

## On the comparative syntax of OV-languages – relating unrelated languages

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### 1. Introduction

Title and plot of this paper refer to Tonoike (1991). In this paper, he intends to demonstrate how close the structural parallels between the organization of phrase and clause structure seem to be between Japanese and English, modulo the head-final versus head-initial positioning of the heads in Japanese and English, respectively. The phrasal architectures are assumed to be identical in their hierarchical organization. It is only the relative order of heads and complements that differs. In other words, in English, lexical as well as functional heads precede while in Japanese they arguably follow their dependants. As a consequence, functional extensions of lexical phrases – in particular the functional extensions of VP that constitute the structure of a clause – are assumed to be left-branching structures in Japanese, in contrast to the right-branching organization in English.

However, if head-complement order is the major difference, this should also be the source of the systematic structural differences between a language like English and a language like Japanese. The two languages are representative of two language types, namely the SVO and the SOV organization of clauses. The numerous syntactic differences are not language specific; they reflect general properties of OV vs. VO languages. SVO languages share properties that are systematically absent in SOV languages and vice versa. What is the source of these systematic differences?

In this paper, Japanese and German will be adduced as representative cases of languages with an OV organization of clause structure. It will be shown that the head-final organization of clause structure is the syntactic source of at least the following list of differences (for a more extensive set of contrastive properties see Haider (2010:11; 2013:130-32). This brief list is not exhaustive, of course, but it is sufficient for making the point.<sup>1</sup> OV languages share these properties; in VO languages they are absent. This calls for a principled explanation. If the phrase structures were basically homomorphic, the syntactic properties of these languages should be alike, too. The directionality of the head of the phrase will turn out to be the crucial source of the differences.

- scrambling: OV yes; VO no
- non-compact sequencing of arguments in OV, but not in VO
- compact V-clusters in OV, inducing clause-union properties
- no functional subject position in OV and therefore no subject expletives in constructions without a subject argument
- nominalization of sequences of verbs (*verb cluster nominalization*)

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<sup>1</sup> This list does not contain SOV properties that are absent in Japanese for principal reasons. In particular, it does not contain movement-related constructions (e.g. the absence of a ‘superiority’ constraint in OV) since Japanese does not employ wh-movement operations (like wh-movement for question formation and relative clauses, or fronting into spec-positions, as in V2-constructions in German).

## 2. SOV properties, exemplified by Japanese and German

OV languages reveal *scrambling phenomena*, VO languages do not.<sup>2</sup> Scrambling means linearization variation among nominal arguments, provided their relational grammatical status is marked distinctively (e.g. distinct case marking, distinct marking by post-positions, or distinct cross-referencing by means of agreement). As is well-known, Japanese and German allow for scrambling, but in English, scrambling is ungrammatical, even for relationally clearly identifiable items like the PP object in (1b,c):

- (1) a. They will bring boxes to you
- b. \*They will bring [to you]<sub>i</sub> boxes e<sub>i</sub>
- c. \*They will [to you]<sub>i</sub> bring boxes e<sub>i</sub>

Dutch shares the absence of morphological case marking with English. Dutch is OV, however, and so it allows scrambling of prepositional objects (Geerts et al. (1984): 989f.). (2) contrasts with (1b). In other words, Dutch scrambles; English does not.

- (2) Toen hebben de autoriteiten [aan de moeder]<sub>i</sub> het kind e<sub>i</sub> teruggegeven  
     then have the authorities to the mother the child back-given

The ungrammaticality of scrambling and the *compactness* of the sequence of nominal objects are instances of the very same restriction. In English, the sequence of the main verb and its objects is compact in the sense that intervening adverbials are ungrammatical:

- (3) a. She hugged (\*gently) her daughter
- b. She gave her daughter (\*gently) a hug

In OV languages, adverbials may intervene<sup>3</sup> freely, both in Japanese and in German.

- (4) a. Sie hat ein Kind (sanft) umarmt  
     she has a child (gently) embraced
- b. Sie hat einem Kind (sanft) die Augen aufgemacht  
     she has a child (gently) the eyes opened

Adverbials are interveners and so are scrambled items. This (at least partially) explains why these two properties are strictly correlated. What rules out the former, rules out the latter in VO.

Compactness is also at issue with sequences of verbs, that is, the main verb plus (quasi)-auxiliaries. In the case of verbs, compactness is a property of the clause-*final* sequence of verbs in a simple clause in OV languages. For head-initial sequences, there is no compactness restriction, as the following English example from Quirk et al. (1986:495 §8.20) demonstrates:

- (5) The new theory *certainly* may *possibly* have *indeed* been *badly* formulated

In VO, even in ‘restructuring’ constructions (as familiar from Italian and other Romance languages), adverbs may be placed between any two of the verbs:

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<sup>2</sup> I am aware that scrambling is a typical property of Slavic languages and that these languages are customarily filed as SVO. This attribution is empirically inadequate, however. Slavic languages do not share the typical SVO correlates. They are representative of a hitherto overlooked third type (see Haider & Szucsich (in press)).

<sup>3</sup> The object in (4) is not scrambled. It is indefinite and retains its existentially quantified interpretation.

- (6) a. Maria lo<sub>i</sub> vuole poter (*immediatamente*) comprare e<sub>i</sub>  
       Maria it<sub>cl-acc</sub> wants be-able (immediately) buy  
       ‘Pia wants to be able to buy it (immediately)’  
       b. Maria lo<sub>i</sub> vuole (*immediatamente*) poter comprare e<sub>i</sub>

In German or Dutch, however, and in fact in any other OV clause structure, the sequence of clause final verbs does not tolerate any intervening material (except for particles of particle verbs), as (7b,c) illustrate.

- (7) a. .... V° (\*X) V° (\*Y) V°  
       b. \*dass er gesprochen *mit der Frau* haben muss  
           that he spoken with the woman have must  
       c. \*dass er gesprochen haben *mit der Frau* muss  
       d. [Gesprochen mit der Frau]<sub>i</sub> muss er e<sub>i</sub> haben  
       e. [Gesprochen haben mit der Frau]<sub>i</sub> muss er e<sub>i</sub>

VPs are extraposition sites in German, as the topicalized VPs in (7d,e) exemplify. The PP may be extraposed within the VP. In this case, it follows the head verb. However, reconstructing the topicalized VP into its base position would be ungrammatical (7b,c). Let me point out in passing that this fact is detrimental for a copy theory of movement, too.

The source of this syntactic behavior is ‘verb clustering’. This is a phenomenon of OV languages. In head-final languages, complex head-final V-projections would be center-embedding structures. V-clustering is a grammatical means of avoiding stacked, center-embedded V-projections in simple clauses (8a). Instead of stacking VPs, the main verb and the (quasi)-auxiliaries are joined in a head-to-head adjunction structure, that is, a verbal cluster (8b). For Japanese, Saito and Hoshi (1998) argue that ‘restructuring’ involves complex predicate formation via direct merger of the verbs (see also Miyagawa 1987, Takahashi 2012). For German and Dutch, the same conclusion is defended in Haider (1994, 2010). Compactness is an immediate consequence of clustering. As head-to-head adjunction structures, verb clusters do not provide any room for intervening phrasal material.

- (8) a. \* ... [[[ XP V<sub>1</sub> ]<sub>VP</sub> V<sub>2</sub> ]<sub>VP</sub> V<sub>3</sub> ]<sub>VP</sub>  
       b. ... [XP [[V<sub>1</sub> V<sub>2</sub> ]<sub>V°</sub> V<sub>3</sub> ]<sub>V°</sub> ]<sub>VP</sub>

The bracketing notation betrays the offending property of (8a) in comparison to (8b) by its accumulation of brackets at the beginning. In (8a), the lowest VP is the most deeply embedded recursive domain. Verb clustering replaces stacked VPs by a single VP with stacked verbal heads. The verbal cluster is a local domain that does not provide any room for phrasal recursion. In short, this is the reason why the grammar of OV languages provides clustering. Clustering is parser-friendly and the clustering property of OV languages is a consequence of grammar-parser co-evolution in terms of the cognitive evolution between grammars a cognitive structures and the parser as part of the selecting environment (see Haider 2013, ch. 2; Haider (in press)).

Let us turn now to THE characteristic property of the SVO clausal architecture, namely the obligatory functional subject position preceding the VP.<sup>4</sup> Its grammatical *raison d'être* is the head-initial structure of the VP. In clauses with a head-final VP the grammatical trigger for projecting this functional layer is not operative (see section 3):

- |     |  |     |
|-----|--|-----|
| (9) | a. [ <sub>VP</sub> Subj. [ <sub>V°</sub> Obj.]]  | SVO |
|     | b. [ <sub>VP</sub> Subj. [Obj. <sub>V°</sub> ]]  | SOV |
|     | c. [... [ <sub>FP</sub> Subj <sub>i</sub> [ <sub>F°</sub> →[ <sub>VP</sub> e <sub>i</sub> [ <sub>V'</sub> <sub>V°</sub> → .....]]]]] | SVO |
|     | d. [...[ <sub>VP</sub> Subj [ <sub>V'</sub> ..... ← <sub>V°</sub> ]]]  | SOV |

In a head-initial VP of the SVO-type, there is a single argument, namely the subject, which precedes the verb (9a). All the other arguments follow. In OV, every argument precedes the verbal head (9b). So, SVO singles out the highest argument already in the VP by placing it outside the domain of the object arguments. Given that the serialization of the objects relative to the verb is triggered by a directionality property of the head, the subject is not within the directionality domain of the verb in VO languages, but in OV languages it is. This is an essential grammatical difference. In VO, a functional head preceding the VP provides the directional license by a head and it provides a spec-position, too (9c). This is the source of the EPP property of SVO languages. The EPP property known from SVO languages is absent in OV languages (9d).

Expletive subjects are an immediate reflex of the obligatory functional subject position in SVO languages. Their systematic absence in OV languages proves the point. Since there is no obligatory functional subject position, there is no room for an expletive subject, and there is no need for explaining them away.

In Japanese, the absence of subject expletives could be explained away by reference to the null-subject property of Japanese which in fact is a null-topic property. Japanese is a topic-prominent language. Consequently, it permits null-topics, both for subjects as well as for objects. But, expletive subjects do not qualify as topics. So, topic-drop would not apply. An expletive subject is not employed in a clause without a subject argument, neither in Japanese nor in German (10):

- |      |                                    |
|------|------------------------------------|
| (10) | a. Es wurde nicht gekämpft         |
|      | EXPL was not fought                |
|      | b. dass (*es) nicht gekämpft wurde |
|      | that EXPL not fought was           |

In (10a), there is an expletive in the clause-initial position, but this is not a subject expletive. It is the expletive in the obligatory clause-initial spec-position of a German declarative clause. The expletive in (10b) would be the subject expletive and it is ungrammatical. Again, one ought to resist the temptation of explaining it away by allusion to a potential variety of pro-drop.

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<sup>4</sup> Originally, Chomsky (1981:40) correctly associated this property with „English and similar languages“. Later, it was mistakenly elevated to the rank of a universal property of clause structure and named EPP.

First, and in general, the explanatory gain would be nil if one insisted that each and every OV language is a semi-pro drop language simply because they all lack an expletive subject in clauses without a subject argument.

Second, and in particular, German is not semi-pro drop in other contexts. For instance, the subject expletive is mandatory in middle constructions of intransitive verbs (11) while in extraposition constructions, the “es” may be present or absent, both for subjects (12a) and objects (12b), with different syntactic effects, though.<sup>5</sup>

- (11) Hier sitzt \*(es) sich bequem  
here sits (it) itself comfortably  
,Here, one sits comfortably‘
- (12) a. Mich hätte (es) interessiert, ob das stimmt  
me had (it) interested, whether this correct-is  
b. Er hat (es) bestätigt, dass das stimmt  
he has (it) confirmed that this correct-is

For German subjectless passives, there is no choice, however. An expletive would turn the sentence ungrammatical (10b). There is, of course, independent and confirming evidence for VP-internal subjects in SOV. Since Japanese does not employ fronting operations to a clause-initial spec-position, the evidence is adduced from German. For example, a transitive subject may be part of a topicalized VP (13) in German.

- (13) [Der Mut verlassen]<sub>VP</sub> hat den Mann schon oft  
[the courage<sub>Nom</sub> left] has the man<sub>Acc</sub> already often

Another clear case of contrast between OV and VO is the principal permeability of subject clauses for extractions in SOV languages, in contrast to SVO languages. In (14), the *wh*-item is extracted out of the infinitival subject clause of a transitive verb (Haider 2010: 201, 155); in (15) out of a scrambled object clause.

- (14) [Wen]<sub>i</sub> würde [dorthin *e<sub>i</sub>* begleiten zu dürfen] dich mehr freuen, sie oder ihn?  
whom would [thither escort to be-allowed-to] you more please, her or him?  
‘whom would it please you more to be allowed to escort, her or him?’
- (15) [Wen]<sub>i</sub> hat (denn) [*e<sub>i</sub>* damit zu attackieren] jemand versucht?  
whom has (PARTICLE) [with-it to attack] somebody tried

Independent evidence for the existence of verb clusters in OV comes from deverbal nominalization. This construction is not admissible in VO languages simply because there is no base for this kind of nominalization since VO languages do not cluster verbs. Here are some specimens collected in web searches (16a-c):

- (16) a. das [Liegen-Lassen]<sub>N°</sub> von Gegenständen auf der Fahrbahn  
the [lie (about) let] of objects on the roadway

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<sup>5</sup> In the presence of „es“, the extraposed clause is an opaque domain for extraction. Extraction is ungrammatical. If it is absent, extraction is grammatical. This indicates that there is no null pronoun instead of “es”. It would block extraction just like the overt pronoun does.

- b. das [*Ertragen-Müssen*]<sub>N°</sub> von Schmerz  
the [bear must] of pain (,the state of having to bear pain‘)
- c. das [*Verstehen-Wollen*] des Anderen  
the understand-want (of) the<sub>Gen</sub> other
- d. das [*Gesehen-Werden-Wollen*]<sub>N°</sub> des Franz Müntefering  
the seen-be-want] (of) the<sub>Gen</sub> Franz Müntefering

German NPs are head-initial, VPs are head-final. So it is easy to inspect the effect of nominalizing. The preverbal objects of the VP (17) are turned into nominal objects in the NPs in (16). Direct objects of the verb become genitive objects (16c) or prepositional objects (16a,b) in the NP. The genitive in (16d) is a subject-related genitive (as in: *Wile’s proof of the theorem*).

- (17) a. [*Gegenstände*<sub>Acc</sub> auf der Fahrbahn [*liegen*<sub>V°</sub> *lassen*<sub>V°</sub>] <sub>VP</sub>]<sub>VP</sub>
- b. [*Schmerz*<sub>Acc</sub> [*ertragen*<sub>V°</sub> *müssen*<sub>V°</sub>] <sub>V°</sub>] <sub>VP</sub>
- c. [*den Anderen*<sub>Acc</sub> [*verstehen*<sub>V°</sub> *wollen*<sub>V°</sub>] <sub>V°</sub>] <sub>VP</sub>
- d. [[*gesehen*<sub>V°</sub> *werden*<sub>V°</sub> *wollen*<sub>V°</sub>] <sub>V°</sub>] <sub>VP</sub>

Crucially, nominalization applies to zero level items. A cluster of verbs is the result of head-to-head adjunction and hence it counts as a (complex) zero level category. In VO, however, the corresponding verbs are the heads of stacked VPs; hence they are part of phrase level categories. So there is no way of joining verbs into a verb cluster for providing the necessary base of a deverbal nominalization in an SVO language:

- (18) a.\*the *let-go-skiing*
- b.\*the *letting-go skiing*
- c.\* the *letting-going skiing*

Cluster nominalization must not be confused with phrasal nominalizations as in the case of combining a VP with an article or a possessive, as in (19). In this case, the internal structure remains unaffected. It remains a VP.

- (19) [*das*<sub>D°</sub> [*dauernde* [*den Anderen verstehen wollen*]<sub>VP</sub>]<sub>DP</sub>  
the [permanent [the other-one understand want]]

The essential difference is easy to isolate in German. In the nominalized form (16c,d), a nominal argument follows the head and bears genitive case, since NPs are head-initial and the objects of nouns are marked with genitive. In the VP (17c; 19), the object is marked accusative and it precedes the verbal head(s). In Japanese, the difference is less obvious, since NP and VP are both head-final. But case reflects the difference between a V-dependent argument (accusative (20a)) and an argument of a nominalized verb cluster (genitive (20b)).<sup>6</sup>

- (20) a. [*tegami-wo* [*kak-i - wasure*]-*ru/ta*]<sub>VP</sub>  
letter-acc [write-inf - forget] -Present/Past
- b. [*tegami-no/\*-wo* [*kak-i - wasure*]]-*wa*<sub>Nom</sub>]<sub>NP</sub>  
letter-Gen/\*-Acc write forget (‘the forgetting of the writing of a letter’)

<sup>6</sup> I gratefully acknowledge that these examples were kindly provided to me by Masayuki Oishi (p.c.).

An in-depth exposition can be found in Haider (2010 ch.1) and Haider (2013, ch. 3 and 5). The core theoretical assumptions are the following:

- (21) i. Phrases are endocentric and universally *right-branching*.<sup>7</sup>  
 ii. A dependent phrase is licensed<sup>8</sup> by the head in the *canonical direction*.

*Compactness, strict word order* and the *need for a functional head* that relates to the subject in VO languages are properties that follow immediately from clause (21ii), as will be shown. Let me emphasize that the *very same* principle, applied under different directionality produces the different outcomes for OV and VO.

According to (21i.) the universal structural grid of a single phrase is that of (22a) but not (22b). (22a) offers two alternative foot positions for a head, namely *x* or *y*.

- (22) a. ... [ ... [ ... [x y]]]  
b.\*[[[x y] ... ] ... ] ...

The value for the canonical licensing direction is parametrical, that is, it is either progressive (“→”) or regressive (“←”). The two implementations in (23) illustrate the directionality difference in the sub-tree that contains the head.

- (23) a. ... [ ... [ ... [ZP ← V°]]] OV  
 b. ... [ ... [ ... [V° → ZP]]] VO

The crucial differences between OV (23a) and VO (23b) become ‘visible’ when the phrase becomes more complex (24). In OV (23a), the canonical direction of licensing is congruent with the direction of merger. In (23b), however, the canonical direction is opposite to the universal direction of merger. This is the source of VP-shell formation which in turn is the source of compactness:

- (24) a. ... [ YP [<sub>V'</sub> V° → ZP]]  
 b. ... [V<sub>i</sub> → [ YP [<sub>V'</sub> e<sub>i</sub> → ZP]]]

When a second object is merged in VO (24a), its position is not in the directionality domain of the head. Hence the head is re-instantiated (24b). This amounts to the formation of a VP shell. A shell is necessarily compact because of the minimality requirement of the licensing condition (see fn. 7). Any intervening phrase would destroy the relation of *minimal* c-command between the verb and YP, or between YP and the trace of the verb. Since this is the core of the licensing relation, interveners are excluded from complex head-initial phrases.

In OV, the situation is different, since the canonical directionality of licensing is congruent with the directionality of merger:

- (25) a. ... [ ... [YP ← [<sub>v'</sub> ZP ← V°]]]  
 b. ... [ ... [YP ← [Adv-P ← [<sub>v'</sub> ZP ← V°]]]]

<sup>7</sup> In other words, the direction of merger *within* a phrase is universally to the left.

<sup>8</sup> A head  $h$  licenses a dependent phrase  $P \equiv_{\text{Def.}}$  (a projection of)  $h$  and  $P$  *minimally* and *mutually c-command* each other (Haider 2010:29).

In (25a),  $V'$  as a projection of the head is a licit licenser for YP, but not in (24b) for the simple reason, that the canonical directionality domain of  $V'$  includes YP in (25a), but not in (24b). Consequently, the OV structure tolerates interveners (26a, but the VO structure does not (26b,c). An Adverb, for instance, as an adjunct to  $V'$  would not interfere with minimality, since there is always a sister node for the next higher argument (viz. YP) that is a projection of the head with the required directionality.

This is the essential difference between VO and OV. In OV, the projection nodes are potential licensing nodes, in VO they are not, because of the directionality mismatch. In VO, the only licensing element is the head, and therefore it must be re-instantiated, whence the shell structure of complex head-initial phrases. This explains compactness of VO structure and the incompatibility with scrambling.

- (26) a.  $[_{V'} YP \leftarrow [_{V'} Adv \leftarrow [_{V'} ZP \leftrightarrow V^{\circ}]]]$   
 b. \*  $[_{V'} V_i^{\circ} \rightarrow [_{V'} Adv YP [_{V'} [_{V'} e_i \leftrightarrow ZP]]]]$   
 c. \*  $[_{V'} V_i^{\circ} \rightarrow [_{V'} YP [_{V'} Adv [_{V'} e_i \leftrightarrow ZP]]]]$

In (26b), the adverb would destroy the minimal c-command relation between V and YP. In (26c), the adverb prevents YP from minimally c-commanding the empty verb position, which is required for mutual c-command between V and YP. In each case, *minimal & mutual* c-command is violated.

Note that in (26), the crucial property of the adverb is its status as an *intervening* element. The very same intervener status blocks scrambling. If an argument is scrambled, this means it is adjoined higher up. This turns the scrambled item into the same kind of intervener element as an adverb. Thus, compactness and the ban against scrambling are just two sides of the same medal.

The directionality mismatch is the trigger of the ‘EPP’ property of SVO structures. In SVO, the highest argument in the VP is outside the directionality domain of the verbal head (27a). Therefore, a functional head provides the directional licensing (27b). This functional projection establishes the functional subject position typical for SVO languages. In OV, all arguments of a verb are within its directionality domain, whence the absence of this functional projection in OV.

- (27) a. ....  $[_{VP} XP [V_i \rightarrow [ YP [_{V'} e_i \rightarrow ZP]]]$   
 b.  $[_{FP} XP_j [F^{\circ} \rightarrow [_{VP} e_j [V_i \rightarrow [ YP [_{V'} e_i \rightarrow ZP]]]]]$

Verb clustering is related to the right-branching constraint (clause i.), too. Stacking VPs in OV produces left-branching structures. Cluster-formation avoids the stacking of VPs in favor of a single VP with a verb cluster.

## Summary

Uniform principles – directional licensing (21ii) in universally right-branching phrases (21i) – produce two distinct sets of syntactic properties when applied to parametrically instantiated phrase structures, that is, to head-initial (VO) versus head-final (OV) phrases.

In OV, the direction of licensing matches the direction of merger. Hence, the head as well as any of its projection nodes are potential licensing nodes. In head-initial phrases, however, the



direction of licensing is the opposite of the direction of merger. So, directional licensing depends only on the head of the phrase. Consequently, complex head-initial phrases display a shell structure. The head must be re-instantiated in order to be able to directionally license its complements. In OV, directional licensing is accomplished by the projection node that happens to be the sister node of a merged phrase.

The shell-structure plus the minimal c-command requirement for licensing amount to the grammatical causality for the typical restrictions of head-initial phrases, namely compactness and rigid order. For head-final phrases, these restrictions do not come up.

However, there are restrictions for head-final phrases – in particular for head-final VPs – that are absent in VO settings. These restrictions are the restrictions that apply to verbal clusters. Verbal clustering is a means of avoiding left-branching VP stacks, that is, stacked, center-embedded VPs. In head-initial languages, VP stacks are right-branching. Hence there is no need for providing an alternative to center-embedding. So, verbal clustering is not at issue in VO grammars.

Japanese, as a consistently head-final language, and German, as a mixed head-final language (i.e. head-final VP, head-initial NP), share the syntactic properties of head-final phrase structures for verbal projections and a sentence structure that is based on this type of VP. They contrast systematically with consistently head-initial languages like English.

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