

# Slavic languages – "SVO" languages without SVO qualities?

Hubert Haider<sup>\*</sup> & Luka Szucsich<sup>^</sup>

<sup>\*</sup>Dept. of Linguistics & Centre for Cognitive Neuroscience, Univ. Salzburg – <sup>^</sup>Dept. of Slavic and Hungarian Studies, Humboldt-Univ. zu Berlin

## Abstract

Slavic languages are commonly classified as SVO languages, with an exceptional property, though, namely an atypically extensive variability of word order. 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, 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 (T3). This is the type of phrasal architecture in which the head of the verb phrase is directionally unconstrained. It may precede, as in VO, it may follow, as in OV, and it may be sandwiched by its arguments within the phrase. From this viewpoint, the Slavic languages cease to be exceptional. They are regular representatives of the latter type, and, crucially, their collateral syntactic properties predictably match the properties of this type.

## 1. Introduction

There is a remarkable consensus in the literature<sup>1</sup> 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 Greenberg's (1963:61) three major types<sup>2</sup>, namely SOV, SVO, VSO. For Slavic, SVO seems to be the least inappropriate type, notwithstanding the consensus that Slavic languages are exceptional when compared with other Indo-European SVO languages, such as North-Germanic, Romance, or English. Siewierska & Uhliřová (2010:109) put it as follows. "*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.*" This characterization may be too strong in details, but not with respect to the order variations of subject, object, and verb across styles and contexts.

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

<sup>1</sup> "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, classified as SOV, and Belarusian, with "no dominant order". Given the uniform word order patterns across neighbouring languages with respect to the order of subjects and objects, Mayo's (1993) assessment of Belarusian seems to be appropriate for Russian and Ukrainian, too. "*Belarusian and Russian are genetically very close and structurally very similar languages. [...] The structural distance between Belarusian and Russian is of the kind prototypically acknowledged for different dialects of one language.*" (Hentschel 2014: 93-94). Even Sorbian – presently predominantly verb-final – is not *strictly* SOV, as (i) illustrates (Scholze 2015: 206). More than a century ago, Liebsch (1884: 227) described the word order as free, with SV and VS, or VO and OV, as well-formed orders. (i) Četa *dari* mi rjaneho žurka (aunt gave me beautiful hamster).

<sup>2</sup> Greenberg (1963:86-77) lists Serbian in appendix I, and Slavonic in appendix II, and in each case as SVO.

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 in comparison to uncontroversial SVO languages. This indicates that such a type assignment would miss 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 on 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]]<sup>3</sup> languages. And there are additional, predictable, systematic differences (see Table 1, below). It is worth emphasizing that these differences are not language specific but systematic differences between Slavic languages and typical [S[VO]] languages.

- (1) a. Bol'sh-aja 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'sh-aja sobak-a.  
       d. Bol'sh-aja sobak-a malen'k-uju košk-u *gonjala*.

Already in the early days of Generative Grammar, Ross (1967: 75, 1970: 251) coined the term "scrambling" for Russian word order variations. In Generative Grammar, from then on, 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 Table 1:

Table 1: 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	unrestr.	unrestr.	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

<sup>3</sup> This 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]].

Slavic languages do not share grammatically predictable structural properties of languages with an [S[VO]] clausal architecture. They share properties found in SOV languages to a large extent. Hence, if Slavic languages are assigned to the [S[VO]] type, this covers 1/8<sup>th</sup> of the properties listed in Table 1, namely the least significant one (i), and only by begging the question. If the criterion were rephrased ("*as the grammatically mandatory order*"), Slavic languages would drop out.

The contrasts listed in Table 1 are contrasts between types of phrasal architectures. They follow from the grammatical conditions that characterize the respective clause structures. 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. 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 1.

Given the *systematic* absence of parallels between [S[VO]] and Slavic languages in Table 1, it seems unjustified to characterize them as an "exceptional" subset of [S[VO]]. This would be tantamount to the contention 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,<sup>4</sup> which is highly uninformative, of course. For German, this would neglect the fact that the order (2c) is just one option within the range of possibilities of a verb-second language, that is, with respect to the choice of the clause-initial phrase. 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 24 permutations of the four words of (2a) yields a grammatical Polish sentence and is acceptable in an information-structurally adequate context (see Leszkowicz 2015: 121, Zabrocki 2016: 140).<sup>5</sup>

(2)a. Marek *dał* Ewie kwiaty.

Polish

Marek<sub>Nom</sub> *gave* Eve<sub>Dat</sub> flowers

b. Mark *gave* Eve flowers.

<sup>4</sup> 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).

<sup>5</sup> Zabrocki explicitly lists *all* 24 order variants of "*Janek przedstawił Marysi Marka*" and notes that they each "have the (logical) meaning of" *John introduced Mark to Mary*.

c. Markus *gab* Eva Blumen.  
Markus gave Eve flowers

German

The classification used by Dryer & Haspelmath (2013) in WALS is essentially phenomenological, too. In chapter 81 (Dryer 2013) – "*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 criterion for this assignment in WALS is the fact that SVO is "*the order that is more frequently used.*"<sup>6</sup> Reliable typological criteria cannot be safely based on such a weak criterion. Theoretically adequate criteria need to be structure-based (Haider 2020).

In some languages, the basic word-order type – VO or OV – is 'masked' by superimposed syntactic properties, as for instance the V2-property of Germanic languages. In typology, the verb-second property is known (but not respected) at least since Mallinson & Blake (1981:129).<sup>7</sup> Dutch, German or Frisian are OV languages, that is, languages with a head-final VP. 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. 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.<sup>8</sup>

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,<sup>9</sup> as illustrated by examples such as (3a-c), from Leszkowicz (2015:121) and Zabrocki (2016: 140). Evidently, Polish could not be filed as an [S[VO]] language that is simultaneously a VSO, an SVO, and an SOV language. If someone insist that (3a) is an object scrambling variant of (3c), and (3b) a subject-postponing variant of (3c), this is just an ad-hoc reaction<sup>10</sup> 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-like |
| Marek <sub>Nom</sub> book <sub>Akk</sub> reads |          |
| b. Czyta Marek książkę                         | VSO-like |
| c. Marek czyta książkę.                        | SVO-like |

If it were legitimate to file Slavic languages as [S[VO]], they ought to share a substantive set of the defining properties of [S[VO]] languages, that is, the properties that follow directly from

<sup>6</sup> Frequency counts are not presented.

<sup>7</sup> "*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.*"

<sup>8</sup> Here is the result of a search in the DWDS corpus (www.dwds.de, Referenz- und Zeitungskorpora) timespan 1900-2018 and a Google search filtered for books (accessed Dec. 16, 2020):

i. "*Damit hat er*" ('with-it has he' ...): 2147 DWDS, 72.400 (Google) ii. "*Er hat damit*" ('he has with-it' ...): 877 DWDS, 72.000 (Google). Note that both, 'damit' (with it) and 'er' (he), are anaphoric. So, both 'contend' for an early position in an utterance. The clause-initial non-subjects outnumber the clause-initial subjects.

<sup>9</sup> Polish is not exceptional but representative of Slavic languages. The very same variations in Russian, for instance, are discussed in Dyakonova (2009); see chapter 3.1.

<sup>10</sup> It is easy to invoke scrambling for the object position in (3a), but this is contradicted by the fact that syntactically, such an object does not behave like a phrase in a (derived) preverbal position in an SVO language; see section 2.5.

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, do differ from uncontroversial [S[VO]] languages exactly in syntactic core properties. Hence, the current type-assignment is questionable.

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 and the results of several decades of research in clause structuring. A comparison within a sample of diachronically related languages guarantees a close enough setting of potentially shared grammatical features. Comparisons across language families entail a higher risk of overlooking unidentified irrelevant factors that might be responsible for at least some of the observed contrasts. In other words, if a subfamily of languages is assigned to the same type as other subfamilies and 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 within the same type. Within the Indo-European language family, the word order variability of Slavic languages is known also from ancient languages, as for instance, Latin (see e.g. Spevak 2010, ch. 3). Speyer (2018:161) notes: *"If we look at other early attested Indo-European languages, the 'Latin' state of affairs is the prevalent state: Ancient Greek and Sanskrit word order is equally 'free', that is, the word order is sensitive to information-structural, conceptual, even stylistic requirements."*

### 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 type-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.<sup>11</sup> Otherwise, a subjectless clause is ungrammatical in an [S[VO]] language. SOV or VSO languages are not subject to such a restriction. 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 (4c) is a clear case of an SOV language that does not tolerate an expletive subject (Haider 2010: 11). In fact, no SOV language is known that requires an expletive subject with passivized intransitives.

<sup>11</sup> In Generative Grammar, *"the requirement that a clause have a subject position"* (Chomsky 1982:10) has been wrongly overgeneralized as a universal requirement. Chomsky's (1981:40) original formulation is the correct one: *"The subject of a clause is obligatory in English and similar languages."*

- (4) a. Ofte vart *det* telefonert. Norwegian (Åfarli 1992: 85)  
       often was EXPL telephoned  
       b. Sedan dansades *det* hela natten. Swedish (Falk 1993: 106)  
       then dance<sub>PASS</sub> EXPL whole night<sub>Def</sub>  
       c. Heute wird (\*es) nicht gearbeitet. German  
       today is (\*EXPL) not worked  
       d. dat niet wordt gewerkt in veendijken Dutch<sup>12</sup>  
       that not is worked in peat-dikes  
       'that work is not carried out in peat dikes'

In [S[VO]] languages such as Norwegian and Swedish (4a,b), the subject expletive is mandatory. In German (4c), which is SOV, a subject expletive (in the alleged subject position) is ungrammatical. In fact, there is no structural space for it, since the structurally obligatory subject position is an [S[VO]] property. An immediate consequence is the following. 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 Romance null-subject languages, too, the standard passive applied to intransitive verbs is ungrammatical. Spanish (5a) and Italian (5b,c) are 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. Spanish  
       was worked hard here  
       b.\* È stato dormito in questo letto Italian  
       has been slept well in this bed  
       c.\* È stato tossito per il fumo  
       has been coughed because-of the smoke  
       d. Il a été dormi dans ce lit French  
       EXPL has been slept in this bed (Rivière 1981:42)  
       e. Il a beaucoup été fumé dans cette salle (Gatone 1998:124)  
       it has much been smoked in this room

The Romance facts are particularly instructive since they testify against the oxymoronic concept of "*null expletives*" (e.g. Safir 1985, Sternefeld 1985, Biberauer et. als. 2010). According to this still widely adopted assumption, there is the same kind of subject position 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.<sup>13</sup> Romance languages are [S[VO]], hence a specified subject is obligatory. The crucial

<sup>12</sup> <https://www.raadvanstate.nl/uitspraken/@123349/202001473-1-r1/> (accessed Feb. 4<sup>th</sup>, 2021).

<sup>13</sup> In Vèneto, the vernacular of the Italian province Veneto, intransitives can be passivized, but only in the presence of an obligatory expletive of the '*there*'-type. We are grateful to Cecilia Poletto, for her native speaker confirmation; see also Brunelli (2007: 27). Obviously, the '*there*'-type of expletives is not affected by *pro-drop*.

theoretical point is this: The null subject property does not cancel the obligation of a lexical filler for the structural subject position of an [S[VO]] clause.

The Russian (6a-c), Bulgarian (6d,e), and Polish (6f,g) examples are counterparts of (5), with the essential difference that there is *no* expletive subject attested in Russian, Bulgarian and Polish, which are representative for Slavic languages in this respect. In any [S[VO]] language – pro-drop or not – the pattern represented by (6) would be *ungrammatical*, as (5a-c) and the Scandinavian languages (4a,b) have shown.<sup>14</sup>

- |  |   |
|--|---|
| (6) a. V komnate bylo nakureno<br>in room was smoked                             | Russian                                     |
| b. Ob ètom bylo napisano v gazete<br>About this was written in newspaper         |   |
| c. Bylo dobavleno saxaru v smes'<br>was added sugar <sub>Gen</sub> into mixture  | Franks (1995), example 142.                 |
| d. V stajat e vlizano<br>in room is entered                                      | Bulgarian<br>Desclés & Guentcheva (1996:56) |
| e. Po trevata e xodeno<br>on grass <sub>def.</sub> is walked <sub>IMPF-PPP</sub> |   |
| f. W tym pokoju było już sprzątane<br>in this room is already cleaned            | Polish (Siewierska 2008:132)                |
| g. czy było rano sprzątane<br>whether was cleaned in-the-morning                 | [IPIPAN_1301920030513] <sup>15</sup>        |

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.*" So, in (7b), the subject is deemed to be a "silent expletive". This interpretation is not appropriate, however. There is a null subject in (7b), but it is not a null expletive. It is the null variant of a semantically empty subject argument of the verb.<sup>16</sup> The construction in (7b) is active, with a direct argument with object case (viz, accusative, replaced by a genitive in the domain of negation in Russian). Blevins (2006: 237) and 2003) has shown in detail that "subjectless" and "impersonal" are grammatically different concepts. The passive of an intransitive verb is subjectless. The Russian impersonal construction is an active construction with a null-subject. The semantically emptied subject argument is represented by a pronoun that is subject to pro-drop in Russian. Remember that the ungrammaticality of the passive of intransitives in Romance

- 
- |   |   |
|---|---|
| i. Z'è stà parlà de ti<br>there has been spoken about you | ii. Gh'è stà parlà de ti<br>there has been spoken about you |
|---|---|

<sup>14</sup> In English, a locative PP may serve as a filler for the obligatory subject position as alternative for 'there', but not in passive, see (i) vs. (ii):

i. *On this spot/There* will stand a huge tower. ii. \**On this spot/There* was danced.

<sup>15</sup> We are grateful to one of the reviewers for having provided us with this example from the Polish National corpus, with the comment that this construction is not used frequently in Polish.

<sup>16</sup> In German impersonal versions, the semantically empty subject shows as non-referential "es" (it) in (i):

i. Wann hat es *den* Schornstein vom Dach geweht? (impersonal construction)  
when has it the chimney<sub>Acc</sub> off-the roof blown ('When did it<sub>indef.</sub> blow the chimney off the roof?')  
ii. Wann wurde *der* Schornstein vom Dach geweht? (passive construction)  
when was the chimney<sub>Nom</sub> off-the roof blown

null-subject languages clearly demonstrates that "silent expletives" do not exist, see Haider (1987, 2019), Alexiadou & Anagnostopoulou (1998).

- (7) a. Takie stat'i ne byli opublikovany za granicej. Russian  
 such articles<sub>NOM</sub> NEG were<sub>PL</sub> published<sub>PL</sub> beyond border  
 'Such articles were not published abroad.'  
 b. Za granicej ne bylo opublikovano takix statej.  
 beyond border NEG were<sub>NEUT</sub> published<sub>NEUT</sub> such articles<sub>GEN</sub>  
 '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, Sigurðsson (2002: 697), who evaluates their arguments for subjecthood in detail in comparison with Icelandic dative-subject constructions, concludes that their arguments are untenable because the alleged dative subjects in Russian lack the subject properties that have been attested for Icelandic oblique subjects.

## 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 bare<sup>17</sup> 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-Germanic<sup>18</sup> and Romance SVO languages for the restriction against wh-subjects in-situ.

- (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 (2004) and (2010, section 3.4).

- (9) a. Wen hat *was* schockiert?  
 whom has what shocked

<sup>17</sup> Wh-pronouns embedded in a subject noun phrase do not fall under this restriction, the reason being that in the case of a bare wh-pronoun as subject, the wh-pronoun is a wh-operator as subject. If the wh-item is *part* of a subject noun-phrase, the noun-phrase is the subject; for details see Haider (2010), section 3.5.

<sup>18</sup> Here are four data points from Swedish (Google search; 'gen.' = general search; N= news, B = books)

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



- 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 bijeenkomsten<sup>19</sup>  
arrange when *who* a case prepares at the coming meetings
- d. Wie bepaalt hoe lang *wie* de gelegenheid krijgt zich waarvoor hoe te kwalificeren?<sup>20</sup>  
who determines how long *who* the chance gets REFL what-for how to qualify

The crucial issue is this. In prototypical [S[VO]] languages, the subject is VP-external. It is assigned a unique structural position reserved for the subject.<sup>21</sup> In OV, the subject remains in its original position within the directionally unconstrained licensing 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); Liakin & Ndayiragije (2001), Meyer (2003, 2004), and the state-of-the-art report of Blaszcak & Fischer (2001). The examples in (10) are taken from Czech since it is a Slavic language in which multiple *wh*-phrases clearly cannot be assumed to form a *single* constituent that is fronted to the sentence initial position.<sup>22</sup> Czech canonically fronts all interrogative phrases to the left<sup>23</sup>, but allows for material *intervening* between the initial *wh*-phrase and a second one (10c,d).<sup>24</sup>

- (10) a. Kdo co doporučil komisi? (Meyer 2004: 253)  
wh<sub>NOM</sub> what<sub>ACC</sub> recommended committee<sub>DAT</sub>  
'Who recommended what to the committee?'
- b. Co kdo doporučil komisi?  
what<sub>ACC</sub> wh<sub>NOM</sub> recommended committee<sub>DAT</sub>
- c. Kdo *ho* kde viděl je nejasné? (Toman 1981: 298)  
who him<sub>CLITIC</sub> where saw is unclear
- d. Kde *ho* kdo viděl je nejasné? (Toman 1981: 298)  
where him<sub>CLITIC</sub> 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). Liakin & Ndayiragije (2001: 210) authenticate the lack of

<sup>19</sup> <http://devriesenrijke.nl/wp-content/uploads/Vervolg-2016-2017.pdf>

<sup>20</sup> Kees van der Wolf & P. Huizenga (Red.) 2011. Het Nederlandse Beroepsonderwijs: valt daar iets aan te doen? Antwerpen: Garant. p. 231.

<sup>21</sup> In English, the head position is the position of the finite auxiliary or of the expletive auxiliary 'do' in (i):

i. [In English, [<sub>FP</sub> a subject<sub>i</sub> [<sub>F'</sub> does<sub>F'</sub> [not [<sub>e</sub> follow an object]]]]]

<sup>22</sup> This is a common analysis for Bulgarian (cf. Rudin 1988, Bošković 1997, 1998). For grammatical complexities of such constructions in Bulgarian, see also Blaszcak & Fischer (2001: 57-62)

<sup>23</sup> 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).

<sup>24</sup> Sturgeon (2007) argues that the interrogative elements that follow the position of the second position clitic are adjoined to VP.

order restrictions among fronted interrogatives in Belarusian, Russian (11a-c), and Bosnian/Croatian/Serbian. Stepanov (1997) has confirmed this for Russian (11d,e), and Bošković (1997, 1998) for B/C/S (12).

- (11) a. Kto što komu prodao?  
           who what whom sold  
       b. Što kto komu prodao?  
           what who whom sold  
       c. Komu kto što prodao?  
           whom who what sold  
       d. Kto kako spava?  
           who how sleeps  
       e. Kako kto spava?  
           how who sleeps
- (12) a. Ko je koga video?  
           who is whom seen ('Who has seen whom?')  
       b. Koga je ko video?  
           whom is who seen

Each one of these variants is grammatical but of course they 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.

- [illegible]

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*<sub>i</sub> hat sie *wen* gebeten [für sie e<sub>i</sub> 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 buffer<sup>25</sup> would not arise in the equally grammatical

<sup>25</sup> If the two involved *wh*-items are formally identical, this leads to a processing break-down, as expected.

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. A pronominal wh-subject is ungrammatical in-situ 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-type *values* 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 how often*", "*has how carefully*", or "*has why*", followed by a verb. English is representative of the Germanic SVO languages<sup>26</sup> in this respect. Romance languages confirm the picture. If

i. \**Wen*<sub>i</sub> hast du *wen* gebeten, [<sub>i</sub> zur Party einzuladen]?  
*whom*<sub>Acc</sub> did you *whom*<sub>Acc</sub> ask [to the party to invite]

<sup>26</sup> Fanselow (2004:85) reports that three of his five informants rated (i) as acceptable. (ii) was not checked. Internet

Slavic languages were SVO languages, they should pattern like the other SVO languages in this respect, but they don't. Russian is representative and the examples (11d) and (11e) above show that it patterns with the OV languages. Russian is an apt test case also since it does not obligatorily front multiple *wh*-items; see Meyer (2004) and Dyakonova (2009) for ample evidence. So, one can check the position of the *wh*-element that is left behind. If it is a member of the 'special' class of adverbials it must precede the finite verb.

- (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 continue in this area of grammar but switch the focus to another syntactic property of adjuncts. *Left* adjuncts of *left*-headed phrases, that is, 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 (\*d'elle-même)]<sub>AP</sub> nation] vs. une [nation [fière (d'elle-même)]<sub>AP</sub>]  
           a     proud (of-it-self) nation                      a nation proud (of itself)

---

searches of Swedish do not produce a single sentence with a fronted *wh*-item followed by *varför* (ii) or *hur ofta* (how often). This contrasts 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 [S[VO]] languages, they have to pattern with [S[VO]] 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 Róża.      Polish  
           in last year much more *than* Jarek worked only Rosa  
       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) were 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. Bosnian/Croatian/Serbian (23e) and Czech do not admit this pattern (Siewierska & Uhliřová 2010:116).

- (23) a. [verni-jat (na žena si)] mąż      Bulg.  
           faithful<sub>Def</sub> to wife his<sub>REFL</sub> husband  
       b. [vernyj (svoej žene)] muž      Russian  
           faithful his wife<sub>DAT</sub> husband  
       c. [wierny (swojej żonie)] mąż      Polish  
           faithful his wife<sub>DAT</sub> husband  
       d. [smišna (w svojij zuchval'osti)] divčyna      Ukrainian  
           funny in her arrogance girl  
       e. [v(j)eran (\*svojoj ženi)] muž      B/C/S  
           faithful (his wife<sub>DAT</sub>) husband

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

The following examples (24) illustrate a well-known property of Slavic languages;<sup>27</sup> see Grosu (1973), Roberts (1997:189). 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<sub>i</sub> Alexandra kupila [--i knigu]? Russian  
           which Alexandra bought [-- book]      ('Which book did A. buy?')  
       b. Xorošuju<sub>i</sub> 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 (Bailyn 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 [S[VO]] 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<sub>i</sub> 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<sub>i</sub> would large impacts cause cracks [on --i]?  
       f. \*Which surface would [on --i], large impacts cause cracks?<sup>28</sup>

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. Bošković (2005: 37) explicitly minutes that "*it is worth noting in this respect that LBE constructions actually sound best when the remnant of LBE precedes the verb.*" In sum, the SVO-based prediction turns out to be wrong (26),<sup>29</sup> and so the [S[VO]] hypothesis is wrong, too.

<sup>27</sup> 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.

<sup>28</sup> 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.

<sup>29</sup> The examples in (26a,c,d) have been counter-checked with five native speakers per language. The word order is information-structurally selective and therefore requires appropriate contexts of utterance, one of them being focus, cf. the Polish example (the underlined capital letters indicating contrastive intonation): (*Ale*) *jaki Paweł saMOchód kupił swojej żonie, to radzę ci zobaczyć*. ('But) what a CAR Paul bought for his wife, I suggest you to have a look.'

- (26) a. Kakuju<sub>i</sub> Ivan [--<sub>i</sub> mašinu] *kupil* svoej žene? Russian  
           which<sub>i</sub> Ivan [--<sub>i</sub> car] *bought* his wife  
       b. Ètak včera [t<sub>i</sub> devočka] *pogladila* kota? Bondarenko & Davis (2021:1)  
           this yesterday girl *stroked* cat  
       c. Kaju<sub>i</sub> Petar [--<sub>i</sub> knjigu] *daje* svojoj ženi? B/C/S  
           which<sub>i</sub> Petar [--<sub>i</sub> book] *gives* his wife  
       d. Jaki<sub>i</sub> Paweł [--<sub>i</sub> samochód] *kupił* swojej żonie? Polish  
           which<sub>i</sub> Paul [--<sub>i</sub> car] *bought* his wife Wiland (2010: 335)

In each example in (26), the gap-containing 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.<sup>30</sup>

Gaps in clauses adjoined to head-final phrases are SOV counterparts of gaps in left-branches. Germanic NPs are head-initial, so their syntactic properties are identical with the syntactic properties of NPs in SVO languages. VPs and APs are head-final in continental West Germanic. The examples in (27) are taken from German. First, left-branch extractions comparable to (26) are – as predicted – licit for scrambled phrases (27a). In (27a), 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). In (27b), an adjunct of an AP is questioned, and it is a left branch of the AP "[um wie viel] *teurer als Kupfer*" (for how much more expensive than copper).

- (27) a. Was<sub>i</sub> hat denn [--<sub>i</sub> damit zu beweisen]<sub>CP</sub> gerade jemand versucht?  
           what has PARTICLE [-- with-it to prove] right-now someone<sub>Nom</sub> attempted  
           'What has someone attempted to prove with this right now?  
       b. [Um wie viel]<sub>i</sub> ist<sub>j</sub> es [AP --<sub>i</sub> teurer als Kupfer] --<sub>i</sub>?  
           for how much is it more-expensive than copper

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 [S[VO]] 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. On the one hand, there are languages with free word order in the absence of

<sup>30</sup> Note that an uncontroversial SVO language like English shows that information structure fitting would not 'overrule' grammar. No focus variant makes (i) acceptable: (i) \**Which<sub>i</sub>* this girl stroked [--<sub>i</sub> cat] yesterday?

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. (cf. Avgustinova 1997, Schürcks 2009, Kosta & Schürcks 2009, among others). 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; Schürcks 2009:6) out of the set of variants.

- (28) a. Ivan izprati kuklata na decata Bulgarian  
       Ivan sent doll<sub>Def.</sub> to children<sub>Def.</sub>  
       b. Kuklata Ivan na decata izprati (with focus on 'na decata')  
       doll<sub>Def.</sub> Ivan to children<sub>Def.</sub> sent

In English, even an unambiguous morpho-syntactical 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) contributes 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 facilitate scrambling; head-initial phrases impede it; for details see Haider (2015).

- (31) a. Toen hebben [de autoriteiten *het kind* aan de moeder teruggegeven]<sub>VP</sub>  
       then have the authorities the child to the mother back-given  
       c. Toen hebben de autoriteiten aan de moeder<sub>i</sub> *het kind* --<sub>i</sub> teruggegeven  
       d. het [teruggeven van het kind aan de moeder]<sub>NP</sub>  
       the back-give of the child to the mother  
       b. \*het [teruggeven aan de moeder<sub>i</sub> van het kind --<sub>i</sub>]<sub>NP</sub>

If Slavic languages were filed as structural 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 an allegedly head-initial VP, that is, variable order of postverbal objects. Second, they allow for word order variation across the boundary of a VP, that is, 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 [S[VO]] languages in another sub-families, that is, Germanic languages, such as English and North-Germanic as well and Romance languages.

## 2.7. Rigid word order of auxiliaries

The final property to be called up is once more an invariant property in 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 all<sup>31</sup> 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 (Bouma & van Noord 1998, Haider 2003). (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<sub>Participle</sub> *would* can<sub>INF</sub> be<sub>INF</sub>  
 'that something would be possible to have happened'  
 b. (dat iets) *zou* kunnen gebeurd zijn (32; 128; 3.000)  
 c. (dat iets) *zou* kunnen zijn gebeurd (4; 4; 28.000)

The highly frequent order in Dutch (33a) 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<sub>Past-SUBJ</sub> been be<sub>Inf</sub>. can<sub>Inf</sub>.  
 'that it had possibly could have been so'

<sup>31</sup> Only Frisian does not permit order variation among the verbs. In 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<sub>Inf</sub> want<sub>Inf</sub>

- 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: With 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 [S[VO]] 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 an enclitic form (e.g. B/C/S, Czech) or as what has been labelled "mobile inflection" in Polish by Embick (1995). 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 *posprzątać* *musisz* w szafie. Polish  
           on Tuesday *tidy-up* *must*<sub>2nd.sg.</sub> in wardrobe
- b. We wtorek *musisz* *posprzątać* w szafie.
- c. Sutra *pospremiti* *moramo* samo našu sobu. B/C/S  
           tomorrow *tidy-up* *must*<sub>1st.pl.</sub> only our room
- d. Sutra *moramo* *pospremiti* samo našu sobu.
- e. Zavtra *ubirat'* *budem* v Izmajlovskom parke. Russian  
           tomorrow *tidy-up* *shall*<sub>1st.pl.</sub> in Izmajlovo Park
- f. Zavtra *budem* *ubirat'* v Izmajlovskom parke.
- g. Ivan ne *trjabva* *da igrae* futbol. Bulgarian (Schürcks 2009: 31)  
           Ivan not must to- play-PRESENT-3SG football  
           'Ivan mustn't/needn't play football'
- h. Ivan futbol *da igrae* ne *trjabva*.

The sequence of verbs and auxiliaries may be interrupted by adverbials. This is an indication that the verbs do not form a cluster of the kind known from OV languages.

### 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 shares a set of structural properties (with differences in details, of course). Second, this set of properties does not match the syntactic profile of typical [S[VO]] languages. In such languages, that is, strictly head-initial languages with an obligatory VP-external subject position, these properties are ungrammatical.

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 (2013a) 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. The crucial difficulty is the definition of "dominant word order": "*This means that it is either the only order possible or the order that is more frequently used.*" (Dryer 2013b). Obviously, this definition joins two *disjoint* properties, namely a strict word-order property (viz. "the only order") with a variable-word-order property. In the strict-order type, variation is ungrammatical; in the variable-order-type, non-syntactic factors, such as information structure, guide the choice of a variant from the pool of grammatical variants. The grammars behind these types are obviously different and incompatible. Nevertheless, such languages are grouped together in spite of their incompatible properties. In Slavic languages, S-V-O is regarded as the *neutral* word order, but 'neutral' is a concept of pragmatics, namely information structuring. S-V-O is just one of the grammatically admissibly serializations, and it happens to be the order that is not associated with *specific* information structure effects of the given vs. new, or focus vs. background organization of an utterance (see Haider 2020). If "dominant" is construed as grammatically determined (rather than preferred for pragmatic or language processing reasons), Slavic languages are language with no grammatically determined (= dominant) order.

### 3.1 Taxonomic space for Slavic languages

The taxonomy of clause structures is part of the taxonomy of cross-linguistically attested phrase structuring. A hitherto unquestioned assumption in phrase structure theory is the *peripherality generalization*.<sup>32</sup> According to this axiom, the head of a phrase is assumed to either precede or follow its arguments. (36) illustrates the word order of the respective VPs. Each arrow indicates the parametric *directionality property* of the head (or its projection, viz. V') that structurally licenses the arguments and thereby determines whether they follow or precede. In (36a) and 36c), the subject is VP-internal. (36b) is the [S[VO]] structure, with a head-initial VP and an obligatory, VP-external structural subject position. Presently, the theories of phrase structure acknowledge only phrases with a *peripheral* head position. A position in which the head is flanked by base positions of arguments would be ruled out or the result of movement.<sup>33</sup>

- |                       |                           |                            |
|-----------------------|---------------------------|----------------------------|
| (36) a. [VP S ←[O←V]] | ←: unidirectional final   | = SOV, VP-internal subject |
| b. [S [VP V→ O]]      | →: unidirectional initial | = VO & VP-external subject |
| c. [VP V→ S O]        | →: unidirectional initial | = VO, VP-internal subject  |

The evidence from Slavic and languages similar to Slavic points to the conclusion that the structures (36a-c) do not exhaustively cover the system space of VP structuring in natural languages. The peripherality generalization is arguably based on too narrow a sample of languages, namely languages with a *fixed* directionality for phrasal heads (viz. phrase-final or phrase-initial). Let us therefore assume that the peripherality constraint is not universal but characteristic only of the large class of languages with a *specified* directionality of the head of the phrase (see Haider 2015).

<sup>32</sup> Kornai & 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*". One of the restrictions is the peripherality restriction for heads.

<sup>33</sup> *Intermediate* head-position positions in complex VPs are admitted only as empty positions (see sect. 3.2).

Under a parametrical approach, the directionality of heads permits, as standardly assumed, a head-initial or a head-final setting. But crucially, there is also a third option, namely the *underspecified* setting. This amounts to a *third type*, in addition to the types with a parametrically *specified* directionality.<sup>34</sup> In this third type – "T3" or type with *variable head positioning* – a head may surface in alternatively available positions within its phrase since it is able to license its arguments in either direction (37), because no specific direction is imposed by the grammar.

(37) (C) [<sub>VP</sub> ... ← [<sub>V</sub> → ...]]      ←, →: ambidirectional licensing ("T3"), as in Slavic

Consequently, T3 admits the SVO-like order (38a), the SOV-like order (38b), the VSO-like order (38c). In addition, T3 allows for a pattern that is excluded in both OV and VO, in which the verbal head is sandwiched by its objects (38d). In other words, any position of the verbal head relative to its arguments is a grammatically licit serialization. In each case, the relative order of subject and objects remains unaffected. Scrambling may rearrange this order. This is true for main clauses as well as for embedded clauses, as the bracketed complementizer indicates.

- |   |                   |        |
|---|-------------------|--------|
| (38) a. (że) Marek ← <i>dał</i> →Ewie kwiaty.<br>(that) Marek <sub>Nom</sub> gave Eve <sub>Dat</sub> flowers <sub>Acc</sub> | SVO-like          | Polish |
| b. (że) Marek Ewie kwiaty ← <i>dał</i> .  | SOV-like          |        |
| c. (że) <i>dał</i> → Marek Ewie kwiaty.   | VSO-like          |        |
| d. (że) Marek Ewie ← <i>dał</i> →kwiaty.  | (uniquely Type 3) |        |

In comparison with the *fixed* position of the verbal head in SVO and SOV, the position of the verbal head is *variable* in T3.<sup>35</sup> In (38), the arguments of the verb are each in an admissible base position. Only from the perspective biased towards SVO languages would (38b-d) have a derived status, with two 'scrambled' objects in (38b), a 'scrambled' dative in (38d), and a fronted verb in (38c).

There are numerous languages that resemble Slavic languages in their word order characteristics. They are likely to outnumber [S[VO]]-languages proper, since, as in the case of Slavic languages, in word order typologies, such languages tend to be grouped with [S[VO]] languages. After all, a pattern such as (38a) is a frequent pattern in these languages, for independent reasons, though. Information structuring as well as language processing preferences account for unequal frequencies of the variants.

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 exploited 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

<sup>34</sup> In language typology, 'flexible order' has been recognised: "There are many other languages in which all six orders [of S, O, and V]<sub>HH</sub> 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 2013a). "Languages with highly flexible word order are themselves a linguistic type." (Dryer 2007:113).

<sup>35</sup> The variable V-positioning may serve as a demarcation point, for instance in information structuring, by separating the area of backgrounded information; see Junghanns (2001).

('T3') provide more headroom for information structuring (cf. Junghanns & Zybatow 1997, Kučerová 2007) than an SVO architecture.

As for scrambling proper, that is, variation of 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.<sup>36</sup>

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 original implementation of the peripherality generalization (39b) for head initial VPs in combination with the binary-branching principle (Chomsky 1981: 171), Barss & Lasnik (1986) showed to be empirically indefensible. If the *initial* and the *final* position of the head of a phrase were equally admissible foot positions, that is, the lowest structural positions, the respective phrase structures would have to be either *right-* or *left-*branching,<sup>37</sup> as in (39a) and (39b), respectively.

- (39) a. [Obj<sub>1</sub> [Obj<sub>2</sub> [YP V<sup>o</sup>]]]VP                      head-final structure  
       b. [[[V<sup>o</sup> YP] Obj<sub>2</sub>] Obj<sub>1</sub>]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 Obj<sub>2</sub>, and finally Obj<sub>1</sub>, the resulting serialization is Obj<sub>1</sub>←Obj<sub>2</sub>←YP←V for head-final VPs. For head-initial VPs, it should be the mirror image order, namely V→YP→Obj<sub>2</sub>→Obj<sub>1</sub>, as in (39b). This is empirically incorrect, however. The serialization (39a) is invariant across OV and VO, as a comparison between OV- and VO-Germanic demonstrates (40).

- (40) a. jemandem<sub>Obj1</sub> etwas<sub>Obj2</sub> in seine Tasche<sub>YP</sub> stecken  
           somebody<sub>Dat</sub> something<sub>Acc</sub> into his bag put  
       b. put somebody<sub>Obj1</sub> something<sub>Obj2</sub> into his bag<sub>YP</sub>

<sup>36</sup> 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 des Geldes auf ein anderes Konto – \*das Übertragen auf ein anderes Konto des Geldes  
    the transfer (of) the money to an other account                      – the transfer to an other account (of) the money

<sup>37</sup> A projection is *right*-branching, if every branching node on the projection line of the head is a node on the right hand side, that is, a node that follows its sister node. Conversely, in a left-branching structure the branching node on the projection line precedes its sister node

In fact, the structure (39b) is empirically inadequate in many more 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 a *derivational* conversion of 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 (1992/2000), (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  $\leftarrow$  [<sub>V'</sub> etwas  $\leftarrow$  [<sub>V'</sub> in seine Tasche  $\leftarrow$  stecken] <sub>V'</sub>] <sub>V'</sub>] <sub>VP</sub>

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. [<sub>VP</sub> put<sub>V°→</sub> [somebody [<sub>V'</sub> put<sub>V°→</sub> [something [<sub>V'</sub> put<sub>V°→</sub> [into his bag]]]]]]]  
 b. [<sub>VP</sub> put<sub>V°→</sub> [somebody [<sub>V'</sub> --V°→ [something [<sub>V'</sub> --V°→ [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 head-initial setting (44c,d), the head-final pattern (44a), plus the pattern with a sandwiched verb (44b), which is diagnostic of the ambidirectional setting of T3 languages. It is absent both in SVO and in SOV languages.

In a diachronic perspective, SOV and SVO typically are diachronic outcomes of T3, due to the change from 'unspecified' to 'specified' directionality of heads, with one of the two familiar options, namely head-final or head-initial. The Romance and Germanic languages can serve as a good example of such a diachronic development. They all started out with a T3 grammar. The contemporary Romance language are head-initial. The Germanic languages split into an SVO and an SOV group when the directionality value of the head got fixed, with the V2-property as an 'enzymatic' factor of the split; see Haider (2014) for details. In general, 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 VSO and the SVO type. As for the diachronic dynamics that lead to SVO, it is easy to point out a general fact. No language is known that has developed (without external influences such as strong bilingualism) from a language like English into a language like Latin, Russian, or Sanskrit. However, many languages are known to have developed in the other direction.

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

This subsection reviews the properties discussed in section 2 in the 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, show effects of this property in the majority of Slavic languages (see section 2.5 on left-branch extractions and section 2.4 on the LLC effect).

**4.1** An *obligatory preverbal* structural subject *position* is the hallmark of an [S[VO]] clausal architecture, with its obligatory, VP-external structural position for the subject. Obligatory *expletive* subjects are an immediate correlate of this property (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 (45a). In subjectless constructions, this obligatory spec position is 'plugged' by an expletive.

- (45) a. [FP XP<sub>j</sub> [F' F° → [VP e<sub>j</sub> [V° → ZP]]]] SVO  
 b. [VP XP<sub>Subj</sub> ← [V' ZP ← V°]] SOV

c.  $[_{VP} V_i^\circ \rightarrow [_{XP}_{Subj} [e_i \rightarrow ZP]]]$ 

VSO

In SOV (45b) and in VSO (45c), any argument of a verb remains within the directionality domain of the verbal head or a projection of it, whence the absence of the particular subject-related functional projection in the clause structures of these languages. The functional projection in (45a) provides a directionally licensing head for the preverbal, VP-internal subject, namely the functional head. Moreover, it is the trigger of raising the subject-XP to the spec-position of the licensing functional head. This is an effect of a general licensing condition which is explicated in detail in Haider (2015: 84). The licenser and the licensee must c-command each other under canonical directionality. In (45a),  $F^\circ$  c-commands the VP-internal subject position and the subject in its derived spec-position c-commands  $F^\circ$  by virtue of being raised to the spec position. The very same relation holds VP-internally and triggers the VP-shell structure<sup>38</sup> of complex, head-initial phrases (see Haider 2015: 85). In SOV and T3 grammars, any argument of a head finds its well-formed position already *within* the directionality domain of its head (45b,c). 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.

**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 qualifies as a wh-operator. In-situ Wh-elements in base positions are linked to wh-operators (Haider 2004; 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 SVO and T3.

**4.3.** The restriction against higher-order *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, but not in SVO.

**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

<sup>38</sup>  $[_{VP} V_i^\circ \rightarrow [_{DP} [e_i \rightarrow DP]]]$  as in:  $[_{VP} \text{deny}_i [_{nobody} [e_i \text{ anything}]]]$

Immediate supportive evidence for the internal, empty V-position comes from SVO languages that optionally strand verb particles. Such a phenomenon is completely absent in SOV languages, of course.

i. A man would  $[_{hand}_i [_{him} [e_i \text{-out a block of ice}]]]_{VP}$ . (Corpus of contemporary American English)



OV-languages, adverbial phrases are exempt since the preverbal side is the canonical side in OV. 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 (46a), since these are head-initial phrases, but not to left branches of VPs (46b).

- (46) a. \*Bessere<sub>i</sub> braucht man dafür [--<sub>i</sub> Theorien]<sub>NP</sub> Ger.  
       better<sub>Acc-pl</sub> needs one for-it theories ('One needs better theories for this')
- b. So eine Theorie<sub>i</sub> wird [--<sub>i</sub> 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 (46b), 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 (46) 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  $V^\circ$  in (47) 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, (47a-d) are results of the alternatively available head-positioning for the verb. Consequently, the argument positions in (47a-d) are base positions.

- (47) a. Subj  $V^\circ$  Obj<sub>1</sub> Obj<sub>2</sub>  
       b. Subj Obj<sub>1</sub>  $V^\circ$  Obj<sub>2</sub>  
       c. Subj Obj<sub>1</sub> Obj<sub>2</sub>  $V^\circ$   
       d.  $V^\circ$  Subj Obj<sub>1</sub> Obj<sub>2</sub>

The relative order of the arguments in (47a-d) is identical. Next, scrambling may apply. The defining property of scrambling is a change of the base order of arguments. (48) lists a few scrambling variants of (47).

- (48) a. Subj V° Obj<sub>2</sub> Obj<sub>1</sub> (scrambling variant of 47a)  
 b. Subj Obj<sub>2</sub> V° Obj<sub>1</sub> (scrambling variant of 47a)  
 c. Subj Obj<sub>2</sub> Obj<sub>1</sub> V° (scrambling variant of 47b or 47c)  
 d. Obj<sub>2</sub> V° Subj Obj<sub>1</sub> (scrambling variant of 47d or A-bar topicalization)  
 e. Obj<sub>2</sub> Subj V° Obj<sub>1</sub> (scrambling variant of 47a or 47b or A-bar topicalization)

Whenever the clause-initial argument 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, an argumental phrase in a topicalized position is in a non-argument position which is in a filler-gap relation to an argument position. Clause-internal scrambling, however, is filler-gap relation between two argument positions. In other words, the filler is in a (potential) A-position, and the gap is in the base position of the filler item. 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) and (2018), for instance, argues that the preverbal object in a Russian clause with 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 base order of the arguments is subject before object. The verb is positioned in one of the admissible positions, and in this case in the V-S-O order. The object is scrambled across the subject and the verb to the left edge of the "V-S-O"-ordered VP and remains within the directionally unconstrained licensing domain of the Verb. Thus, 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 of T3 languages rather than unexpected, highly exceptional patterns of [S[VO]] languages. In a T3 architecture, they are part and parcel of the T3 system's potential. Under an SVO perspective, Dixon's question (2011:183) "*Why impose word order and then dis-impose it?*" would remain unanswered since prototypical SVO languages do not scramble.

The correlation with information structure effects is not the cause but the effect. Whenever grammar admits variation, pragmatics and other components take advantage of it. Information structuring employs the syntactic freedom as a vehicle for partitioning this set of variants in terms of information structuring. Language processing is another component. For example, if grammar admits, embedded sentences or PPs and clauses tend to be postponed, unless the language is *strictly* head-final (= grammatically head-final).

For T3 languages, 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. Unlike in Romance and North-Germanic, there has been little chance of detecting immediate evidence for an articulate SVO clause structure.

**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 [S[VO]] languages is syntactically unjustified. Slavic languages are languages of a type that has not been sufficiently recognized yet in grammar theory. In this type ("T3"), unlike in the head-initial vs. head-final types, the positioning of the head in the (verb) phrase is not constrained directionally. Slavic languages are representative of the *unspecified* directionality value (at least for the VP) which – when valued – yields the well-known OV, VO, and VSO grammars. What appears to be highly exceptional from an SVO vantage point is completely regular in T3. Slavic languages ought to be recognized as what they are, namely regular members of a well sized type of T3 language, rather than highly exceptional SVO languages. This will also enhance the predictive power, descriptive precision, and the theoretical accuracy of fit of the respective type assignments.

*Acknowledgements:* We gratefully acknowledge the constructive critical feedback of three anonymous reviewers – two for this journal, and one for the *Journal of Slavic Linguistics*.

## Bibliography

- Alexiadou, Artemis & Elena Anagnostopoulou. 1998. Parametrizing Agr: word order, verb-movement and EPP-checking. *Natural Language and Linguistic Theory* 16, 491-539.
- Avgustinova, Tania 1997. *Word order and clitics in Bulgarian*. Saarbrücken: Universität des Saarlandes. PhD dissertation.
- Áfarli, Tor. 1992. *The syntax of Norwegian passive constructions*. Amsterdam: Benjamins.
- Bailyn, John 2002. Inversion, dislocation and optionality in Russian. In Gerhild Zybatow, Uwe Junghanns, Grit Mehlhorn & Luka Szucsich (eds.), *Current Issues in Formal Slavic Linguistics*, 280-293. Frankfurt/Main: Peter Lang.
- Bailyn, John F. 2003a. Does Russian scrambling exist? In Simin Karimi (ed.), *Word order and scrambling*, 156-176. Oxford: Blackwell.
- Bailyn, John F. 2003b. A (purely) derivational approach to Russian scrambling. In Wayles Browne (ed.), *Formal Approaches to Slavic Linguistics 11: The Amherst Meeting*, 41-62. Ann Arbor, MI: Michigan Slavic Publication.
- Bailyn, John F. 2004. Generalized inversion. *Natural Language and Linguistic Theory* 22. 1-49.
- Bailyn, John F. 2012. *The syntax of Russian*. Cambridge University Press.
- Barss, Andrew & Howard Lasnik. 1986. A note on anaphora and double-objects. *Linguistic Inquiry* 17. 347-354.
- Biberauer, Theresa, Anders Holmberg, Ian Roberts & Michelle Sheehan. 2010. *Parametric variation: Null subjects in Minimalist Theory*. Cambridge: Cambridge University Press.

- Blaszczak, Joanna & Susann Fischer. 2001. Multiple Wh-Konstruktionen im Slavischen: state of the art report. *Linguistics in Potsdam* 14.
- Bondarenko, Tanya & Colin Davis. 2021. Sub-extraction asymmetries and linearization in Russian. (to appear in) *Proceedings of FASL* 28. [lingbuzz/004915].
- Bouma, Gosse & Gertjan van Noord. 1998. Word order constraints on verb clusters in German and Dutch in complex predicates in nonderivational syntax. In E Hinrichs, Andreas Kathol & Tsuneko Nakazawa (eds.), *Complex predicates in nonderivational syntax*, 43-72. Leiden: Brill.
- Bošković, Željko 1997. Fronting Wh-Phrases in Serbo-Croatian. In Martina Lindseth, & Steven Franks (eds.), *Formal Approaches to Slavic Linguistics: The Indiana Meeting 1996*, 86-107. Ann Arbor: Michigan Slavic Publications.
- Bošković, Željko 1998. *Wh-phrases and wh-movement in Slavic*. Position paper. Workshop on Comparative Slavic Morphosyntax, 5-7 June 1998. Indiana University. download: [https://slaviccenters.duke.edu/sites/slaviccenters.duke.edu/files/media\\_items\\_files/10boskovic.original.pdf](https://slaviccenters.duke.edu/sites/slaviccenters.duke.edu/files/media_items_files/10boskovic.original.pdf)
- Bošković, Željko 2005. On the locality of Left Branch Extraction and the structure of NP. *Studia Linguistica* 59. 1-45.
- 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 2017. Extraction from complex NPs and detachment. In Henk van Riemsdijk & Martin Everaert (eds.), *The Wiley Blackwell Companion to Syntax* (ch. 42). Oxford: Wiley Blackwell. 2<sup>nd</sup> Edition.
- Brunelli, Michele. 2007. *Manual Gramaticale Xenerale de la Lengua Vènetà e le só varianti*. Bassano del Grappa: Basan. <https://1lib.eu/book/3029071/443cfd?regionChanged=&redirect=145101584>
- Chomsky, Noam 1981. *Lectures on government and binding*. Dordrecht: 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. *Univ. of Trondheim Working Papers in Linguistics* 28. 55-74.
- Dixon, Robert M.W. 2011. *I am a linguist*. Leiden: Brill.
- Dryer, Matthew S. 2007. Word order. In Timothy Shopen (ed.), *Clause structure, language typology and syntactic description* (vol.1), 61-131. 2<sup>nd</sup> ed. Cambridge University Press.
- Dryer, Matthew 2013a. Order of Subject, Object and Verb. In Matthew S. Dryer & Martin Haspelmath (eds.), Chapter 81. <http://wals.info/chapter/81> (accessed 2021-01-03).
- Dryer, Matthew. 2013b. Determining dominant word order. In Matthew S. Dryer & Martin Haspelmath (eds.), Chapter S6. <http://wals.info/chapter/s6> (accessed 2021-01-03).
- Dryer, Matthew S. & Haspelmath, Martin (eds.) 2013. *World Atlas of Language Structures Online*. Leipzig: Max Planck Institute for Evolutionary Anthropology. <http://wals.info>.
- Dyakonova, Marina. 2009. *A phase-based approach to Russian free word order*. Utrecht: LOT.
- Embick, David 1995. Mobile inflections in Polish. In Jill N. Beckmann (ed.) *NELS* 25. 127-142.
- Falk, Cecilia 1993. *Non-Referential subjects in the history of Swedish*. Lund: University of Lund dissertation.
- Fanselow, Gisbert 2004. The MLC and derivational economy. In Artur Stepanov, Gisbert Fanselow & Ralph Vogel (eds.), *Minimality effects in syntax*, 73–123. Berlin: De Gruyter.
- Fanselow, Gisbert & 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: Oxford University Press.
- Gaetone, David 1998. *Le passif en français*. Paris and Bruxelles: Duculot.
- Geerts, Guido, Walter Haeseryn, Jaap de Rooij & Maarten C. van den Toorn. 1984. *Algemene Nederlandse Spraakkunst*. Groningen: Wolters-Noordhoff.
- Gell-Mann, Murray & Merritt Ruhlen. 2011. The origin and evolution of word order. *Proceedings of the National Academy of Science*. 108. 17290-17295.
- Greenberg, Joseph. 1963. Some universals of grammar with particular reference to the order of meaningful elements. In J. Greenberg (ed.), *Universals of Language*, 58-90. Cambridge, Mass.: MIT Press.
- Grosu, Alex. 1973. On the left branch condition. *Linguistic Inquiry* 5. 308-319.
- Hentschel, Gerd. 2014. Belarusian and Russian in the mixed speech of Belarus. In Juliane Besters-Dilger, Cynthia Dermarkar, Stefan Pränder & Achim Rabus (eds.), *Congruence in contact-induced language change*, 93-121. Berlin: De Gruyter.
- Haider, Hubert. 1987. Expletives pro – eine Phantomkategorie [expletive pro – a phantom category]. In: Wolfgang U. Dressler, Corrado Grassi, Rosita Rindler-Schjerve & Martin Stegu eds. *Parallela III*. 237-247. Tübingen: Narr.
- 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 2003. V-Clustering and clause union – causes and effects. In Pieter Seuren & Gerard Kempen (eds.), *Verb Constructions in German and Dutch*, 91-126. Amsterdam: Benjamins
- Haider, Hubert 2004. The superiority conspiracy. In Artur Stepanov, Gisbert Fanselow & Ralph Vogel (eds.) *The Minimal Link Condition*. 147-175. Berlin: Mouton de Gruyter.
- Haider, Hubert 2010. *The syntax of German*. Cambridge: Cambridge University Press.
- Haider, Hubert 2013. *Symmetry breaking in syntax*. Cambridge: Cambridge University Press.
- Haider, Hubert 2014. The VO-OV split of Germanic languages – a T3 & V2 production. *Interdisciplinary Journal for Germanic Linguistics and Semiotic Analysis*. 19. 57-79.
- Haider, Hubert 2015. Head directionality in syntax and morphology. In: Antonio Fábregas, Jaume Mateu & Michael Putnam (eds.), *Contemporary linguistic parameters*, 73-97. London: Bloomsbury Academic.
- Haider, Hubert. 2019. On absent, expletive, and non-referential subjects. In Peter Herbeck, Bernhard Pöll & Anne C. Wolfsgruber (eds.), *Semantic and syntactic aspects of impersonality*, 11-46. Hamburg: Helmut Buske Verlag.
- Haider, Hubert. 2020. Towards a phrase-structure based typology. *lingbuzz/005617*. (submitted to *Linguistic Typology*).
- 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. *lingbuzz/004970*
- Junghanns, Uwe. 2001. On rightward backgrounding. In Gerhild Zybatow, Uwe Junghanns, Grit Mehlhorn & Luka Szucsich (eds.), *Current Issues in Formal Slavic Linguistics*, 329-343. Frankfurt am Main: Peter Lang.
- Junghanns, Uwe and Gerhild Zybatow 2007. Syntax and information structure of Russian clauses. In W. E. Browne (ed.), *Annual Workshop on Formal Approaches to Slavic Linguistics. The Cornell Meeting 1995*, 289-319. Ann Arbor: Michigan Slavic Publications.
- Kornai, András & Geoffrey K. Pullum. 1990. The X-bar theory of phrase structure. *Language* 66. 24-50.

- Kosta, Peter & Lilia Schürcks. 2009. Word order in Slavic. In S. Kempgen, Peter Kosta, T. Berger & K. Gutschmidt (eds.), *Die Slavischen Sprachen / The Slavic languages*, vol 1. 654-684. Berlin: De Gruyter.
- Kučerová, Ivona. 2007. *The syntax of givenness*. PhD-Dissertation. Cambridge, Mass.: MIT
- Larson, Richard. 1988. On the double object construction. *Linguistic Inquiry* 19. 335-91.
- Leszkowicz, Joanna. 2015. Scrambling im Polnischen als A-bar-Bewegung. In E. Dieser (ed.) *Linguistische Beiträge zur Slavistik: XX. JungslavistInnen-Treffen in Würzburg, 22.-24. September 2011*, 117-133. München: Verlag Otto Sagner.
- Liebsch, Georg (= Libš, Jurij). 1884. *Syntax der wendischen Sprache in der Oberlausitz*. Bautzen: Verlag von Michael Hornik.
- Liakin, Denis & Juvénal Ndayiragije. 2001. New look at an old problem: Multiple Wh-Fronting in Slavic. In G. Zybatow, U. Junghanns, G. Mehlhorn & L. Szucsich (eds.), *Current Issues in Formal Slavic Linguistics*, 206-213. Frankfurt/Main: Lang.
- Mallinson, Graham & Barry J. Blake, 1981. *Language typology: Cross-linguistic studies in syntax*. Amsterdam: North-Holland.
- Mayo, Peter. 1993. Belorussian. In Bernard Comrie & Greville G. Corbett (eds.), *The Slavonic Languages*, 887-946. London: Routledge.
- Meyer, Roland 2003. On multiple Wh-fronting and Wh-Clustering in Czech. In Wayles J. Browne, Ji-Yung Kim, Barbara Partee & Robert 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 & David M. Perlmutter 2000. What does it take to be a dative subject? *Natural Language and Linguistic Theory* 18. 373-416.
- Perlmutter David M. & John Moore 2002. Language-internal explanation: The distribution of Russian impersonals. *Language* 78(4). 619-650
- Quirk, Randolph, Sidney Greenbaum, Geoffrey N. Leech & Jan Svartvik 1985. (4<sup>th</sup> 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.
- Roberts, Ian. 1997. *Comparative syntax*. London: Arnold.
- Ross, John R. 1967. *Constraints on variables in syntax*. Cambridge, Mass.: MIT. PhD dissertation.
- Ross, John R. 1970. Gapping and the order of constituents. In Manfred Bierwisch & 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 Jindřich Toman (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.
- Scholze, Lenka. 2015. Deutscher Einfluss auf die obersorbische Wortfolge – Vergleich von Schrift- und Umgangssprache. In Sonja Wölke & Heike Bartels (eds.), *Einflüsse des Deutschen auf die grammatische Struktur slawischer Sprachen*, 198-213. Bautzen/Budyšin: Domowina

- Schürcks, Lilia. 2009. *Binding and discourse: where syntax and pragmatics meet*. Frankfurt: Lang.
- Siewierska, Anna. 2008. Introduction: Impersonalization from a subject-centred vs. agent-centred perspective. *Transactions of the Philological Society* 106.115-137.
- Siewierska, Anna / Uhliřová, Ludmila 2010. An overview of word order in Slavic languages. In A. Siewierska (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.
- Spevak, Olga. 2010. *Constituent order in classical Latin prose*. Amsterdam: Benjamins.
- Speyer, Augustin. 2018. Serialization of full noun phrases in the history of German. In: Agnes Jäger, Gisella Ferraresi & Helmut Weiß (eds.), *Clause structure and word order in the history of German*, 155-180. Oxford: Oxford University Press.
- Stepanov, Arthur 1997. On wh-fronting in Russian. In Pius N. Tamanji and Kiyomi Kusumoto (eds.), *Proceedings of NELS 28*, 453-467. GLSA, Amherst: University of Massachusetts.
- Sternefeld, Wolfgang 1985. On case and binding theory. In Jindřich Toman (ed.), *Studies in German grammar*, 231-287. Dordrecht: Foris.
- Stowell, Tim. 1981. *Origins of phrase structure*. Cambridge, Mass.: MIT Ph.D. dissertation.
- Sturgeon, Anne 2007. Another look at multiple wh-questions in Czech. In Magdalena Gołędzińska, Ulyana Savchenko & Richard Compton (eds.), *Formal Approaches to Slavic Linguistics 15, The Toronto Meeting 2006*, 402-416. Ann Arbor: Michigan Slavic Publications.
- Szabolcsi, Anna and Frans Zwarts 1993. Weak islands and an algebraic semantics for scope-taking. *Natural Language Semantics* 1. 235–85.
- Titov, Elena 2013. Scrambling at the interfaces. *Interdisciplinary Studies on Information Structure* 17. 33–53.
- Titov, Elena 2018. *The OVS construction*. [lingbuzz/004194](https://lingbuzz/004194)
- Toman, Jindřich 1981. Aspects of multiple wh-movement in Polish and Czech, in: Robert May & Jan Koster (eds.), *Levels of Syntactic Representation*, 293-302. Dordrecht: Foris Publications.
- Wiland, Bartosz 2010. Overt evidence from left-branch extraction in Polish for punctuated paths. *Linguistic Inquiry* 41(2). 335-347.
- Wurmbrand, Susi. 2004. West Germanic verb clusters: The empirical domain. In Katalin É. Kiss & Henk van Riemsdijk, *Verb clusters: A study of Hungarian, German, and Dutch*, 43-85. Amsterdam: John Benjamins.
- Zabrocki, Tadeusz 2016. Syntactic diacrisis in a rigid and a free word order language. *Investigationes Linguisticae* 34.113-150. Poznań: Adam Mickiewicz University.

Corresponding author:  
hubert.haider@sbg.ac.at