pattern in these languages since it is an adequate pattern for utterances with an unmarked information structure. A subject followed by the verb is a good candidate for a topic or something given, and the rest can easily be interpreted as 'comment' or 'new information'. So, informants are likely to prefer this pattern if judging an isolated sentence and text counts will yield a higher frequency.

It is crucial, however, that a word order with '*neutral information structure*' be not equivocated with '*base order*'. Phrase structure properties are grammatically determined. They are not servants of information structuring (see Fanselow & Lenertová 2011). The relation between syntax and information structure is asymmetric. Whenever syntactic structuring allows for word order variation, this variation space will be occupied by information structuring. On the other hand, if a syntactic structure imposes strict word order, information structuring is not able to unfasten the grammatical ties. Head-final structures ('SOV') as well as structures with variable head-positioning ('T3') provide much more headroom for information structuring than an SVO architecture (cf. Junghanns & Zybatow (1997), Kučerová (2007)).

As for scrambling proper, that is, variation in the relative order of arguments, the Slavic languages admit the same scrambling potential as head-final phrases, and in particular as head-final VPs (in addition to their T3 verb position alternations with the arguments in their base order). In general, local scrambling presupposes that the scrambled position is a position *within* the directionality domain of the head. This condition is met by languages with head-final as well as for languages with T3 phrases, but not for languages with head-initial phrases.²⁵

In the following subsection, it will be briefly pointed out how T3 structures neatly fit into the already existing theoretical setting that accounts for head-final and head-initial structures and their specific properties. It will become clear why type-3 and SOV share the properties they have been shown to share in the preceding section.

3.2 Grammar-theoretical space for Slavic languages

The peripherality axiom in combination with the binary-branching principle implies an empirically already disproved consequence of the X-bar model of phrase structures. If the initial and the final position of the head of a phrase were foot positions, that is, the lowest structural position, the respective phrase structures would have to be either left- or right-*branching*:

- (39) a. [Obj₁ [Obj₂ [YP V°]]]_{VP} head-final structure
 b. [[[V° YP] Obj₂] Obj₁]_{VP} (predicted but inexistent) head-initial structure

Head-final phrases have a right-branching structure (39a), that is, the branching node is the right node on the projection line. Head-initial structures, on the other hand, would have a *left-branching* structure (39b) in the X-bar model. As an immediate consequence, all terminals in these structures would have to come in the mirror image order of (39a), cross-linguistically. If a verbal head takes YP as its innermost complement, then Obj₂, and finally Obj₁, the resulting

²⁵ In German, VP is head *final* and therefore a scrambling domain. NPs are head *initial* and therefore scrambling is not admitted, even for the very same constituents. (Haider 2010, 2015):

- i. Geld auf ein anderes Konto übertragen – auf ein anderes Konto Geld übertragen
 money to an other account transfer – to an other account money transfer
- ii. das Übertragen von Geld auf ein anderes Konto – *das Übertragen auf ein anderes Konto von Geld
 the transfer of money to an other account – the transfer to an other account of money

serialization is $\text{Obj}_1 \leftarrow \text{Obj}_2 \leftarrow \text{YP} \leftarrow \text{V}$ for head-final VPs. For head-initial VPs, it should be the mirror image order, namely $\text{V} \rightarrow \text{YP} \rightarrow \text{Obj}_2 \rightarrow \text{Obj}_1$. This is not true, however. The serialization (39a) is invariant across OV and VO, as a comparison between OV- and VO-Germanic demonstrates (40).

- (40) a. jemandem_{Obj1} etwas_{Obj2} in seine Tasche_{YP} stecken
 somebody_{Dat} something_{Acc} into his bag put
 b. put somebody_{Obj1} something_{Obj2} into his bag_{YP}

In fact, the structure (39b) is empirically inadequate in many respects. The syntactic predictions entailed by such a left-branching structure turn out to be wrong, as Barss & Lasnik (1986) showed for English. In reaction to their findings, Larson (1988) suggested to *derivationally* convert the structure (39b) into a right-branching "VP-shell" structure as an empirically more adequate structure. However, this is a curative approach. Why should an English VP start out with a structure that has to be repaired derivationally? Why could it not start with a grammatical structure right away? It can, but this structure is more complex for head-initial phrases than for head-final ones. What follows is merely a sketch. For details please consult Haider (2010), (2013), (2015).

Arguably, in no language would complex phrases be left-branching, that is, structured like (39b). The internal build-up of phrases is universally right-branching (Haider 1992/2000). They may be right-headed or left-headed, but their structure is nevertheless universally right-branching. It is the clash between the universal directionality of branching and the specific directionality of the head that is responsible for the VO-specific syntactic restrictions.

In the head-final setting, the directionality under which the head of the phrase accepts its complements is congruent with the universal directionality of the phrase structure, as indicated by the arrow-signs in (41). On each constituent level, the respective complement is a sister node of a node on the projection line on the canonical side, which is determined by the head of the phrase. It is a sister of the head or of one of its projections.

- (41) [jemandem \leftarrow [_{V'} etwas \leftarrow [_{V'} in seine Tasche \leftarrow stecken] _{V'}] _{V'}] _{VP}

The complex structure of head-initial phrases is the immediate result of a directionality mismatch of the head and the general branching directionality. In (41), each object of the verb has as sister node a node of the projection line of the verbal head (i.e. a V'-node) and the object meets the directionality requirement. It precedes.

In the head-initial setting (42), the objects above the foot position of the verb are directionally 'misplaced'. In order to meet the directionality requirement of the head, they would have to *follow* the head or their respective sister node as a node on the projection line of the head. However, they precede, due to the universal branching requirement. In this case, the only admissible option is a re-instantiation of the head. The grammatical outcome would be (42a). Since there is only one lexical verb for three verb positions, the surface position is the highest position in the structure (42b),

- (42) a. [_{VP} put_{V \circ} → [somebody [_{V'} put_{V \circ} → [something [_{V'} put_{V \circ} → [into his bag]]]]]]]]]
 b. [_{VP} put_{V \circ} → [somebody [_{V'} --V \circ → [something [_{V'} --V \circ → [into his bag]]]]]]]]]

An immediate empirical confirmation for the verb slots comes from VO-languages with particle verbs. Particles of particle verbs may be left behind, that is, stranded, when there is more than one position available for the verb. This is typically the case when a finite verb is fronted in a Germanic V-2 language (43a). In VO languages such as English (43b-d), however, there is another stranding option. A particle may get stranded in one of the verb positions in a structure such as (42b). In (43b-d), the particle position is one of the empty verb positions of (42b).

- (43) a. Sie *gab* dem Angestellten die anderen Bücher *zurück* German
 she gave the clerk the other books *back*
 b. She gave the clerk *back* the other books (CocA)
 c. They won't mail the offer *out* to our people (CocA)
 d. She packed her daughter *up* a lunch (Dehé 2002:3)

How do Slavic languages fit into this system? Due to the ambidirectional licensing capacity of a verbal head, such as the verb in the Polish examples in (38), it can surface in any of the alternatively available positions in (44).

- (44) a. (že) [Marek ←[Ewie ←[kwiaty ←*dał*]]]
 b. (že) [Marek ←[Ewie ←[←*dał*→ kwiaty]]]
 c. (že) [Marek ←[←*dał*→[Ewie ←[←--v°→ kwiaty]]]]
 d. (že) [*dał*→[Marek ←[←--v°→ [Ewie ←[←--v°→ [kwiaty]]]]]]]

The patterns in (44) are an aggregate of the patterns admissible in a strictly head-initial setting (44c) and the head-final patterns (44a) plus the pattern with a sandwiched verb (44b), which is diagnostic of the ambidirectional setting. It is absent both in SVO and in SOV languages.

In a diachronic perspective, SVO and SOV arise from T3, with a change from 'unspecified' to 'specified' directionality of heads, with the two familiar options. Patterns such as (44a) provide the link to the SOV-type with a head-final specification. A head-initial specification finds its link in (44c) and (44d), as the SVO and VSO type. The Germanic languages serve as a good example of such a diachronic development. They started out with a T3 grammar and then split into an SVO and an SOV group when the directionality value of the head got fixed (see Haider (2014) for details).

4. Recap - The syntactic properties of Slavic languages as T3 properties

This subsection reviews the properties discussed in section 2 in the same order of presentation and relates them to the theoretical background sketched in the preceding section 3. The specific syntactic profile of the Slavic clausal architecture is the profile of languages in which the position of the head of the VP is variable. Variable head-positioning is not restricted to the VP in Slavic languages. NPs, too, have this property in the majority of Slavic languages (see section 2.5. on left-branch extractions).

4.1 An *obligatory preverbal subject* is the hallmark of an [S[VO]] clausal architecture, with its obligatory, VP-external structural position for the subject. An immediate correlate of this property are obligatory *expletive* subjects (see section 2.1). In SVO, the VP-internal position of the subject argument precedes the verbal head and is therefore not in its directionality domain. As a consequence, it is raised to a VP-external functional spec-position. In subjectless constructions, the obligatory subject position is plugged by an expletive.

In SOV and T3 grammars, any argument of a head finds its well-formed position *within* the directionality domain of its head. Although the subject may be singled out on morpho-syntactic grounds – by means of case or agreement – it remains structurally on a par with objects as a co-argument within the same phrase. For VPs, this means that all arguments have well-formed VP-internal positions in SOV, VSO and T3, but not in the [S[VO]] setting. Since in SOV, VSO, or T3 there is no VP-external subject position, there is no room for a subject expletive in these types (Haider 2015, 2017).

4.2. The *subject wh-in-situ* restriction (see sect. 2.2) is a direct correlate of the obligatory VP-external subject positioning in [S[VO]]. The external position is a functional spec position. A wh-item in a functional spec position is turned into an wh-operator. In-situ Wh-elements in base positions are linked to wh-operators (Haider 2010: 116-122). In SVO, the wh-subject is necessarily in an operator position, in SOV and T3 it is not. An operator wh-subject cannot be dependent on a preceding wh-item. This excludes dependent wh-subjects in SVO but allows such subjects for SOV and T3.

4.3. The restriction against *adverbial wh-phrases* in-situ in immediately pre-VP positions is a sequel of the LLC constraint (see next paragraph), that is, the constraint for adjuncts adjoined on the directionally non-canonical side of a phrase. However, this very position would be required for higher order wh-adverbials because their scope requirements are met only in a pre-VP position. Consequently, higher order adverbials are obligatorily fronted to the clauses initial position in SVO languages. This leads to an impasse, if the second wh-phrase in the clause is the subject. In this case, there is no grammatical outcome available.

Slavic languages confirm the diagnostics of the scopal requirements of 'why' and 'how'. If the Slavic counterparts remain in-situ, they are in a preverbal and never in a post-verbal position. In Slavic languages, however, a preverbal position is a position with the (ambidirectional) directionality domain of the verb. So, in-situ 'why' and 'how' may occur in these positions in T3, as well as in OV languages.

4.4. *Adjuncts of head-initial phrases* are adjuncts on the non-canonical side of a phrase. Since they are adjoined outside of the directional licensing domain of the head of the phrase, an adjacency condition (i.e. LLC, sect. 2.4) applies (Haider in press). In strict [S[VO]] languages, this restriction applies to preverbal adverbials as well as to prenominal attributes. In the Germanic OV-languages, adverbial phrases are exempt since the preverbal side is the canonical directionality side. However, in all Germanic languages, noun phrases are head-initial, so LLC applies in all these languages. In T3 phrases, prenominal as well as preverbal adjuncts are within the (ambidirectional) licensing domain of the respective head, whence the absence of an LLC effect for VP and NP adjuncts. It is this property that also explains the following Slavic property, namely left-branch extraction.

4.5. *Left-branch-extraction* (LBE) is illicit for left branches on the non-canonical side of a phrase, that is, from left branches of head-initial phrases. In [S[VO]] languages, this constraint applies to all kinds of phrases simply because any phrase is head-initial. In the Germanic SOV languages, it applies to left-branches of NPs (45a), since these are head-initial phrases, but not to left branches of VPs (45b).

(45) a. *Bessere_i braucht man dafür [--_i Theorien]_{NP}

Ger.

- better_{Acc-pl} needs one for-it theories ('One needs better theories for this')
- b. So eine Theorie_i wird [--_i zu verteidigen] wohl kaum jemand bereit sein Ger.
 such a theory shall [to defend] PRT hardly anyone ready be
 ('Hardly anyone shall be ready to defend such a theory')

In (45b), the infinitival object clause is scrambled across the subject. If scrambling is modelled by adjunction, then the scrambled clause is a left branch of the head-final VP. If, on the other hand, scrambling was modelled as fronting into a specifier position, it would be ruled out by the constraint that rules out any filler-gap relation terminating in a gap within a preverbal specifier position. In T3 languages, both configurations (45) are well-formed, since in each case the phrase that contains the gap is within the directionality domain of the head of either the NP or the VP.

4.6. The characteristic and illustrious *word order freedom* of Slavic languages is the overall result of several interacting factors, namely the scrambling potential of phrases within the directionality domain of the head in its base position, the wider range of filler-gap dependencies (see the factor discussed above) due to wider directionality domains, plus the variable positioning of the ambidirectional head in a given phrase as a T3 option, and eventually, the serialization variation for auxiliaries (see property 4.7 below).

Let us assume that V° in (46) is one of the many ditransitive verbs with an agentive subject, an experiencer as indirect object and a direct object. The arguments in the lexical argument structure are hierarchically organized and the projection onto phrase structure conserves this hierarchy. Under these premises, (46a-d) are results of the alternatively available head-positionings for the verb. Consequently, the argument positions in (46a-d) are base positions.

- (46) a. Subj V° Obj₁ Obj₂
 b. Subj Obj₁ V° Obj₂
 c. Subj Obj₁ Obj₂ V°
 d. V° Subj Obj₁ Obj₂

The relative order of the argument in (46) is identical. Next, scrambling may apply. The defining property of scrambling is a change of the base order of arguments. (47) lists *some* of the scrambling variants of (46).

- (47) a. Subj V° Obj₂ Obj₁ (scrambling variant of 46a)
 b. Subj Obj₂ V° Obj₁ (scrambling variant of 46a)
 c. Subj Obj₂ Obj₁ V° (scrambling variant of 46b or 46c)
 d. Obj₂ V° Subj Obj₁ (scrambling variant of 46d or A-bar topicalization)
 e. Obj₂ Subj V° Obj₁ (scrambling variant of 46a or 46b or A-bar topicalization)

Whenever the first argument in the clause is not the highest ranking argument of the lexical argument structure of the verbal head, there are two sources for this serialization. The order can be the result of scrambling or the result of topicalization, that is, the type of fronting that applies to interrogative phrases too. In technical terms, topicalization is an A-bar filler-gap relation while clause-internal scrambling is an A-type filler-gap relation. In other words, the filler is in an A-bar position or in an A-position, respectively. This characterization of word order variants is in accordance with the grammatical properties associated with these word order variants, especially with respect to their binding and scopal properties, as documented and discussed in

the literature, for instance Bailyn (2003a,b; 2004; 2012), Junghanns & Zybatow (2007), Titov (2013).

Titov (2013:35), for instance, argues that the preverbal object in an OVS order in Russian is in an A-position rather than in an A-bar-position. This, together with a postverbal subject, is hard to reconcile with the clause structure of an SVO language, but it is fully compatible with a T3 clause-structure. The arguments are projected in their base order, preceded by the verb, with the object scrambled across the subject and the verb, within the directionality domain. Consequently, the scrambled object does not leave the argument domain. In an SVO structure, any position of an object preceding the finite verb and the subject is necessarily an A-bar position since it is a position outside the directionality domain of the verb.

In sum, the word order patterns of argumental expression in Slavic languages are expected patterns for T3 languages rather than unexpected, highly exceptional patterns of SVO languages. In a T3 architecture, they are part and parcel of the T3 system's potential. Under an SVO perspective, Dixon's question would remain unanswered: Why move things if such movements are illicit in typical SVO languages?

The correlation with information structure effects is not the cause but the effect. Whenever grammar admits variation, pragmatics takes advantage of it. Information structuring employs the syntactic freedom as a vehicle for partitioning this set of variants in terms of information structuring.

V-positioning is a means of clause-partitioning and scrambling allows for congruency between syntactic and information structure domains. Given this background, it need not come as a surprise that Prague School syntax has always regarded syntax from an information structuring vantage point. There has never been a chance of detecting an unequivocal SVO clause structure. SVO is a premise generated later, by Generative Grammar's primary focus on SVO languages, with English as a starting point and Romance and North-Germanic languages as its areas of success. Extending it to Slavic languages would mean overextending and adulterating the SVO profile.

4.7. The *variable serialization of auxiliaries* is a direct consequence of the ambidirectional licensing capacity of a T3 head, too. An auxiliary or quasi-auxiliary (e.g. modal, causative, epistemic verbs) selects the form of the dependent verbal head. In Indo-European languages, this is typically an infinitive, a supine (participle) or an aspectual form, such as the English durative marked by "-ing".

In VO, that is, in the head-initial setting, directional selection entails that the phrase with the selected head follows. In OV, the head-final setting, the selected phrase precedes. The T3 setting is ambidirectional. So, in principle, an auxiliary may follow or precede. This, in combination with the verb order variation within the selected VP permitted by the T3 quality of the VP, accounts for the variability of verb orders within a simple clause.

5. Summary

Filing Slavic languages as SVO languages is syntactically unjustified. Slavic languages are languages of a type that has not been sufficiently recognized yet in grammar theory, namely "Type 3". In this type, unlike in the head-initial vs. head-final types, the position of the head in

the phrase is not determined directionally. Slavic languages are representative of the *unspecified* value of the parameter which – when valued – yields OV and VO. What appears to be highly exceptional from an SVO vantage point is completely regular in a T3 setting. Slavic languages ought to be recognized as what they are, namely regular T3 languages rather than highly exceptional SVO languages. This will enhance the predictive power, descriptive precision, and theoretical accuracy of fit of the respective type assignments considerably.

Bibliography

- Avgustinova, Tania 1997. *Word order and clitics in Bulgarian*. PhD dissertation. Saarbrücken: Universität des Saarlandes.
- Babby, Leonard H. 1998. *Voice and Diathesis in Slavic*. Position paper presented at the Workshop of Comparative Slavic Morphosyntax, Bloomington, Indiana.
https://slaviccenters.duke.edu/sites/slaviccenters.duke.edu/files/media_items_files/10babby.original.pdf
- Bailyn, John F. 2012. *The Syntax of Russian*. Cambridge University Press.
- Bailyn, John F. 2004. Generalized inversion. *Natural Language and Linguistic Theory* 22: 1-49.
- Bailyn, John F. 2003a. Does Russian scrambling exist? In Karimi, Simin (ed.) *Word order and scrambling*. 156-176. Oxford: Blackwell.
- Bailyn, John F. 2003b. A (purely) derivational approach to Russian scrambling. In W. Browne et al. (eds.), *Formal Approaches to Slavic Linguistics 11: The Amherst Meeting*, 41-62. Ann Arbor, MI: Michigan Slavic Publication.
- Bailyn, John 2002. Inversion, Dislocation and Optionality in Russian. In Gerhild Zybatow, U. Junghanns, G. Mehlhorn & L. Szucsich (eds), *Current Issues in Formal Slavic Linguistics*. 280-293. Frankfurt/Main: Peter Lang.
- Bošković, Željko 2017. Extraction from Complex NPs and Detachment. In: Henk van Riemsdijk & Martin Everaert eds. *The Wiley Blackwell Companion to Syntax*. (chapter 42). Oxford: Wiley Blackwell. 2nd Edition.
- Bošković, Željko 2014. Now I'm a phase, now I'm not a phase: On the variability of phases with extraction and ellipsis. *Linguistic Inquiry* 45: 27-89.
- Bošković, Željko 2005. On the locality of Left Branch Extraction and the structure of NP. *Studia Linguistica* 59(1): 1-45.
- Bošković, Željko 1998. Wh-Phrases and Wh-Movement in Slavic. Ms., University of Connecticut.
- Bošković, Željko 1997. Fronting Wh-Phrases in Serbo-Croatian, in M. Lindseth & St. Franks (eds.) *Formal Approaches to Slavic Linguistics: The Indiana Meeting 1996*. 86-107. Ann Arbor: Michigan Slavic Publications.
- Chomsky, Noam 1981. *Lectures on government and binding*. Fordrecht: Foris.
- Chomsky, Noam 1982. *Some concepts and consequences of the theory of government and binding*. Cambridge, Mass.: MIT Press.
- Dehé, Nicole 2004. On the order of objects in Icelandic double object constructions. *UCL Working Papers in Linguistics* 16:85–108.
- Dehé, Nicole 2002. *Particle verbs in English*. Amsterdam: John Benjamins.
- Desclés Jean-Pierre & Guentcheva, Zlatka. 1996. Passivization in Bulgarian: A formal approach. In *Univ. of Trondheim Working Papers in Linguistics* 28: 55-74.
- Dixon, Robert M.W. 2011. *I am a linguist*. Leiden: Brill.
- Dryer, Matthew 2013. Order of Subject, Object and Verb. In: Dryer, Matthew S. & Haspelmath, Martin (eds.: chapter 81).

- Dryer, Matthew S. & Haspelmath, Martin (eds.) 2013. World Atlas of Language Structures Online. Leipzig: Max Planck Institute for Evolutionary Anthropology. (<http://wals.info/chapter/81>; accessed on 2018-01-03.)
- Embick, David 1995. Mobile inflections in Polish. In Jill N. Beckmann (ed.) *Proceedings of NELS 25*:2, 127-142.
- Erdmann, Oskar. 1886. *Grundzüge der deutschen Syntax nach ihrer geschichtlichen Entwicklung*. Stuttgart: Cotta.
- Fanselow, Gisbert 2004. The MLC and derivational economy. In: Arthur Stepanov, Gisbert Fanselow & Ralf Vogel (eds.) *Minimality effects in syntax*. 73–123. Berlin, New York: De Gruyter.
- Fanselow, Gisbert and Denisa Lenertová 2011. Left peripheral focus: mismatches between syntax and information structure. *Natural Language and Linguistic Theory* 29: 169–209.
- Franks, Steven. 1995. Parameters of Slavic Morphosyntax, Oxford University Press, Oxford.
- Gaätone, David 1998. *Le passif en français*. Paris and Bruxelles: Duculot.
- Geerts, Guido, Walter Haeseryn, Jaap de Rooij and Maarten C. van den Toorn 1984. *Algemene Nederlandse Spraakkunst*. Groningen: Wolters-Noordhoff.
- Gell-Mann, Murray, Ruhlen, Merritt (2011) The origin and evolution of word order. *Proceedings of the National Academy of Science*. 108(42):17290-17295.
- Greenberg, Joseph. 1963. Some universals of grammar with particular reference to the order of meaningful elements. In Joseph Greenberg (ed.) *Universals of Language*. 73-113. Cambridge, MA.: MIT Press.
- Haider, Hubert. 2019. On absent, expletive, and non-referential subjects. In Peter Herbeck, Bernhard Pöll, and Anne C. Wolfsgruber (eds.) *Semantic and syntactic aspects of impersonality*. 11-46. Hamburg: Helmut Buske Verlag.
- Haider, Hubert 2017. In the absence of a subject. In Clemens Mayr & Edwin Williams (eds.) *Festschrift für Martin Prinzhorn* (wlg edition Nr. 82). 87-98. Wien: Institut für Sprachwissenschaft.
- Haider, Hubert 2015. Head directionality – in syntax and morphology. In: Antonio Fábregas, Jaume Mateu, Mike Putnam eds. *Contemporary linguistic parameters*. London: Bloomsbury Academic. p. 73-97.
- Haider, Hubert 2014. The VO-OV split of Germanic languages - a T3 & V2 production. *Interdisciplinary Journal for Germanic Linguistics and Semiotic Analysis*. 19(1): 57-79.
- Haider, Hubert 2013. *Symmetry breaking in syntax*. Cambridge, UK: Cambridge University Press.
- Haider, Hubert 2004. The superiority conspiracy. In Arthur Stepanov, Gisbert Fanselow & Ralph Vogel (eds.) *The Minimal Link Condition*. 147-175. Berlin: Mouton de Gruyter.
- Haider, Hubert 1992/2000. Branching and Discharge. *Working papers of the SFB 340*, #23. Univ. Stuttgart & Tübingen & IBM Heidelberg. [2000 in Peter Coopmans & Martin Everaert & Jane Grimshaw (eds.) *Lexical Specification and Insertion*. 135-164. Amsterdam: Benjamins]
- Haider, Hubert (in press). The Left-Left Constraint – a structural constraint on adjuncts. In Ulrike Freywald & Horst Simon (eds.) *Headedness and/or Grammatical Anarchy?* Berlin: Language Science Press.
- Junghanns, Uwe and Gerhild Zybatow 2007. Syntax and information structure of Russian clauses. In Browne, Wayles E. (ed.): *Annual Workshop on Formal Approaches to Slavic Linguistics. The Cornell Meeting 1995*. 289-319. Ann Arbor: Michigan Slavic Publications.
- Kaiser, Georg and Lenka Scholze 2009. Verbstellung im Sprachkontakt – das Obersorbische und Bündnerromanische im Kontakt mit dem Deutschen. In: Lenka Scholze and B. Wiemer

- (eds.) *Von Zuständen, Dynamik und Veränderung bei Pygmäen und Giganten*. 305-330. Bochum: Brockmeyer.
- Kučerová, Ivona 2007. *The syntax of givenness*. PhD-Dissertation. Cambridge, Mass.: MIT
- Leszkowicz, Joanna 2015. Scrambling im Polnischen als A-bar-Bewegung. In Elena Dieser (ed.) *Linguistische Beiträge zur Slavistik: XX. JungslavistInnen-Treffen in Würzburg, 22.-24. September 2011*. p. 117-133. München: Verlag Otto Sagner.
- Mayo, Peter. 1993. Belorussian. In Comrie, Bernard and Corbett, Greville G. (eds.) *The Slavic Languages*. 887-946. London: Routledge.
- Meyer, Roland 2003. On multiple Wh-fronting and Wh-Clustering in Czech. In: Wayles Browne, J. Kim, B. Partee & R. Rothstein (eds.) *Formal Approaches to Slavic Linguistics 11. The Amherst Meeting 2002*. 393-412. Ann Arbor: Michigan Slavic Publications.
- Meyer, Roland 2004. *Syntax der Ergänzungsfrage. Empirische Untersuchungen am Russischen, Polnischen und Tschechischen*. München: Otto Sagner.
- McCloskey, James 1996. Subjects and subject positions in Irish. In Robert D. Borsley & Ian G. Roberts (eds.), *The syntax of the Celtic languages: a comparative perspective*. 241-283. Cambridge University Press.
- Moore, John and David M. Perlmutter 2000. What does it take to be a dative subject? *Natural Language and Linguistic Theory* 18: 373-416.
- Perlmutter David M. and John Moore 2002. Language-internal explanation: The distribution of Russian impersonals. *Language* 78(4): 619-650
- Quirk, Randolph, Sidney Greenbaum, Geoffrey N. Leech and Jan Svartvik 1985. (4th ed.) *A comprehensive grammar of the English language*. London: Longman.
- Rivière, Nicole 1981. *La construction impersonnelle en français contemporain*. Documents de Linguistique Quantitative no. 41, St. Sulpice-de-Favière: Éditions Jean-Favard.
- Ross, John R. 1967. *Constraints on variables in syntax*. Unpublished PhD dissertation. Cambridge, Mass.: MIT.
- Ross, John R. 1970. Gapping and the order of constituents. In: Manfred Bierwisch and Karl E. Heidolph (eds.): *Progress in linguistics*. 249-259. Den Haag: Mouton.
- Rudin, Catherine 1988. On Multiple Questions and Multiple Wh-Fronting. *Natural Language and Linguistic Theory* 6: 455-501.
- Safir, Kenneth 1985. Missing subjects in German. In Toman, Jindrich (ed.). *Studies in German grammar*. 193-229. Dordrecht: Foris.
- Saito, Mamoru 1994. Additional wh-effects and the adjunction site theory. *Journal of East Asian Linguistics* 3: 195-240.
- Szabolcsi, Anna and Frans Zwarts 1993. Weak islands and an algebraic semantics for scope-taking. *Natural Language Semantics* 1: 235-85.
- Siewierska, Anna / Uhliřová, Ludmila 2010. An overview of word order in Slavic languages. In: Siewierska, Anna (ed.) *Constituent order in the languages of Europe*. 105-150. Berlin: Mouton DeGruyter.
- Sigurðsson, Halldór Ármann 2002. To be an oblique subject: Russian vs. Icelandic. *Natural Language & Linguistic Theory*. 20(4): 691-724.
- Sobin, Nicholas J. 1985. Case assignment in Ukrainian morphological passive constructions. *Linguistic Inquiry* 16: 649-662.
- Stepanov, Arthur 1998. On wh-fronting in Russian. In Pius N. Tamanji & Kiyomi Kusumoto (eds) *Proceedings of NELS 28*: 453-467. GLSA, Amherst: University of Massachusetts.
- Sternefeld, Wolfgang 1985. On case and binding theory. In Toman, Jindrich (ed.). *Studies in German grammar*. 231-287. Dordrecht: Foris.

- Sturgeon, Anne 2007. Another look at multiple wh-questions in Czech. In: Magda Gołędzinowska, Ulyana Savchenko & Richard Compton (eds.) *Formal Approaches to Slavic Linguistics 15, The Toronto Meeting 2006*, Ann Arbor: Michigan Slavic Publications. 402-416.
- Titov, Elena 2013. Scrambling at the interfaces. *Interdisciplinary Studies on Information Structure* 17: 33–53.
- Toman, Jindřich 1981. Aspects of multiple wh-movement in Polish and Czech, in: Robert May & Jan Koster (eds.) *Levels of Syntactic Representation*. Dordrecht: Foris Publications, 293-302.
- Wurmbrand, Susi. 2004. West Germanic verb clusters: The empirical domain. In *Verb clusters: A study of Hungarian, German, and Dutch*, ed. by Katalin É. Kiss and Henk van Riemsdijk, 43-85. Amsterdam: John Benjamins.