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How to turn German into Icelandic – and derive the OV–VO contrasts*

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Abstract. Icelandic and German differ in the head-complement order (VO vs. OV), but their morpho-syntactic systems of verbal and nominal inflection are similar enough for factoring out the specific grammatical effects of the OV/VO-property. The analysis of a broad range of constructions (quirky subjects, expletive subjects, object shift, scrambling, particle constructions, V-clustering) provides the empirical basis for the following claim: the headedness difference (OV vs. VO) is the basic and crucial factor for the systematic differences between the respective grammars. As for the theoretic modeling of the OV/VO property, the key concept is argued to be a universal constraint on the direction of merger interacting with the directionality of licensing by the head.

1. Introduction

A comparison of Icelandic and German is a most advantageous testing ground for competing grammar theoretic models of the 'VO' and 'OV' parameterization. Icelandic is consistently head-initial ('VO') whereas German is head-final in the V projections ('OV'). The two languages differ with respect to headedness (OV vs. VO), but their morphosyntactic systems of verbal and nominal inflection are similar to an extent that guarantees a broad enough common background for identifying the specific effects of the different headedness options and their underlying grammatical causalities.

The following phenomena will be discussed as examples of pairs of contrasts that are assumed to result from the reverse headedness as the single source factor in interaction with common core grammar principles:

- unique and obligatory *functional* subject *position* vs. VP-internal nominative licensing

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- quirky subjects vs. object-initial base orders
- object shift vs. scrambling
- particle constructions with multiple vs. single stranding positions
- stacked VPs vs. V-clustering and clause union

The answer to the title question will be simple: change the headedness directionality of the verbal heads in German, and what you get (and indeed should expect to get) for free is a lot of Icelandic syntax. In other words, the different headedness value and its corollaries in the system of grammar are shown to cover a wide range of syntactic contrasts between Icelandic as a Germanic VO and German as an OV language.

The paper is organized as follows: Section 2.1 provides background information on controversial issues of the clausal architecture of German, in comparison with Icelandic. In particular, it will be argued that the architecture of a simple clause in German (OV) and in Icelandic (VO), for principled reasons, differs to a greater extent than is recognized in current writing. Section 2.2 prepares the grammar theoretic background for the discussion of head-initial and head-final projections. It is argued that VO requires a more articulate VP structure than OV, namely VP shells, for principled reasons. VP shells are a direct consequence of implementing the headedness value in a universally constrained merging system (there is a ban against merger on the right-hand side). OV does not require shells. This is the basic difference that is reflected in the construction differences to be discussed below. Section 2 concludes with a discussion of the existence of apparently hybrid VO–OV languages (as has been claimed for older stages of Germanic languages, and notably for Icelandic). Yiddish is a good and living example of this hybrid nature. Its alleged hybrid status stems from the same source as the OV–VO contrast, namely partial VP shell projections in the course of merger. A language like Yiddish is neither strictly VO nor strictly OV but rather an example of a third possibility that has not been fully appreciated hitherto, neither for the analysis of Yiddish nor for its impact on accounts of the diachronic split of the German language family into an OV and a VO group. Section 3, the main data section, discusses the above-mentioned areas of Icelandic-German contrasts, their analyses, and their theoretical implications. Section 4 summarizes the results and discusses their impact for competing accounts of OV vs. VO.

2. Basic issues of the clausal architecture in an OV–VO perspective

Current theoretical approaches in the Generative Grammar family tend to reduce surface structure differences to derivational differences. In the Minimalist Program (Chomsky 1995), surface order differences are the result of fixing the spell-out point on earlier or later stages of a basically identical derivation. From this point of view, the difference between a VO and VO organization of a language becomes a difference in terms of the derivational history of the respective clause structure. In principle, either OV or VO could be a derivational continuation of the VO or OV structure, respectively. Currently, VO seems to be the preferred candidate for the derivational continuation into OV. The LCA-based approach (Linear Correspondence Axiom, see Kayne 1994 p. 33 and Zwart 1997 for Dutch) takes head-final structures to be derivationally transformed head-initial structures.

In the LCA approach, the essential difference between the Icelandic structure for (1a) and the German structure for (2a) would be the result of additional movements in German: the German order (1b) would be derived from a structure like that for (1a) by moving VP-internal material to the left of the VP. More efforts are needed for deriving the order of clause-final auxiliary verbs in German, which is the mirror image order of the VO order ((1c) vs. (2b) or (1d)): VP-internal material must be fronted, and then the evacuated VP must change places with the selecting auxiliary. Proponents of this analysis remain silent on the trigger issue.[1] Why should all these elements move and not stay? In other words, what triggers the VO-to-VO mutation, and why should Universal Grammar (UG) admit OV languages at all?

(1) a. Ég hef ekki Þekkt *Þessa konu* ⇐ *by VP-evacuation*
I have not known this woman = German with Icelandic words; (2a)

b. 'Ég hef *Þessa konu*$_i$ ekki Þekkt e$_i$' ⇐ *by VP-evacuation* + *VP-fronting*[2]
I have this woman not known = German with Icelandic words; (2b)

c. að ég hef ekki Þekkt *Þessa konu*

d. 'að ég *Þessa knou* ekki *Þekkt* hef'

(2) a. Ich habe diese Frau nicht gekannt
I have this woman not known
b. da ich diese Frau nicht gekannt habe
that I this woman not known have

In this view, the OV properties of German are derived as superimposed on a VO-type structure. So the basic, and merely masked, VO properties continue to exist However, the data tell a different story (see Haider 2000 for a more detailed discussion of the drawbacks of the LCA account for OV). The comparison of German and Icelandic will indicate that the derivational extension approach is not satisfactory. German does not behave like a derivational extension of Icelandic structures in any significant respect.

Contrary to widely held beliefs, German does not provide an *obligatory, structural subject position*, that is, a functional spec position for checking subject features, and German does not show (overt) 'V-to-I' movement (for the dissidents' view see Haider 1993 and earlier work cited there; Broekhuis 1992). This is not a peculiar feature of German but a general consequence of the OV character in combination with the morphosyntactic inventory of German. I will briefly explain this in Section 2.1, with two motives. First, one ought to give adequate reasons if one does not follow the mainstream analyses, and, second, the analysis proposed as alternative (and required for a satisfactory account of the data) is highly minimalist in terms of the clausal architecture for German (see Haider 1997a, b).

I shall try to demonstrate that head-final projections are more elementary and that the relation between Icelandic and German on the level of phrasal and clausal architecture is not simply that of a derivational extension but rather of the implementation of different headedness values in a universal system of phrasal architecture, with different outcomes.

Let me illustrate the issue with a simple question. Why does Icelandic, but not German, have *quirky subjects*?[3] Icelandic and German have the same case system (Nom, Ace, Dat, Gen as cases of verbal arguments), and both languages allow VP-internal nominatives. The latter property indicates that in both languages nominative checking does not depend on a specific structural position in 'surface structure' but that it depends on an overt agreement relation. A quirky subject is a non-nominative DP in the functional spec position that otherwise accommodates the nominative subject. By virtue of being the inhabi-

tant of the functional subject position, the non-nominative phrase acquires subject properties.

A particularly clear instance of a subject property in Icelandic (see Sigurðsson 1989, pp. 204f) is, for instance, the alternation with a PRO subject. Quirky subjects, just like ordinary nominative subjects, are in complementary distribution with PRO in finite and infinitival clauses, respectively. In other words, the PRO subject of the infinitival clause may correspond not only to a nominative subject of the finite clause but also to a dative or accusative DP if the construction is a quirky subject construction.

(3) a. að mér líkar þessi hákarl (*Icelandic*)
that me$_{dat}$ likes this shark$_{Nom}$
b. Ég vonast til að [PRO líka þessi hákarl]
I hope for to [PRO$_{Dat}$ please$_{inf.}$ this shark]
I hope that the shark will please me.

In German, the PRO subject of an infinitival clause always corresponds to a potential nominative argument and not to a non-nominative one.[4] This indicates that in German, a dative or an accusative cannot function as a structural subject. This is unexpected, however, if German has basically a system like Icelandic with some additional movements to the left, given that German would then offer all the necessary prerequisites for this very construction. Take, for instance, the passive of a double object verb, as in (4a). Nominative checking, as in Icelandic, does not require fronting, so the VP-internal nominative may be pied-piped by VP topicalization, as in (4b).

(4) a. *daß* Kindern oft Märchen erzählt werden
that children$_{Dat}$ often fairy-tales$_{Nom}$ told are
b. [Märchen erzählt] werden Kindern oft
fairy-tales$_{Nom}$ told are children$_{Dat}$ often

The corresponding passive construction in Icelandic would be one in which the dative DP can be fronted to a spec position and thereby turned into a quirky subject. Why is this not the case in German, that is, why does the dative not acquire subject properties?

The answer to this question cannot be a construction-specific one, that is, it cannot depend on a peculiar difference in passive formation or

on the properties of infinitival clauses. It must be given on a general level of clause structure differences between Icelandic in German, or else it would miss a crucial generalization: the Icelandic clause structure provides an obligatory structural subject position; the German clause structure arguably does not.[5] If the German clause structure is taken to be merely a derivational continuation of the Icelandic one, ample and systematic counterevidence casts profound doubts on the potential success of this enterprise. German differs systematically from Icelandic in two basic and crucial respects. First, the finite verb in its clause-final position stays *in situ* in its VP-internal head position and is not raised to a functional head position (no overt V-to-I). Second, there is no evidence for an obligatory functional subject position in the German clause (there are no EPP effects; see footnote for discussion of Extended Projection Principle).

This is a clear contrast to Icelandic. In Icelandic the finite verb moves out of the VP to a functional head position both in main clauses and in C-introduced embedded clauses. In addition, Icelandic provides a functional spec position for subjects.

This contrast is not so much language specific as type specific. For VO, the existence of a functional projection for licensing subjects is predictable, just as it is predictable for OV that there is no need for this kind of functional projection: in VO, the so-called spec-of-VP position precedes V° and thus is outside the domain of directional licensing since in VO, V° licenses elements that follow. In OV, however, any position in the VP (attached to the projection line) is a position in the domain of directional licensing of V° since all positions precede V°, and V° licenses preceding elements.

2.1. Evidence against overt 'V-to-I' in German

This subsection provides a single argument for the claim in the paragraph above: there is no overt 'V-to-I' for finite verbs and no functional subject position in German. The impact of this result is the following: *neither* the verb *nor* the subject moves to a functional projection, this is surprisingly unless there is no functional projection available or necessary that could trigger these movements.[6] This insight is crucial for understanding the German-Icelandic contrasts. Why does German scramble but not Icelandic? The answer will be this: scrambling does not leave the extended VP. Scrambling data confirm that in German, neither

subjects nor objects move to clause-internal spec positions (see Section 3.3).

With respect to 'V-to-I' raising, German seems to behave like Faroese (see Vikner 1995, p. 148): the verb does not have to raise.[7] The verb stays in its VP-internal head position, and the finiteness features get checked *in situ* (or in a derivation *after* spell-out, in Chomskyan terms). There is direct positive evidence for this claim, and it comes from verbs with multiple and separable prefixes.

The argument is simple. Whenever a verb has moved to an *intermediate* functional head position, it cannot be prevented from moving to a higher functional position if movement to this position is required. A familiar instance of this is 'V-to-I' followed by 'V-to-C' in English: if a verb is moved by 'V-to-I', it will move again, if 'I-to-C' applies. There are no cases in which verbs of an exceptional verb class only move to I but do not move further. In other words, if a verb is moveable in the first step, it moves in further steps too. On the other hand, verbs may resist movement (to intermediate functional heads) and stay *in situ*, as for instance, English main verbs or finite verbs in mainland Scandinavian languages. So we note this: there are no exceptional verbs that allow 'V-to-I' but resist further movement to C.[8]

With this in mind, let us analyze what the theory predicts for German verbs with more than one separable prefix[9] (see Haider 1993, p. 62 and Vikner 2002). It is easy to find or to construct them because particle-verb formation is a productive word formation paradigm in German. Here is the prediction: verbs with two separable prefixes are unable to move from the position in which the particle is stranded. This is so because there is no way to strip off both particles without violating a stranding condition. Let me illustrate this with a verb like *mit-an-kündigen* (literally: with-advertise, 'advertise jointly').

If *kündigen* moves and *an-* is correctly stranded, *mit-* would be still attached to a morpheme, namely *an-*, and not to a verbal trace, hence it would not count as stranded. So it is ill formed since *mit-* is a separable particle and thereby requires stranding.[10] If, however, *mit* is stranded, then *an-kündigen* must have moved. But then *an* is not stranded and is therefore ill formed. So there is no way to meet the demands of both particles simultaneously. Therefore the theory unambiguously predicts that verbs with more than one separable particle are bound to stay since there is no well-formed way of meeting the stranding requirements. The only option is to avoid stranding from the beginning.

Let us now compare the two competing analyses for a clause-final finite verb in German. Hypothesis I – the 'V-to-I' hypothesis – assumes

that a clause-final finite verb has moved to a functional head position. Hypothesis II – the checking *in situ* hypothesis – assumes that clause-final finite verbs in German are checked in the VP-internal lexical head position and remain *in situ*.

What are the respective predictions? Hypothesis I predicts that verbs with two particles cannot appear in finite form at all because they would incur a stranding conflict for the particles when the bare verb moves. Only forms that do not involve stranding (due to movement of the bare verb to a functional head position) would be admitted.

Hypothesis II predicts a different outcome. Since Hypothesis II presupposes that clause-final verbs stay *in situ*, the stranding conflict does not arise. It only arises if the verb moves to the clause-initial functional head position in a 'verb second' or 'verb first' clause. So the prediction is this: verbs with two separable particles can be used as finite verbs but only in clauses that do not involve fronting of the finite verb, that is, only in verb-final clauses. What do the data tell us? Hypothesis II is correct; Hypothesis I lacks empirical support (see (5))

(5) a. wenn du uns voranmeldest
if you us preregister (lit.'*pre-on-register*')
b. Du meldest$_i$ uns (**vor*)*an*-e$_i$
you register us (**pre-*)*on*
c. *Du *an*meldest$_i$ uns vor-e$_i$
d. *Du *voran*meldest$_i$ uns e$_i$

As (5b–d) shows, a verb with *two* separable prefixes may occur as finite verb, but it is well formed only in the clause-final position (5a), and there is no way to derive a well-formed version with fronting. Hypothesis I fails because it predicts that the stranding conflict already arises in the final position when the verb is allegedly raised to the hypothetical postverbal functional head position.

In (6), more of these verbs are listed, for the sake of illustration. The crucial point is that this verb format is productive, and the fronting failure is easy to understand. So there is no room for the kind of doubts raised against the original argument (Haider 1993, p. 62), based on verbs that arise through back formation[11](see (7)), that there might be some ill-understood property of back formation verbs that blocks fronting (see Koopman 1995 for Dutch).

(6) a. ab-drucken - *vor-ab*-drucken lit. '*pre-print*'
b. an-melden - *vor-an*-melden lit. '*pre-an-nounce*, preregister'
c. ein-teilen - *um-ein*-teilen lit. '*re-in-deal*,*reorganize*'
d. ein-steigen - *mit-ein*-steigen lit. '*with-in-step*, get ontogether'
e. aus-drucken - *mit-aus*-drucken lit. '*with-out-print*, print out jointly'

(7) a. auf-führen lit. '*up-lead*, perform, put on stage'
b. Aufführung '*performance*'- '*ur*-aufführung *ur*-performance'
= 'premiere'
c. *ur*-auf-führen 'show for the first time'

A verb like *urauffführen* is a back formation from the prefixed deverbal noun *Urauffführung* ((7b)) by stripping the nominalizing suffix and reanalyzing the remnant as a verb. The result is a verb prefixed with a word formation prefix for nouns, namely *ur*-. This, again, produces a clash with the stranding requirements for the sandwiched particle *auf*-. In this case, the grammatical causality is not so immediately evident as in the case of doubly prefixed verbs above.

Note that these data do not only decide the controversy on potential 'V-to-I' raising for finite verbs but also for *infinitival constructions*. In German, the infinitival marker–corresponding to English 'to'–is not a functional head but an inflectional morpheme prefixed to the verb. As illustrated in (8), verbs with two separable prefixes are perfect also in infinitival constructions.

(8) a. ohne sich (vor)an*zu*melden
without oneself to preannounce
b. anstatt es (mit)aus*zu*drucken
instead-of it to print-out jointly

What the examples in (8) confirm is that sentential infinitival complements in German do not require 'V-to-I' raising of the infinitival verb, and they confirm that the infinitival marker *zu* is a morpheme attached to the verb and not a separate functional head. If it were an infinitival functional head like English 'to', the verbs in (8) would have to raise, and this would cause a stranding conflict for the particles.

The conclusions of the above discussion for the German clause structure are as follows: (i) there is no overt V movement to a

clause-final finite functional head position nor to a clause-final *infinitival* functional head; (ii) there is no overt V movement to a clause-medial functional head either;[12] (iii) the finite verb remains *in situ*, hence particle stranding is not at issue. Movement applies only when the finite verb moves to the V-second position, that is, the top functional head position (i.e., the V2 position).

This state of affairs has an obvious implication for the identification of functional head positions in German too. Since one cannot decide by simple inspection of data whether an empty functional head exists at all or whether it follows or precedes the VP, it is not justified to insist on a *postverbal* position of an *empty* functional head rather than a *preverbal* one. At any rate, circumstantial evidence plays a crucial role in finding out whether there is a functional head at all[13].

One important area of circumstantial evidence for the functional architecture of the clause are the results on extraction domains gained in the past two decades of research in this area, in spite of the fact that they are presently not a focal research area. One robust generalization was that a phrase in the functional spec position of the subject (formerly *Spec*-I) or in any higher (and thereby *preverbal* in VO languages) spec position is an absolute extraction island. As a test criterion for the status of a position in clause structure, this descriptive generalization is easy to apply. If a given position is a functional spec position of the relevant kind, a phrase in this position must be opaque. If the phrase is not opaque, the position cannot be a functional spec position of the subject type or a higher one. German subjects (see(9)) and phrases preceding them (see (10)) are not opaque.

If the subject clause in (9) is VP internal, as assumed here, extraction is expected to be possible. If, however, the subject clause would be, as assumed by the competing analysis, in a spec position, extraction is predicted to be blocked.[14]

(9) a. Mit wem$_i$ hätte (*es) denn [e$_i$ speisen zu dü rfen]dichmehrgefreut?
with whom had (it) PRT [dine to be-allowed] you$_{Acc}$ more pleased

b. *With whom$_i$ would [to have dinner e$_i$] please you more?

c. With whom$_i$ would it please you more [to have dinner e$_i$]?

The contrast between (9a) and the ungrammatical English construction (9b) is sharp and damaging for analyses that situate the infinitival subject clause in German in a functional spec position. A clause in a functional spec position corresponding to the English subject position, or in a higher one, is opaque for extraction. The straightforward

alternative is a subject-*in situ* analysis. The clause remains in its VP-internal position, and extraction is unproblematic. The contrast between (9c) and (9b) is one between a clausal subject in a functional spec position and in a VP-internal one, respectively.

The *in situ* analysis for (9a) raises a question as to why there is no noticeable EPP violation in (9a). The obvious answer – that there is an empty pronominal corresponding to English 'it' in (9c) in the functional subject position – is untenable, however. An overt expletive pronominal subject or object never co-occurs with a non-extraposed clause (see(9a),(10a)), but it is optionally present with extraposed clauses. Given that the pronominal quality of the overt and the covert instance of the pronominal is identical, the covert pronominal 'expletive' is ruled out in the very same context that rules out the overt item, namely in the context without extraposition. The less obvious answer seems to be the correct one: there is no EPP effect because there is no functional spec position that needs to be lexicalized. For principled reasons, EPP comes into play only in VO-type clause structures, (see Section 3, the subsection on quirky subjects).

The argument against a clause-medial functional subject position in German is strengthened by the following data. Object clauses remain transparent for extraction when scrambled (10a) across the subject but not if they are moved to a functional spec position like Spec-C (10b). (10b) is an embedded V2 clause, with the infinitival object clause in Spec-C. If the subject in (10a) would be in a spec position, the scrambled infinitival clause would be either in a higher spec position or adjoined to a functional projection. In any case, opacity for extraction is guaranteed and therefore expected. The data, however, do not support this expectation.

(10) a. Was$_i$ hat (*es) [ihr e$_i$ zu verraten] keiner riskiert?
what has [*her to reveal*] *nobody risked*

b. *Was$_i$ hat sie behauptet [$_{CP}$ [ihr e$_i$ zu erklären]$_j$
[$_{C'}$ habe [keiner e$_j$ riskiert]]]
what has she claimed [*her to reveal*] *had nobody risked*

So we have to dismiss the premise that the overt subject position in German is a functional spec position. The simplest account for the lack of opacity of scrambled phrases is obvious: scrambling is a VP-internal phenomenon. Scrambling across the subject in German is scrambling across the VP-internal subject (see Haider and Rosengren 1998, 2003).

At this point of the discussion it is worthwhile commenting on the claim that a *clause-initial subject* in a German verb-second clause is not in Spec-C but rather in the position that used to be called the Spec-I position (see Travis 1991, Zwart 1993). If this analysis is correct, the existence of an overt functional spec position for the subject could not be denied. Travis (1991, p. 359) takes as crucial evidence an apparent distributional restriction for the weak pronoun *es* in German: it may appear in the clause-initial position as subject, but as an object it is said to be deviant as illustrated by (11a). There are data, however, that call for a more differentiated account, namely (11b–d).

(11) a. *Es* hat den/*der Hund erschreckt
it$_{Nom/*Acc}$ *has the*$_{Acc/*Nom}$ *dog frightened*

b. Ihr Geld ist nicht verloren. *Es* hat jetzt nur jemand anderer.[15]
your money is not lost it has now only someone else
Your money did not get lost. It is only in the hands of someone else.

c. Ihr schmutziges Geld ist noch da. *Es* hat bis jetzt niemand beansprucht.
your dirty money is still there it has until now nobody claimed

d. Dieses Schild können Sie genauso gut weglassen. Es hat ohnehin keiner beachtet.
this sign could you just-as-well remove it has anyway nobody observed

The Travis-Zwart account for (11a) in brief is this: if a clause with a *clause-initial* subject may be analyzed as an IP, a clause-initial subject has not left Spec-I, but a *clause-initial object* has of course moved to Spec-C. Thus, the difference can be attributed to the failure of *es* to undergo A' movement. If the initial *es* is subject, it has been fronted by A movement, and not by A' movement.

But this is not the only way, nor the most straightforward one, to capture the difference. The primary property of *es* as a weak pronoun is its stress avoidance. A weak pronoun by definition is unstressed. Stressing of *es* is deviant in any position, and if fronting an object induces stress, *es* cannot be fronted. Why is the subject not stressed

when fronted? The appropriate descriptive generalization is one in terms of the information structure (topic focus organization) of the clause: an element moved to Spec-C is not stressed if it is the highest element in the complement of C°. Moving a lower element changes the information structure unless the fronted element re-instantiates the topic of the preceding utterance. This is illustrated by (11b–d). In these sequences, the fronting of a weak object pronoun is possible because it remains unstressed.

Note that the sentences with object *es* in initial position in (11b–d) would be rated deviant if presented in isolation. What accounts for the contrast or the parallel between clause-initial subject *es* and object *es*, respectively, is stressing and de-stressing rather than a structural difference. In (11b and c), de-stressing is a consequence of the information structure.

The evidence discussed so far is evidence for two major properties of the German clause structure (for a more detailed presentation see Haider 1997a). First, there is no evidence for *functional head* positions to the *right* of the VP, and second, there is no evidence for movement of the finite verb or the subject to intermediate functional head or spec positions, respectively.[16] From a comparative perspective, the lack of verb movement has a parallel in Faroese, but the lack of EPP effects is unparalleled, given that German, unlike Icelandic, does not provide a null expletive (see Section 3.2). This set of circumstances becomes understandable, however, if the stronger assumption holds. The subject resists moving to a spec position not because it must not move but because it cannot. There is no functional subject position to host it, and there is no functional head to trigger movement of the finite verb to this intermediate position. This result may become less appalling once the reason for the need of a functional subject position in VO clauses is appreciated (see Section 3, the subsection on quirky subjects).

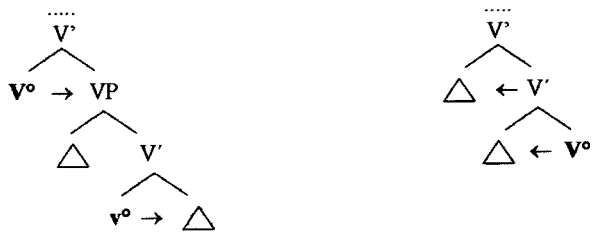
2.2. The OV–VO parameterization – directionality and asymmetry

VO and OV are but abbreviations for head-initial and head-final structures, respectively, and the concomitant implications for phrase structure in general. The foremost and fundamental difference is this: a complex[17] head-initial projection, in contrast to a head-final one, consists of projection shells (Larson 1988). In Haider (1992/2000), this property of head-initial projections has been shown to be a corollary of three axioms: (i) projections are *endocentric*, (ii) heads license their

complements *directionally*, and (iii) projections are universally *right* branching.[18] The first two axioms are widely accepted; the third one (the basic branching constraint (BBC))[19] is argued for at length in the aforementioned paper and in subsequent publications (Haider 1993, 1997c, 2000).

VP shell structures for head-initial phrases are an immediate corollary of the three axioms. As illustrated in (12a), the verbal head in its foot position cannot license more than one complement directionally. Directional merger of V' (i.e., merger with a complement on the right hand side) with a second complement would produce a left-branching structure in violation of (iii). As a consequence of this restriction, the only admissible option is a re-instantiation of a head-complement merger with the same verb. The lower verb thus becomes a copy of the head of the higher V projection. The result is a VP shell structure. Note that the two options in (12) are a direct result of consistently applying the three axioms for the two directionality values. Licensing or merger to the left is consistent with (iii). Therefore a shell structure is not required. In sum, the shell structure is a purely structural requirement for head-initial projections. There is no need for postulating a light verb for the higher shells (Chomsky 1995).[20] The arrows in (12) indicate the licensing directionality of the (extended) head.

(12) a. head-initial VP b. head-final VP



Evidently, in (12b), any VP-internal phrase that is immediately dominated by the projection of the head c-commands the surface head position of the VP, and the phrases are all on the directionally licensed side of the head or one of its projections. In VO projections, on the other hand, pre-head positions are not directionally licensed unless there is a higher VP shell with its head as the required directional licenser. Licensing in the shell structure is strictly local. The licensed XP is in a strictly local relation to the projecting head and to the licensing head.[21] As a consequence, the licensed XP is adjacent both to the licensing head and the projecting head position:

(13) a. $\ldots V^{\circ}[[XP[[_{V^{\circ}}e]\ldots]]]$

b. $\ldots V^{\circ}[_{\alpha}(^{*}\boldsymbol{YP})[XP[(^{*}\boldsymbol{ZP})[[_{V^{\circ}}e]\ldots]]]]$

In (13b), YP blocks a licensing relation, and so does ZP, for different reasons though. The licensing relation is the *directional identification of an* argument by its head. The relation is *minimal, mutual c-command* under *directionality*. 'Mutuality' requires sisterhood or a chain. In (13a), XP is minimally c-commanded by V, and XP minimally c-commands V, by c-commanding a member of the V chain.

The YP in (13b) prevents XP from being minimally c-commanded by the preceding V. The ZP prevents XP from minimally c-commanding the lower V, and thereby YP or ZP destroy *mutual, minimal, directional* c-command between V and XP.

Note that in OV projections, each projecting node of the verbal projection *minimally directionally* c-commands its sister argument, because the argument *precedes* the projecting node. Hence, in OV, interveners do not matter.

These considerations are sufficient for deriving *two essential properties* of head-initial projections that contrast with head-final projections. First, head initial-projections are *compact*, that is, they do not allow intervening material in the domain of argument structure projection (see 13b). This follows from the mismatch of licensing directionality and merger directionality. In the resulting shell structure, minimal mutual c-command entails compactness.

Second, head-initial projections possess a single, local argument position that is *not* in the licensing domain of the head. This is the so-called 'spec position' of a head-initial lexical projection. 'Spec-VP' is just the highest projection position in the VP. It is the highest position that meets the locality requirement, and it is to the left of the head, so it is outside the licensing domain of the head and in need of external licensing.[22] This is an essential difference between VO and OV projections. VO projections need an external licenser for the highest projection position (see(14a)). In OV projections, every projection position of the head is within the licensing domain of the head or its projecting nodes (see(14(b)).

(14) a. VO:$[_{VP}DP[_{V'}V^{\circ} \rightarrow \ldots]]$

b. OV:$[_{VP}DP[_{V'}\ldots \leftarrow V^{\circ}]]$

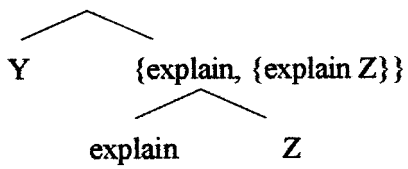
An illustration of (14) is given in (15). The verb projects its argument structure by stepwise merger (see Chomsky 1995) with the appropriate argument phrase. The result of each step is a partial projection with the

unsaturated remnant of the argument structure. The projection is completed when the argument structure is saturated. (15b) is an informal representation of the set-based structure that results from the merge operation in Chomsky's (1995) system. (15c) illustrates the discharge and licensing relations for the same projection. The arrows indicate the licensing direction. (15d) is the German counterpart of (15c).

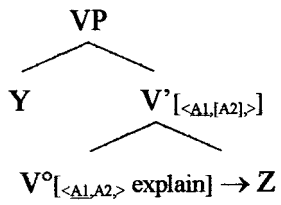
The principal difference between a head-initial and a head-final V projection is the fact that in the head-final projection all discharged (or merged) argument positions are within the directional licensing domain of the head or its projections. But in the head-initial structure, the highest argument position is not in the licensing domain since it is a left sister, and the verb's licensing direction is to the right.

(15) a. $[V^{o}_{<\underline{A1},A2,>}$ explain$]$

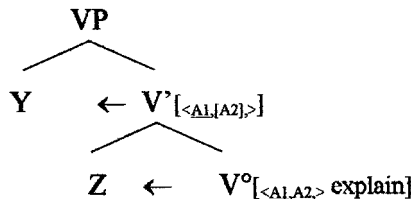
b. {explain, {Y, {explain, {explain Z}} }}



c.



d.



Let me repeat the results of the discussion above that will be needed for the systematic comparison of Icelandic and German in the following section: VO projections are compact, and the highest argument position in the projection (subject argument) needs an external identifier for this argument since is not within the verb's directional licensing domain.

2.3. Hybrid systems – VO and OV, or neither?

"The existence of languages that exhibit both VO and OV surface orders" is a "crucial and potentially fatal problem for the author's approach," a reviewer commented. Examples for this type of language are historic variants of Germanic languages, such as Old Icelandic (e.g., Rögnvaldsson 1996; Hróarsdóttir 2000) and Old English (e.g. Pintzuk 1991). But let me add that there is also a present day specimen, namely Yiddish.

The reviewer's point is well taken, given that the current discussions in grammar theory tend to focus on rigid OV or VO languages and overlook a variety of languages that are neither strictly OV nor strictly VO in their surface word order patterns. Yiddish is a well-known case, and Slavic languages should be listed in this group as well.

Let me illustrate this property with the examples in (16), taken from Diesing (1997, p. 402). One of the four variants is a perfect English order (namely (16a)), and two are perfect German orders (namely (16c and d)). In German, (16c and d) would be scrambling variants. The order (16b) is ungrammatical in both English and German. It is not immediately obvious what the base order for the variants in (16) is.

(16) a. Maks hot nit *gegebn* Rifken das bukh. (Yiddish)
Max has not given Rebecca the book.
Max did not give Rebecca the book.

b. Maks hot Rifken nit gegebn dos bukh.
Max has Rebecca not given the book.

c. Maks hot Rifken dos bukh nit gegebn.
Max has Rebecca the book not given.

d. Maks hot dos bukh Rifken nit *gegebn*.
Max has the book Rebecca not given.

For Diesing, (16a) reflects the base order of the VP, with (16b–d) as scrambling variants. But, if this is true, Yiddish is a puzzling exception. It would be the only Germanic VO language that allows scrambling. Moreover, filing Yiddish as a Germanic VO language would make it exceptional in many more respects (see below).

Is Yiddish an (exceptional) VO or an (exceptional) OV language? It is neither. Yiddish combines properties of both OV and VO languages. It is basically OV but with one additional property, namely the possibility of V-f fronting within a VP shell structure. This property has independently been ascertained for Hindi (Mahajan 1997). What

superficially looks like scrambling to the right in an OV language as in (17a) turns out to be the result of (VP-internal) V movement to the left, that is, optional VP shell formation (as in 17b).

(17) a. $[[[XP[e_j[e_i V]]]YP_j]ZP_i]$
b. $[XP[V_i[YP[e_i ZP]]]]$

In grammar theoretic terms, this state of affairs represents a genuine third option besides strict OV and VO, namely a language with *adjustable directionality values*. It combines the properties of an OV projection with those of a VO projection. In other words, the Yiddish verb may license to the left and project a head-final structure like German, but alternatively it may license to the right and project a shell, and moreover both options may be combined. What this amounts to is this: merger may start as in VO and then continue as in OV, producing VP shells first and *then* optionally switching to OV and continuing to produce a layered V projection familiar from OV. Let me illustrate this as follows. (18a) and (18b) are the result of strict licensing to the left or to the right, respectively. (18c), however, results if the directionality value is adjustable in the course of merging. It combines the possibilities of OV and VO, thus yielding a third quality.

(18) a. $[XP[YP[ZP\ V^\circ]]]$
b. $[XP[V_i^\circ[YP[V_i^\circ ZP]]]]$
c. $[XP[YP[ZP\ V^\circ]]], [XP[YP[V^\circ\ ZP]], [XP[V_i^\circ[YP[V_i^\circ\ ZP]]]]\}$ adjustable

The OV and the VO option are the result of merger with the value either as *left* or as *right*, just as in (18a) and (18b). The third possibility is the result of changing the directionality in the course of merging. The middle variant in (18c) starts out with *directionality = right*, licensing a complement to the right, and then the value switches to *left*, proceeding in an OV manner.

Why should there be a language with this property, that is, how could UG allow for a language with licensing alternations? In brief, what we have to admit is this: the value of the licensing parameter can be underspecified. So, in the course of building a projection, either value may be instantiated, and moreover the actualized value may be switched.

This is the right place, it seems, to point out a crucial implication for diachronic syntax: if the historic variants of Germanic languages are regarded from this perspective, the development of the Germanic languages is much easier to understand. The basic change was one from an adjustable underspecified headedness value to a rigid one. The rigid

directionality allows either of two values. The choice of the value is in principle free. One branch of Germanic languages fixed it in the VO way (West Germanic), the other in the OV way (North Germanic). So two very similar languages in terms of their morphosyntactic make-up, namely Icelandic and German, ended up in different systems by accident. The accident is the choice of the directionality value when giving up the adjustability option.

The rest of this section is devoted to skeptical readers' desire for solid empirical evidence for the claim that the Yiddish VP clearly shows OV properties (besides the obvious VO-like orders), and that it is – contra Diesing (1997) – not simply a VO language with scrambling options. I shall rely mainly on Chapter 2 of Vikner (2001), which is a painstakingly argued demonstration that Yiddish has typical OV properties that are never found in Germanic VO languages. I shall just briefly review the main data areas and refer to Vikner (2001) for an extensive discussion and for the data sources. First, he notes that scrambling (see (16b and c)) is a common property of OV- Germanic languages and not of VO-Germanic languages. Then he reviews a variety of independent and contrasting constructions, in all of which Yiddish patterns with OV and not with VO:

- *Null objects* under coordination
  Following Sadock (1998), Vikner points to coordination constructions with an *empty* second object in Yiddish that are most easily accounted for if the licensing relations in Yiddish are the same as in German, namely OV. Note that Yiddish patterns like OV (e.g., German) and not like VO languages (e.g., English or Danish).

(19) a. Di yidene hot aroysgenumen eyn gandz… (*Yiddish*)
the woman has out-taken one goose …
… un (<u>*zi*</u>) avekgeleygt af'n tish
… and (it) down-put on-the table
(The woman took out one goose and put it down on the table);
cited in Sadock (1998), pp. 222–225.

b. Die Frau hat eine Gans herausgenommen… (*German*)
the woman has one goose out-taken …
… und (sie) auf den Tisch gestellt
… and (it) on the table put

c. The woman has taken out a goose and put *(it) on the table

- *Verb particles* (separable and non-separable ones)
  Vikner (2001, p. 37) characterizes the relevant facts as follows: "In Yiddish and the (other) Germanic OV languages, particle verbs whose particles are postverbal under V2 (separate) nevertheless always have preverbal particles in non-V2 contexts, whereas in the Germanic VO-languages, particle verbs whose particles have to be stranded under V2 never have preverbal particles in non-V2 contexts."

  Only if Yiddish is an OV language like German and Dutch, and not a VO language like English or Danish, does it follow straightforwardly that Yiddish is like German and unlike Scandinavian or English in allowing even such particles to occur preverbally in non-V2 constructions that do not incorporate [see the contrast between (20b and c) and between (20d and f)].

(20) a. Wann kommt der Zug *an*? (*German*)
when comes the train on
When does the train arrive?

b. Ven kumt der tsug *on*? (*Yiddish*)

c. *Hvornår kommer toget *an*? (*Danish*)

d. *Wann *an*kommt der Zug? (*German*)

e. *Ven *on*kumt der tsug? (*Yiddish*)

f. Hvornår *an*kommer toget? (*Danish*)

- Obligatory *lack of agreement* on predicative adjectives

Yiddish, like the OV languages German, Frisian, and Dutch, has inflected *attributive* adjectives but uninflected *predicative* adjectives whereas those VO languages which have inflected attributive adjectives (that is, all the Scandinavian languages and all the Romance ones) *also* have inflected predicative adjectives. None of the present day OV languages have predicative agreement. Vikner argues that the directionality in the VP (OV vs. VO) corresponds to the directionality in the AP and that Yiddish forms a group with the (other) Germanic OV languages.[23]

(21) a. een groene bus / twee groene bussen (*Dutch*)
a green.M/F bus two green.PL buses
b. een groen_ huis / twee groene huizen
a $green_{N.Sg}$ *house two* $green._{Pl}$ *houses*
c. Een bus is groen
one bus is green
d. Twee bussen zijn groen
two buses are green

The Dutch examples in (21a and b) are representative for agreement with an attribute and no agreement with a predicative adjective (21c and d) in OV. Yiddish patterns like Dutch and not like Swedish. The Swedish examples in (22e–f) correspond to (22a–d), respectively.

(22) a. a griner oytobus / tsvey grine oytobusn (*Yiddish*)
a $green_{M.Sg.Nom}$ *bus two* $green_{Pl}$ *buses*
b. a grin hoyz / tsvey grine hayzer
a $green_{N.Sg}$ *house two* $green_{Pl}$ *houses*
c. Eyn oytobus iz grin
one bus is green
d. Tsvey oytobusn zaynen grin
two buses are green
e. en grön bus / två grönabussar (*Swedish*)
f. ett grönt hus / två gröna hus
g. en bus är grön
h. tva bussar är gröna

- *Variation in (non-finite) verb sequences* (verb clustering, verb projection raising)

In terms of word order patterns for sequences of non-finite verbs, the VO languages show no variation whatsoever, but the OV languages vary very much, with Frisian being the only one of nine Germanic OV languages that shows no variation at all. Yiddish would be exceptional within the VO group but fits very well into the picture of the OV ones. It

shares the verb word order of German plus the variation that derives the Dutch order from the German basic order (see Haider 2003). Note however that there is no Germanic VO language that shows anything similar. Hence, Yiddish again is a well-behaved OV Germanic language in this respect. (23) and (24) illustrate the verb-auxiliary order in passive, and (25) and (26) present the contrasts for causative constructions. For an exhaustive overview over all verb construction see Vikner (2002).

(23) a. *Di shrub iz gevorn opgebrent (*Yiddish*)
the house is been up-burned
the house has been burnt down.
b. Das Haus ist abgebrannt worden (*German*)
the house is up-burned been
c. Di shrub iz opgebrent gevorn (*Yiddish*)
the house is up-burned been

(24) a. The book will *be bought* (*English*)
b. *The book will bought be
c. Bogen vil *blive købt* (*Danish*)
d. *Bogen vil købt blive

The patterns found with the passive auxiliary are representative for other auxiliaries and constructions like the causative construction with 'let'. The pairs of examples in (25c and d) and (26) are the counterparts of (25a and b) with respect to the relative order of the causative verb and the infinitive.

(25) a. He has *let* us *wait* (*English*)
b. *He has *wait let* us
c. Han har *ladet* os vente (*Danish*)
d. *Han har os *vente ladet*

(26) a. Er hot undz *gelozt vartn* (*Yiddish*)
b. Er hot undz *vartn gelozt*
c. Hij heeft ons *laten wachten* (*Dutch*)
d. *Hij heeft ons *wachten laten*
e. *Er hat uns *lassen warten* (*German*)
f. Er hat uns *warten lassen*

On the basis of this extensive, robust, and diverse enough evidence, in combination with the scrambling property of Yiddish, Vikner (2001, p. 86) concludes that it is obvious "that an account of Yiddish as an OV language will have far less problems to deal with than an account of Yiddish as a VO language would."

With Yiddish as a representative case for a property common to historic stages of Germanic languages, we arrive at this result: OV and VO are but the opposite settings in a system of merger with *fixed* directionality values. But crucially, these settings are not exhaustive. There is a third possibility, namely an *adjustable* directionality value. This property is responsible for the mixed appearance of linear order in languages like Yiddish or Hindi, and it is the key for understanding the diachronic development of Germanic languages from a common stage with adjustable directionality values to the split when the values got fixed. Fixing meant the choice of one of two available implementations, namely 'right' or 'left', with VO and OV as the resulting manifestation. The split seems to be independent of the morphosyntactic set-up. So Icelandic and German ended up with different directionality values in spite of their common morphosyntactic inventories.

3. Some Icelandic-German contrasts and their OV/VO based grammatical source

Having prepared the background, let us now analyze in more detail some prominent areas of syntactic contrasts between Icelandic and German in order to check whether they indeed follow from a single common source, namely the opposite organization of the V projection and its extensions in terms of the headedness value, that is, in terms of the basic OV vs. VO organization of the clause.

3.1. Quirky subjects

Quirky subjects are the joint result of *four* factors, namely the need of *directional licensing* of arguments by a head, a *head-initial* V projection, *relational* (and not strictly positional) agreement *checking*, and verbs whose *highest ranked argument* in the argument structure is not the nominative candidate. If the highest argument is not the candidate for nominative, the result is a quirky subject construction in Icelandic but

not in German. In German, these verbs are just verbs with a non-nominative DP preceding a nominative DP in the VP.

(27) a. að *henni/stelpunum* líkuðu hestarnir.
that her_{Dat}/*girls-the*$_{Dat}$ *líked*$_{3.Pl}$ *horses-the*$_{Nom}$
that she/the girls liked the horses (Sigurðsson 2002)

b. daß *ihr/den Mädchen* die Pferde gefielen
that her_{Dat}/the_{Dat} *girls the horses pleased*
that the horses pleased her/the girls

Arguments are merged in the order of their ranking in the argument structure. The highest ranked argument will end up in the top-most argument position of the V projection (see 15). In this position, it is not directionally licensed by the verb if the verb licenses to the *right* (VO). So it needs a functional head as licenser in this position. The required functional layer introduces a head *and* a spec position. The unchecked DP moves to this functional spec position. Here it is licensed under the spec-head relation. This is the *structural* subject property.

German and Icelandic share *three* of the *four* factors and differ in a single factor, namely the licensing *directionality* of the verb. In German (see (14b)), all argument are directionally licensed already in their VP-internal positions. Hence there is no grammatical trigger for moving a particular unlicensed argument to a functional spec position.

Crucial differences between German and Icelandic are already highlighted in Zaenen et al. (1985), who concluded that German does not have quirky subjects. Sigurðsson (1989, pp. 204–205) discusses in detail a wide range of contrasts (reflexivization, PRO-subjects, conjunction reduction, subject position in ECM infinitives, raising) and re-emphasized this conclusion. Fanselow (2002) and Bayer (2003) analyze the corresponding data in German and confirm the conclusion that German does not show quirky subject effects.

Let us summarize: A head-*initial* VP is a VP whose licensing directionality is to the right. This is the opposite of the universal directionality of merging, namely to the left.[24] So the position preceding the verb in the head-initial VP is not within the directional licensing domain. It is functionally licensed. The need of functional licensing is the indirect source of the EPP[25] property of VO languages (Chomsky 1995, p.428). The grammar provides functional means for licensing the external argument of the VP. If the verb does not provide a suitable candidate for the functional spec position, an expletive is used, or, if there is no

suitable expletive, the construction is ill formed (as in the case of the passive of a single argument verb in English). Note that this is a structural issue and not a matter of supply on demand. The projection of the functional layer is automatic and not conditioned by the argument structure of the head of the VP. The spec must be filled.

Head-final V projections differ in an essential respect from head-initial ones: the direction of merger harmonizes with the licensing directionality. No functional projection is needed for licensing a phrase that is merged with a V projection but cannot be licensed VP-internally, simply because there is no unlicensed phrase. So, in OV languages, there is no grammatical necessity for a functional projection that licenses the subject of a clause.[26] Hence, contrasts between Icelandic and German in terms of EPP effects are expected. This is the topic of the following subsection. The rest of this subsection is a critical commentary on two recent proposals that relate to the above analysis, namely one by Sigurðsson (2002a, pp. 126f.) and one by Barðdal's (2002) as this was recommended by a reviewer.

Sigurðsson (2002a, pp. 126f.) suggests that the crucial grammatical difference that accounts for the presence or absence of quirky subject constructions is one of agreement: Icelandic, but not German, is argued to provide morphologically silent person agreement for the quirky subjects and therefore a trigger for movement to the spec position. In other words, a quirky subject is attracted by silent agreement features. In this view, the difference between German and Icelandic is a purely accidental one (presence or absence of silent features). Moreover, it fails to capture the generalization that a finite verb checks the agreement features of the functional heads it is associated with: if the verb checks the features of the functional head whose spec hosts the quirky subject, it ought to agree with the quirky subject if there is agreement at all. Since Icelandic has person agreement with nominative subjects in this position, it ought to agree with the quirky subject in person features, but it does not. The predicted outcome is ungrammatical (28):

(28) *Mér hafa/*höfum* ekki *líka*ð hestarnir.
me$_{DAT}$ *have*$_{3Pl/*1Sg}$ *not liked horses.the.NOM*
I did not like the horses.

According to Sigurðsson (2002a, pp.125f.), the person feature in a clause like (28) is "engaged in (invisibly) matching the person of the dative subject and is thus blocked from agreeing in person with the nominative object."[27] But, on the other hand, the VP-internal

nominative obligatorily agrees in number (27a), and *only* in number. Consequently, the finite verb in (28) could be associated with a person feature, namely *1st person*, and a number feature, namely *plural*. Therefore, the predicted morphological form would be *1st person plural*. But this is ungrammatical, of course.[28] So agreement does not seem to be the key for the differences.

The second comment concerns Barðdal's (2002) claim that German, contrary to the consensus among grammarians working in this area (see the reference cited above, under example (16), allows oblique subjects. The problem with this claim is this: it is based, on the one hand, on ambiguous diagnostics for subjecthood and, on the other hand, on deviant German data, gathered on internet sites. I do not see any reason to abandon the established consensus that German does not allow quirky subjects. Let me give examples for each of the two types of shortcomings.[29] As for reflexives and coordination reduction, the arguments are not compelling, and as for oblique PRO (illustrated with web citations), the data are unreliable.

The fact that a (strong) reflexive in a PP may be bound by a dative or an accusative in an impersonal construction in German does not – contrary Barðdal's (2002, pp. 72) claim – show anything about subjecthood since objects may generally bind PP-internal reflexives, as in (29).

(29) a. Beim Quadrieren muß man *eine Zahl* mit *sich* multiplizieren
when squaring, one must multiply a number with itself
b. Wir haben *ihnen* für *sich selbst* Kleider beschafft
we have them for themselves clothes procured

Only if the reflexive is a co-argument (and not part of a PP), can a direct object anaphor not be bound by a dative, but it must be bound by the nominative subject as illustrated in (30). Note, however, that passive does not change the situation. But, unlike Icelandic, the dative object cannot be promoted to the subject function.

(30) a. Wir stellten den Leuten$_j$ *sich$_j$/*einander$_j$ vor
we introduced the people$_{Dat}$ themselves/each otherPRT
b. *Den Leuten$_j$ wurde sich$_j$/einander$_j$ vorgestellt
the people$_{Dat}$ was themselves/each other introduced

Coordination reduction is not a reliable *subject* diagnostic except for *asymmetric* coordinations. Symmetric coordination allows the ellipsis of

positionally matching constituents in the second conjunct (independent of their grammatical functions, as long as they are identical):

(31) a. [Ihm$_{Dat}$ hat kein Rat geholfen [und [~~ihm~~ wird keiner schaden können]
him has no advice helped and ~~him~~ shall no-one be-able-to harm

b. [Sie$_{Acc}$ hat keiner angerufen] und [~~sie~~ wird auch keiner erreichen können]
her has no-one phoned-up and ~~her~~ shall also no-one reach be-able-to

So an example like (32), from Barðdal (2002, pp. 73), does not bear on the subject issue since it is but an instance of symmetric coordination that applies to subjects as well as to objects just as in (31).

(32) Mich$_{Acc}$ hungert nach Brot und ~~mich~~$_{Acc}$ dürstet nach Wasser
me longs for bread and ~~me~~ thirsts for water

What seems to be sensitive to subjecthood is *asymmetric* coordination, but note that it crucially does not tolerate oblique arguments of impersonal constructions. As (33c) shows, the dative in the impersonal construction does not behave like the subject in (33a).

(33) a. In den Wald ging der Jäger und [~~er~~ schoss einen Hasen]
into the wood went a hunter and ~~he~~ shot a rabbit

b. In den Wald schickte ich den Jäger und [*~~er~~ schoß einen Hasen]
into the wood sent I the hunter and ~~he~~ shot a rabbit

c. Im Zoo schauderte mir vor Bären und [*~~mir~~ würde auch im Wald
in-the zoo shuddered me$_{Dat}$ at bears and (me) would also in-the wood
davor schaudern]
at-it shudder

A conclusive case of an oblique subject would be the *systematic* availability of a quirky subject PRO as in Icelandic. As already mentioned, German does not allow this. This is uncontroversial not only among theoretic syntacticians but also among descriptive grammarians. Barðdal (2002, pp. 94f.) contests this with data gathered on web sites (all of which are deviant for me) as illustrated for instance in (34):

(34) Christus selber, der würdig ist, geliebt und gefolgt zu werden
Christ himself, who worthy is loved and followed to be
Christ himself, who is worthy of being loved and followed

As for this particular case, a standard descriptive grammar of German (Drosdowski 1984, p. 183) has a note on 'folgen' (follow) that says that

there are rare cases in vernacular usage in which *folgen* in passive is used with *nominative* instead of dative.[30] Note, however, that in this case the infinitival subject is not quirky, but the dative has been replaced by a nominative. This, and not a quirky dative subject, is the source for the PRO construction with *folgen* as in (34).[31]

In general, the value of unanalyzed data of unclear language competence (web citations) is at best heuristic. If oblique subjects existed (in varieties of) German, they should be detectable in corpora of German authors, they would have been noticed in one or the other descriptive grammar, and they should be detectable with systematic informant questionnaires. Unfortunately, this is not the case. Hence I fail to see any evidence for hitherto undiscovered quirky subjects in German in general and in infinitival constructions in particular.

3.2. Subjectless clauses

For a VO language such as Icelandic or Faroese (Vikner 1995, p. 227), the existence of a functional subject position is uncontroversial. This position is open for an expletive if the position is not targeted by movement. German, on the other hand, seems to provide no room for an expletive in these cases:

(35) a. að *(*Það*) hefur verið dansað (Icelandic)
that (EXPL) *has been danced*

b. daß (**es*) getanzt wurde
that (EXPL) *danced was*

c. Í dag er*(*Það*) komin ein drongur (Faroese)
today is EXPL *come a boy*

d. Heute ist (**es*) *ein Junge gekommen*
today is EXPL *a boy come*

In German, expletives are systematically ungrammatical in contexts in which they are obligatory in Icelandic or Faroese.[32] What these contrasts illustrate is what we expect: if there is no functional spec position for the subject, there is no need for an expletive subject. If EPP is a VO-specific side effect, it is not justified to elevate it to the rank of a universal requirement.

At first glance, it seems easy to shield the universal EPP hypothesis against this particular counterevidence with an ancillary hypothesis,

namely an 'expletive empty pronoun' hypothesis. However, this is clearly an unsatisfactory move. First, it would be ad hoc, and second, if one admitted an expletive *pro* in cases like (35b and d) in German, one would invite massive overgeneration.

As for the first objection, the examples in (36a, and b) show that German requires *overt* expletives in uncontroversial spec positions, namely in the topmost spec position in a V2 clause. So if an expletive for a spec position is available, it should be available also for the spec position in (36c), given that Icelandic requires (or at least admits)[33] an overt expletive (35a) even though it requires pro-drop for quasi arguments, such as for instance the subjects of weather verbs, as in (36d).

(36) a. *Es* wurde nicht getanzt
EMPL was not danced

b. Ich glaube [$_{CP}$*(*es*) wurde nicht getanzt]
(embedded V2-clause complement)
I think [*EXPL was not danced*]

c. Ich glaube [$_{CP}$daß [(**es*) nicht getanzt wurde]]
I think [*that EXPL not danced was*]

d. Hefur (*Það) rignt í nótt? (Icelandic)
has EXPL rained tonight

e. Hat *(es) geregnet in der Nacht?
has it rained in the night

In German, non-referential subjects cannot be dropped. This is true for the quasi arguments of weather verbs (36e) but also for the expletive argument in the intransitive middle construction (37a) and for the impersonal variant of a class of transitive verbs. (37b) In Icelandic, the non-referential subject of these verbs is dropped (37c).[34] In German it is obligatorily present (see Haider 2001). Finally, (37d) illustrates an extraposed clause that relates to an obligatorily overt pronominal subject. In all these cases, the pro-drop hypothesis makes the wrong prediction for German since it would overgenerate.

(37) a. Hier lebt *(es) sich gut (intransitive middle construction)
here lives it itself well
b. Das Boot hat *(es) in Stücke zerrissen
(see Paul 1919, vol. 3, Section 24)
the boat$_{Acc}$ has it into pieces broken
c. Bátana hefur(*það) brotiði spón
boat-the$_{Acc}$ has it broken in pieces
d. War *(es) sehr peinlich, daß er betrunken war?
was (it) very embarassing that he drunk was

The so-called 'stylistic fronting' of participles (or infinitives or various other elements) in Icelandic is another piece of contrasting evidence. In Icelandic, participles or infinitives may be fronted to the spec position. In German, fronting to the spec position in a V2 clause ((38c)) is possible but not fronting to a position below CP Vembu((38b)).

(38) a. ef$_i$ engið er eftir Laugaveginum
if walked is along the Laugavegur
b. *wenn gewandelt$_i$ entlang des Laugavegur e$_i$ wird
if walked along the Laugavegur is
c. [Spec-F Gewandelt$_i$ [wird [entlang des Laugavegur *e*$_i$]]]
walked is along the Laugavegur

If stylistic fronting in Icelandic targets the spec position (Holmberg 2000), this satisfies whatever principle is responsible for the EPP. In German, the absence of the corresponding functional projection explains the absence of fronting participles and infinitives to this position.[35]

In sum, the evidence from impersonal constructions and the distribution of expletives confirms the analysis proposed for the quirky-subject phenomenon: Icelandic has a functional layer for the subject, German does not, and the contrast is predictable as a consequence of the OV/VO distinctions, with OV as a necessary (but, as it seems, unfortunately not as a sufficient) condition.[36]

3.3. Scrambling and object shift

Scrambling applies in German, object shift in Icelandic. The preconditions and the results are sufficiently different. The analysis for scrambling

I adopt in this section is presented in detail in Haider and Rosengren (2003). It is an adjunction-to-VP analysis. The result is an extended VP. What is important for the present discussion is that the scrambled arguments are adjoined to, but remain within, the VP and therefore within the licensing domain of the verb. In a VO language, adjunction to the left (the only admitted adjunction direction) would remove the adjoined elements from the directional licensing domain of the verb.

A defining property of scrambling is a change in the relative order of arguments. Since scrambling is found even in topicalized VPs (39) in German, a VP must be a possible scrambling domain. Moreover, the order alternations like those in (39a, and b) in German are movement effects (see Haider and Rosengren 2003, pp. 223–227 for arguments based on focus and scope data) rather than alternative base orders (see Fanselow 2001).

(39) a. [$_{VP}$Einem kleinen Kind einen großen Hund anvertrauen]
würde ich niemals
a$_{Dat}$ little child$_{Dat}$ a big dog$_{Acc}$ entrust would I never
entrust a little child with a big dog, I would never

b. [$_{VP}$Einen großen Hund einem kleinen Kind anvertrauen]
würde ich niemals
a big dog$_{Acc}$ a little child$_{Dat}$ entrust would I never
entrust a little child with a big dog, I would never

The topicalized phrase in (39) cannot be a higher functional projection that contains the VP. If it were a higher projection, it would contain functional heads whose features need to be checked by the finite verb. Hence, the fronted constituent would contain traces of the finite verb. This is ungrammatical, however:

(40) a. *[$_{VP}$ Einem kleinen Kind einen großen Hund *an*-e$_i$] vertraute$_i$ ich niemals
[*a little child$_{Dat}$ a big dog$_{Acc}$ en-*][37] *trusted I never*

b. Einem kleinen Kind vertraute$_i$ ich niemals einen großen Hund *an*-e$_i$

The verb *an-vertrauen* (entrust) is a verb with a separable particle prefix. Moving the verb to the V2 position strands the particle in the base position of the verb ((40b)). (40a) clearly shows that the fronted VP cannot contain a trace of the finite verb, for an independent reason, namely a crossing violation, since the antecedent does not c-command its trace. If, however, the fronted constituent in (39) were a higher projection, this would apply to (40a) as well. The finite verb raised

through these functional projections would leave traces. Fronting one of these projections would produce the same violation as in (40a).

(41a and b) are the passive variants of (39a and b). The fronted VP contains a nominative argument. So nominative agreement is definitely involved, and Agr-S would definitely qualify as a higher functional projection. Nevertheless, the dative DP and the nominative DP may be scrambled. A parallel case is (41b and c). The verb is an unaccusative verb, and the arguments may scramble.

(41) a. [$_{VP}$ Einem kleinen Kind ein großer Hund anvertraut] wurde hier noch nie
a little child$_{Dat}$ a big dog$_{Nom}$ entrusted was never ever
Never ever was a little child entrusted with a big dog.

b. [$_{VP}$ Ein großer Hund einem kleinen Kind anvertraut] wurde hier noch nie

c. [$_{VP}$ Einem Linguisten ein Gespenst erschienen] ist hier noch nie
a linguist$_{Dat}$ a ghost$_{Nom}$ appeared is here yet never
A ghost has never ever appeared to a linguist here.

d. [$_{VP}$ Ein Gespenst einem Linguisten erschienen] ist hier noch nie
a ghost$_{Nom}$ a$_{Dat}$ linguist$_{Dat}$ appeared is here yet never

The examples are illustrations both of VP-internal scrambling and of VP-internal nominatives. Icelandic allows VP-internal nominatives, but, unlike German, it does not allow scrambling to a position preceding the subject ((42c)) or to the left edge of the VP ((42d)), nor does it allow freely scrambling arguments VP-internally (42c and d).

(42) a. Ég ætlaað gefa bóksafninu bókina
I want to give library-the$_{Dat}$ book-the$_{Acc}$

b. *Ég ætla að gefa bókina bóksafninu
(Holmberg and Platzack 1995, p. 201)[38]
I want to give book-the$_{Acc}$ library-the$_{Dat}$

c. *Í gær las$_j$ bækurnar$_i$ Jón ekki [$_{VP}$ e$_j$ e$_i$]
(Collins and Thráinsson 1996, p. 410)
yesterday read books-the John not

d. *Í gær hefur Jón bækurnar$_i$[$_{VP}$ lesið e$_i$]
yesterday has John books-the read

e. Í gær hefur Jón [$_{VP}$ lesið bækurnar]
yesterday has John read books-the

The source of the contrast is the difference in the VP structure, namely the difference between a head-initial and a head-final V projection. As discussed already in Section 2.2, the licensing directionality of the verb in a head-final VP harmonizes with the universal directionality of merger. Therefore, all positions merged with V° or one of its projections are within the directional licensing domain of V° (see (43a)). A head-initial VP has a more complex structure (see Section 2.2). Since the licensing direction is the converse of the direction of merger, a complex head-initial VP must have a shell structure ((43b)).

(43) a. $[_{V_{max}\ldots}[XP \leftarrow [YP \leftarrow [ZP \leftarrow V^{\circ}]]]$

b. $[_{V_{max}}XP[V_i^{\circ} \rightarrow [YP[V_i^{\circ} \rightarrow ZP]]]]$

The shell structure is a straightforward consequence of the mismatch of merger and licensing directionality: the YP in (43b) cannot be licensed directionally unless the verb is re-instantiated in a shell structure. Each shell licenses one position and opens another one. In (43b), YP and ZP are in different licensing domains. ZP is licensed by V° in the bottom projection; YP is licensed by the V° of the higher V projection. In (43), however, the position of YP, just like that of XP or ZP, are within the same licensing domain.

This principal difference with respect to the licensing of positions in a lexical projection is the key to understanding the correlation between scrambling and the VO/OV property. (43a) is a homogeneously layered structure. (43b), however, is a composite structure, consisting of two shells. The argument positions are uniquely identified by their licensing head. Directional licensing is a one-to-one relation in (43b). In (43a), however, the verb in its base position has all arguments in its directional licensing domain.

A comparison of Dutch and German reveals that phrases must be morphologically identifiable. Dutch lacks case morphology. Direct and indirect objects do not differ by overt case morphology. They do not scramble ((44b)) unlike German ((44c)). PP objects ((44e)), however, scramble (Geerts, Haeseryn, de Rooij and van den Toorn 1984, pp. 989), just as they do in German.

(44) a. Toen hebben de autoriteiten de moeder het kind teruggegeven (*Dutch*)
then have the authorities the mother the child back-given

b. *Toen hebben de autoriteiten *het kind*$_i$ de moeder e$_i$ teruggegeven (*Dutch*)
then have the authorities the child the mother back-given

c. Dann hat die Behörde *das Kind*$_i$ der Mutter e$_i$, zuriickgegeben (*German*)
then has the authority the mother the child back-given

d. Toen hebben de autoriteiten het kind *aan de moeder* teruggegeven (*Dutch*)
then have the authorities the child to the mother back-given

e. Toen hebben de autoriteiten *aan de moeden*$_i$ het kind e$_i$ teruggegeven (*Dutch*)

The contrast between (44b) and (44e) is instructive. It shows that a scrambled order must be detectable.[39] Dutch does not provide the necessary morphosyntactic means for identifying a scrambled order.[40] The order in (44b) is a possible *base order* for a sequence of two DPs in Dutch, and there is no structural or morphosyntactic indicator of scrambling. On the other hand, the order in (44e) is clearly a scrambling order, given that the base order for a verb like *teruggeven* is DP-PP-V ((44d)). Obviously, scrambling does not target a *structurally* identifiable position (such as for instance a specific spec position) because then the need for overt morphological distinctions would not matter since a spec position could be identified by the functional head. But if scrambling is reordering within a single domain of identification, the morphosyntactic identification matters. Otherwise, a scrambled order cannot be identified.[41]

Let us now turn to Icelandic. As a consequence of its head-initial VP structure, Icelandic arguments cannot scramble to the left of the verbal head. Left-adjunction to the VP would create a position outside the directional licensing domain. Order variation within the VP is possible to a certain extent, however. Collins and Thráinsson (1996, p. 417) claim that for ditransitive verbs with a [$_{VP}$V-Dat-Acc] base order only,[42] the order [$_{VP}$V-Acc-Dat] is possible if the Dat-DP is stressed.

Icelandic does not scramble to the left of the VP, but it 'shifts' objects. *Object shift* and scrambling differ clearly. First, "object shift does not apply across any phonological material in the predicate except predicate adjuncts such as the negation word and other adverbs" (Holmberg and Platzack 1995, p. 165). In other words, object shift applies only in a

clause with a single verb that has moved to the topmost functional head position. Second, object shift does not change the relative order of arguments. Scrambling changes the relative order, and the surface position of the verb in the clause does not interact with scrambling.

Icelandic is unique among the Scandinavian languages, insofar as in the other Scandinavian languages object shift is restricted to pronouns. Holmberg and Platzack (1995, pp. 172f.), however, report that to a limited extent non-pronominal arguments may shift: in Norwegian varieties of Swedish and Faroese, a non-pronominal DP of a double object construction may be shifted, again without change of the relative order. Single, non-pronominal objects do not shift (see (45c and d)).

(45) a. De ga *Marit* ikke/gjerne blomstene (Norwegian) H&P, p. 172
they gave Marit not/gladly flowers-the
b. Vi ger *barnen* altid/inte vad de vil han (Swedish) H&P, p. 172
we gave children-the always/not what they want have
c. Eg visi *børnunum* fegin myndir mínar (Faroese) H&P, p. 174n.
I show the children happily my pictures
d. Jógvan kennir *hana/*Siggu ikki* (Faroese) H&P, p. 172
John knows her/Sigga not

Let us recapitulate: An adequate account of object shift should capture at least three generalizations. First, in all Scandinavian languages, object shift is contingent on V movement. Second, in all Scandinavian languages, object shift preserves the relative order of arguments. Third, Icelandic is a Scandinavian language with overt V-to-I movement, and it is a Scandinavian language with full DP object shift. None of these generalizations is characteristic of scrambling. But nevertheless, scrambling and object shift have one property in common, namely the availability of an extended licensing domain of the main verb.

In a head-final V projection, the extension is simply a consequence of the fact that a phrase that is merged on the left-hand side of the V projection remains within the directional licensing domain of the verbal head. In a head-initial VP, the extension requires additional shell structures. In the case of object shift structures, the domain of the main verb qualifies as extended by virtue of V movement.[43] This is confirmed by the fact that the structural relation between the verb and the shifted object obeys the same constraint as the relation between the verb and the object in the base position. Elements that cannot intervene in the base structure cannot intervene in the shifted structure. This is illustrated in (46) with data from Vikner (1994, p. 507).

(46) a. Pétur las$_i$ eflaust ekki [e$_i$ bókina]
Peter read doubtlessly not book-the
b. Pétur las bókina eflaust ekki
c. *Pétur *las* eflaust *bókina ekki*
d. *Pétur hefur *lesið* eflaust *bókina*
Peter has read doubtlessly book-the

In sum, again the directionality of licensing is the crucial factor. Scrambling is dependent on head-final projections. Object shift is a particularly constrained option of extending the licensing domain of a head-initial VP.

3.4. Particle constructions

Verb + particle constructions are a good indicator of verb movement if in the given language particles are stranded. In Haider (1997c), the distribution of particles in English and continental Scandinavian languages is analyzed as the effect of particle stranding in a VP shell structure. The positions of the particles in English are V positions in the VP shell structure. The verb positions in (47) are possible particle positions.

(47) a. [send$_i$ [someone [V$_i$something]]
b. [send$_i$ [someone [V$_i$something[V$_i$ to some place]]]

In English, a particle may be V-adjacent (48a) or stranded. In a double object construction like (47a) the stranded particle may be sandwiched by the objects (48b), but it must not follow the objects. This is possible only in a 3-place construction like (48c). The distribution follows immediately from the shell structure of the V projection.

(48) a. send *out* the clients the mail (to their holiday resorts)
b. send the clients *out* the mail (to their holiday resorts)
c. send the clients the mail *out** (to their holiday resorts)

English is a language that allows particles to be stranded or to remain V-adjacent[44] as in (48a). Icelandic particles must be stranded as Collins and Thráinsson (1996, pp. 435f.) illustrate. The V-adjacent position (49a) is ungrammatical in Icelandic.

(49) a. *Í gær hafa peir sent *upp* strákunum peningana
yesterday have they sent up the boys the money
b. (?)Í gær hafa beir sent strákunum *upp* peningana
c. Í gær hafa peir sent strákunum peningana *upp*

In the analysis sketched above, clause-final particles must be analyzed as result predicates, that is, as part of a complex predicate (Haider 1997c). Den Dikken (1992) emphasizes that in English (see also Quirk et al. 1985, p. 1152), a particle in final position accepts a modifier but not in the medial position. The Icelandic distribution is parallel (Neeleman and Weerman 1999, p. 98). This shows that a clause-final particle may be a syntactically separate unit, but the medial one must be a stranded part of a complex verbal predicate.

(50) a. Í gær hafa Þeir sent strákunum peningana (*beint*) *upp*
yesterday have they sent the boys the money straight up
b. *I gær hafa peir sent (**beint*) upp strákunum peningana

In German, there is a single position for particles, namely the V-adjacent one. Particles are stranded only when the finite verb is fronted (51b). Topicalization, of course, does not strand a particle (51b). A strandable particle must be stranded (51c), and a particle cannot intrude into the VP (51d).

(51) a. Sie stellte$_i$ ihm Gäste *vor*-e$_i$
she put him$_{Dat}$ guests$_{Acc}$ before
(*vor-stellen*, lit. 'before-put' = introduce')
She introduced guests to him.
b. *Stellen$_i$ wird sie ihm Gāste vor-e$_i$
c. *Sie *vor*stellte ihm Gäste
d. *Sie stellte$_i$ ihm *vor* Gäste

The contrasts in particle distribution between Icelandic and German are a direct reflex of the organization of the respective VPs. In a head-final V projection, there is a single head position and therefore only a single particle position. The shell structure of a complex head-initial VP, however, provides more than one position for stranding a particle since it provides more than one verb position.

The serialization (particle + verb in VO, verb + particle in VO) is a reflex of the converse directionality requirements of the verb. This is not directly honored by an analysis that derives OV from VO. The fact that in Germanic OV languages, particle verbs whose particles are postverbal under V2, nevertheless always have preverbal particles in non-V2 contexts whereas the fact that in the Germanic VO languages particle verbs whose particles have to be stranded under V2 never *have preverbal* particles in non-V2 contexts (Vikner 2002, p. 37) does not follow in the derivational account of OV (Kayne 1994), but it follows immediately in the directionality account.

3.5. VP stacking vs. V clustering

In languages with *head-initial* VPs, verbs that select a VP are projected/merged in stacked VPs (52a). In languages with *head-final* VPs, they are merged in clusters (52b). Stacked head-*initial* VPs are right-branching structures. Stacked *head-final* VPs would be left-branching (52c). This may be taken to be in violation of the branching constraint (BBC: branching nodes of the functionally or *lexically* extended projection line *follow* their sister node; see note 20). Icelandic stacks, German clusters. In a nutshell, this is the topic of this subsection. For a more extensive discussion the reader is referred to Haider (2003).

The bracketing in (52) already reveals the crucial factor. In (52c), the parser would need to guess how many brackets to open; in (52a), the parser encounters the head of the VP first, with the maximal projection of the head as the immediately dominating node. Clustering (52c) reduces the indeterminacy for the parser to the *local* environment of a single V projection. Clustering is UG's contribution to parser friendliness.[45]

(52) a. $[_{VP} V_1 [_{VP} V_2 [_{VP} V_3 \ldots]]]$
b. $[_{VP} \ldots [_{V^\circ} [_{V^\circ} V_1 V_2] V_3]]$
c. $^{*}[_{VP} [_{VP} [_{VP} \ldots V_1] V_2] V_3]$

Icelandic verbs, like those in English and the other Scandinavian languages, do not cluster, neither with auxiliaries nor with other verbs. Why do German and Dutch verbs cluster? The answer must again be sought in the headedness difference: the constraint against left-branching (extended) projections not only rules out structures with head-*final functional* heads (see Section 2.1) but also *lexically* extended[46] head-final V projections, that is, a V° selecting a VP as its left-hand complement.

(52a) is the structure with stacked, head-initial VPs. (52b) is the corresponding structure with head-final VPs. If we regard these structures as *lexically* extended V projections, the branching constraint admits (52a) but excludes (52b): a head-initial (extended) projection is well formed with respect to the branching constraint; there are no left brackets adjacent to each other. This is just another way of expressing the fact that there are no right-hand side sisters to nodes on the main projection line. The right daughter always is the node on the projection line. (52c) is the grammatical alternative to (52a) that does not violate the branching constraint. The projection line of the VP starts with the highest V° node. It is the projection line of a simple VP. The cluster is a head-to-head merger structure (see Haider 2003 for details).

Let me first sketch some empirical evidence for clustering in German, then briefly sketch how theta management works in the two types of merger (phrase to head, head to head), and then readdress the general issue of why German and Dutch cluster and why VO language never cluster. The answer will shed light on an additional issue, namely the Dutch-German difference with respect to linearization in the cluster.

In English, auxiliaries are projected in separate VPs. The fact that it is possible to separate auxiliaries by intervening adverbials tells us that the structure for (53a) is one with stacked phrasal projections. Each auxiliary *projects* a VP and *selects* a VP (or a functional extension thereof) as its complement.

(53) a. The new theory *certainly* may *possibly* have *indeed* been *badly* formulated

(Quirk et al. 1985, Section 8.20, p. 495)

b. daß die Theorie *wohl tatsächlich schlecht* formuliert (*) worden (*) sein(*)mag

that the theory possibly indeed badly formulated been be may

In German, the series of verbs is the mirror image of the English pattern, but intervening material is strictly excluded. A robust and characteristic property of German (and Dutch) auxiliaries is the *adjacency property* of the verbs in the cluster. The bracketed asterisks in (53b) mark positions that do not allow any intervening non-verbal material.[47] This is not at all a peculiarity of adverbs, but it holds for any potentially post verbal material as potential intervener. A comparison with topicalized (remnant) VPs is instructive. These data show that (remnant)

VPs may contain extraposed material, hence potential postverbal interveners in stacked head-final VPs.

(54) a. [Gesprochen$_i$ *mit uns*] haben sie nicht e$_i$

spoken with us have they not

b. *daß sie nicht [gesprochen *mit uns*] haben

that they not spoken with us have

c. daß sie nicht gesprochen haben (werden) *mit uns*

that they not spoken have (will) with us

d. *daß sie nicht gesprochen haben *mit uns* werden

that they not spoken with us have will

What these data show is, first, that the cluster structure of auxiliaries and the main verb does not leave any room for intervening material. There would be enough room, however, if the clusters consisted of stacked (remnant) projections because on the one hand a (remnant) VP allows extraposed material (see VP topicalization with extraposition in (54a), and on the other hand English shows that V projections (plus their functional extensions) allow intervening material. So the 'no intervener' property in German or Dutch is not reducible to a constraint on verbs selecting V projections.[48]

A serious obstacle for derivational accounts of clustering is the *clause union* property of clustering constructions. This can be best observed with binding relations (Chomsky 1981) in sentential infinitival complements that alternate with a clustering construction. (55) shows that the binding of a reflexive (Binding Principle A) is affected by clustering, and (56) illustrates that the binding environment for a pronominal (Binding Principle B) changes. The grammatical cause is identical. The clustering construction is a simple sentence ('clause union'). Hence an anaphor must be bound in this domain, but a pronominal must be free.

In (55a), the antecedent of the anaphor is PRO and is controlled by the matrix dative object. In the cluster construction (55b),[49] there is no embedded sentence, hence no PRO.[50] In (54b), the mono-sentential clustering construction, the reflexive would have to be directly bound by the dative object, but co-argument reflexives cannot be bound by datives in German. Thus the reflexive ends up without a suitable binder, whence its ungrammaticality.

(55) a. daß [PRO^{i} sich^{i}/es zu entfernen ihnen^{i} nicht erlaubt wurde
that themselves/it to remove them$_{\text{Dat}}$ *not allowed was*
They were not allowed to go-away/remove it

b. *[$_{\text{VC}}$Zu entfernen erlaubt]wurde es/**sich* ihnen$_{\text{Dat}}$ *nicht*

Given the described effect for anaphors, there is a straightforward prediction for pronominals: if clustering is a mono-sentential construction, a pronoun bound by a matrix element in the bisentential control construction will be ungrammatical in the clustering construction. In (56a and b), the pronoun can be bound by the matrix subject; in (56c and d) it must be free. (56d) shows that the position of the pronouns – fronted – or not does not matter. The binding difference between (56a and b) and (56c and d) follows immediately from the respective structures.

(56) a. Maria^{i} hat uns^{j}[PRO^{j} sie^{i} zu besuchen] nicht erlaubt
Mary has us her to visit not allowed

b. daß[PRO^{j} sie^{i} zu besuchen] uns^{j} Maria^{i} nicht erlaubt hat
that her to visit us Mary not allowed has

c. [$_{\text{VC}}$Zu besuchen erlaubt] hat sie^{*i} uns Maria^{i} nicht
to visit allowed has her us Mary not

d. [$_{\text{VC}}$Zu besuchen erlaubt] hat Maria^{i} sie^{*i} uns nicht[51]
to visit allowed has Mary her us not

How are the theta requirements satisfied in the cluster? In the cluster, a head selects another head with appropriate morphosyntactic features (e.g., bare infinitive, participle, verb with infinitival prefix). The result is the merger of two heads into a head-head complex. The theta grids of the two elements are merged too. The theta slot in the theta grid of the selecting element is replaced by the theta grid of the selected verb. The result is a verbal cluster whose theta grid is a *pooled theta grid.*

(57) a. *erlauben* 'permit' $:< \underline{A}_1, \mathrm{A}_{2-\mathrm{Dat}}, \mathrm{A}_3 >$

b. *zu besuchen* '*tovisit*' $:< [\underline{B}_1], \mathrm{B}_2 >$[52]

c. [*zu besuchen erlauben*] $:< \underline{A}_1, \mathrm{A}_{2-\mathrm{Dat}}, < [\underline{B}_1], \underline{B}_2 >>$
$\Rightarrow < \underline{A}_1 = [\underline{B}_1], \mathrm{A}_{2-\mathrm{Dat}}, \mathrm{B}_2 >$

If the complement slot A_3 replaced by the theta grid of the selected infinitival verb, and the theta grids are merged, the result is non-distinct

from the theta grid of a simple verb except for the theta identification of the controlled subject argument of the infinitive.

Imagine now what will happen if the clause union variant is passivized. Just as in the case of a simple verb, the primary subject theta role gets blocked, and the direct object ends up with nominative case instead. This is exactly what happens in German in the case of the so-called 'long passive', noted first by Höhle (1978) and illustrated in (58a). (58b) is the sentential complement variant. The verbs are separated by a non-verbal element (the negation), hence clause union is not possible, that is, the verbs are not clustering. Note that these infinitival constructions are optional clause union constructions.

(58) a. daß *sie*$_{\text{Nom}}$ uns nicht zu besuchen erlaubt *wurden*$_{\text{3rdPl.}}$
that they us not to visit allowed were
b. daß uns [sie zu besuchen] *nicht* erlaubt *wurde*/*wurden$_{\text{3rdPl.}}$
that us [*them to visit*] *not allowed was/were*

Let me finally return to the general issue. Why is V clustering an OV phenomenon, and why is it not found in VO languages? The answer is now straightforward. In VO languages, V clustering would not improve parser friendliness, and, what is worse, it would violate the branching constraint. In (59b), the clustering variant, the complex V° cluster, is a branching node as the left branch on the projection line of V°. This is ruled out by the branching constraint. Structure (59a), the stacked projections, is optimal for parsing since the first element of each new sub-tree is the head of the sub-constituent, immediately dominated by its maximal projection.

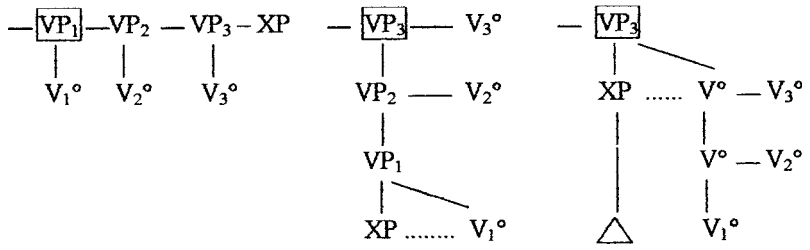
(59) a. $[_{\text{VP}}\text{V}_1[_{\text{VP}}\text{V}_2[_{\text{VP}}\text{V}_3 \ldots]]]$
b. $^{*}[_{\text{VP}}[_{\text{V}^\circ}\text{V}_1[\text{V}_2\text{V}_3]][\ldots]]$

Note that in this perspective a notorious puzzle finds an answer, namely this: why is clustering obligatory only for *in situ* sequences of verbs (with VP projection as an option for non-local environments, as in the case of VP topicalization), As demonstrated in Haider (2003), first the branching issue does not arise in the extraction side if the trace of the VP is taken to be *atomic* (and not a foil copy), and, second, the fronted VP itself is still subject to the clustering requirements for the verbs it contains. In sum, if clustering is analyzed as a BBC effect, the environments for obligatory clustering are correctly identifiable.

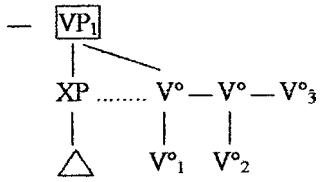
The final comment concerns the different word orders in the cluster in Dutch and German, respectively. As already mentioned, the V projection with the cluster (53c) reduces to a single VP the potential VP stacks that the parser could not anticipate. The structural complexity is shifted from the phrasal projections to that of a V cluster. This is a local domain, which makes backtracking easy.[53]

(60c), the German cluster, is still a sub-optimal solution.[54] The optimal structure is a completely right-branching cluster as in (61). This is the Dutch solution to the problem. In Dutch, the verbs not only cluster (as in (60c)) but are also raised within the cluster. The resulting structure of a fully inverted cluster (traces omitted) is (61). (Note that the subscripts are merely notational devices for indicating the verb that is the head of the respective VP.)

(60) a. VO b. *stacked OV c. OV + clustering



(61) Dutch (fully inverted) cluster



In sum, for OV languages, UG provides the clustering option as a means of enhancing parser friendliness by avoiding center embedding in the form of stacked head-*final* VPs. This option is not found in VO languages because the stacked structures with head-initial VPs are parser friendly. Hence German shows clustering, but Icelandic does not.

4. Discussion and summary

The answer to the title question is as follows: change the *directionality value* of the German verbal heads, and you get a lot of Icelandic syntax. Let me briefly compare the results summarized above with a competing model before I summarize the main points of the paper.

The discussion of the Icelandic-German contrasts in this paper presupposes that the basic difference between OV and VO languages is the directionality of licensing in combination with the branching constraint (BBC); see Haider (1992/2000, 2001). The shell structure for VO is an immediate consequence of the directional mismatch of the licensing directionality and the branching/merger directionality.

A competing hypothesis on the relation between OV ad VO languages has been proposed by Kayne (1994) and for Dutch by Zwart (1993). In these models, OV is derived from a basic VO structure: the postverbal material is fronted to preverbal positions. To turn German into Icelandic would amount to undoing movements and re-establishing the VO structure. In other words, German would turn out as a derivational continuation of Icelandic. Let us ask therefore what the predictions of this approach are, ceteris paribus, for the relation between Icelandic and German.

First, if Icelandic allows quirky subjects, German would allow them too. German and Icelandic would just differ with respect to the postverbal arguments in Icelandic. These would be fronted to preverbal positions.

Second, German would show EPP effects like those in Icelandic. In particular, it would require or at least tolerate expletives for impersonal passives or 'there' constructions just as in Icelandic. However German does not require them; it forbids them.

Third, particle distribution is easy to understand if directionality (and stranding) is acknowledged as the distinguishing factor. For the derivational scenario of VO-to-OV, particle distribution is a complicating factor.

Fourth, scrambled phrases would be phrases moved to preverbal spec positions. Hence they would be expected to display the behavior of phrases in preverbal spec positions. In particular, these phrases would be predicted to be as opaque for extraction as preverbal subjects are. This is not the case, however. It is uncontroversial that scrambled clauses do not become opaque in German (see the discussion in Section 2.1, Example (9)).

Fifth, there is no trigger for clustering or clause union. It is unclear why German should have to invert the word order in the cascade of stacked VPs in auxiliary constructions.

Sixth, the "universal VO" theory lacks an identifiable trigger for mapping Icelandic into German, that is, for turning a well-formed VO base structure into an OV structure. In this perspective, an OV language

appears to be an unexpected and redundant distortion of a well-behaved VO system.

Seventh, in a diachronic perspective, an OV language is predicted to be the continuation of a VO stage. What the diachrony of Germanic languages tells is different. Strict VO systems are an innovation. A strict VO or a strict OV system is the consequence of fixed directionality values. This is better captured as the result of a diachronic change in a system with adjustable values than in a model that characterizes OV as a transformational extension of VO.

The model defended in this paper provides insights on principled grounds into the following major contrasts between Icelandic and German:

- *EPP effects*: head-initial VPs require an external licenser (Agr-S)[55] for the highest argument position in the VP. The licenser is a functional head, whose spec position accommodates the licensee. In head-final VPs, any argument position within the VP is in the licensing domain of the verbal head. Hence no external licenser is needed.
- *Expletive subject*: The spec position of Agr-S is the source of the EPP effects, and it is the position for an expletive subject. OV-type clauses with relational nominative checking do not require a functional Agr-S projection. If there is no obligatory functional spec position, there is no room for an expletive for this kind of position. They do have expletive arguments (quasi arguments), however.
- *Quirky subjects*: In VO languages with relational nominative checking, the spec position of Agr-S is not restricted to nominatives. It accommodates the highest argument in the VP irrespective of its case properties. The highest argument (and the relative hierarchy of arguments in the VP in general) is determined by the ranking of arguments in the lexical argument structure and its mapping onto the phrase structure. In other words, the ranking determines the order of merger. If the highest ranking argument is not the nominative candidate, the result is a quirky subject construction.
- *No scrambling* to preverbal positions in VO: Clause-bound scrambling takes place within the licensing domain of the verb. Hence a VO language such as Icelandic cannot scramble to a preverbal position.[56]
- *Multiple particle positions* and particle serialization: Complex *head-initial* VPs have a shell structure, that is, a structure with more than one verb position. Strandable particles can be stranded in these positions. In *head-initial* VPs, particles are *postverbal*. *Head-final* VPs

have a single verb position and hence a single *preverbal* particle position.

- *Stacked VPs, no clusters*: Verb clustering is an OV property. Clusters replace stacked, left-branching, extended V projections. Left-branching VP stacks would violate the universal branching constraint. VO structures yield right-branching VP stacks. So clustering is not at issue in a VO language.
- Finally, a language-specific property of Icelandic distinguishes it from German: Quasi arguments are not lexicalized in Icelandic. With this property, the German variants (62a and b) would map perfectly onto the Icelandic patterns in (62c and d). Drop the *es* in (62a), and you get (62c), the Icelandic stray accusative construction (see Haider 2001), and the puzzling accusative[57] in (62c) has a straightforward account: both in (southern) German and in Icelandic, there is a class of transitive verbs with an impersonal variant (Jónsson 2001). The quasi argument gets dropped in the impersonal variant in Icelandic.

(62) a. Den Schornstein hat *es* vom Haus geweht
the chimney$_{Acc}$ *has it from the house blown*

b. Der Schornstein wurde vom Haus geweht
the chimney$_{Nom}$ *was from the house blown*

c. Strompinn blés af húsinu
the chimney$_{Acc}$ *blew off the house*

d. Strompurinn var blásinn af húsinu
the chimney$_{Nom/*Acc}$ *was blown off the house*

The accusative moved to the subject positions satisfies the EPP and acquires subject properties by virtue of being the *structural* subject, that is, the phrase in the functional spec position that other wise accommodates the nominative subject (see Svenonius 2002 for an alternative account).

Notes

1. A reviewer points out that "a trigger is readily found: an EPP property of a VP-external F-head (v, in particular)". However, if this were so, the EPP (Extended Projection Principle; see footnote 25) property could be satisfied by inserting an expletive. Moreover, the preverbal elements in OV are of a mixed bag (arguments, secondary predicates, adverbials of all kind, particles). The postulate that these elements are each attracted by the EPP features of functional heads is not evident to me.

2. Or by V raising, that is, head-to-head adjunction (see Zwart 1993; Den Dikken and Hoekstra 1997).
3. The presupposition of this question (no quirky subjects in German), I take to be uncontroversial: Zaenen, Maling, and Thráinsson (1985) concluded that German does not have quirky subjects. Sigurðsson (1989, pp. 204–205) re-emphasized this conclusion. Fanselow (2002) and Bayer (2003) analyze the corresponding data in German and confirm the conclusion once more. Only Barðdal (2002) has raised objections recently, based on data sentences from the web. In Section 3.1, I shall try to show that there is no need for revising the majority view.
4. See Section 3.1 for the discussion of apparent counterexamples.
5. The deeper reason for this difference is the difference between licensing argument positions in a head-initial and a head-final V projection, respectively, as will be shown at the end of the paper.
6. In mainland Scandinavian languages, the finite verb does not move to clause-medial functional head positions, but the spec position is lexicalized with the subject.
7. In German, the verb *must* stay, and unlike Faroese, German does not provide evidence for a VP-extemal functional subject position. The latter is a VO–OV-based contrast.
8. This does not exclude the converse, namely verbs that move to C° but do not stop in 'I°'. One case is that of mainland Scandinavian Germanic languages, and – thanks to a reviewer for this information – another case could be quotative inversion in English as in "Blair exaggerated, says *The Times*." (See Collins 1997).
9. 'Separable prefix' refers to the particle of a particle + verb combination whose particle is obligatorily stranded if the verb moves to a functional head position (see 5).
   a. dass sie es *an*kündigten
      that they it *an*nounced (they announced it)
   b. Sie kündigten es *an*-e_i
      They *nounced* it *an*-e_i (gloss mimics German particle stranding);
   c. *Sie *an*kündigten$_i$ es e_i
      they *an*nounced it
10. For example: mit-tanzen - (lit. *with-dance* dance jointly)

    (i) Er tanzt$_i$ jetzt mit-e_i (ii) *Er mit-tanzt$_i$ jetzt e_i
    he dances now with *he with-dances now*

11. Höhle (1991) was the first to note that these are finite verbs that do not front.
12. If finite verbs had to move to an *intermediate* functional head position, doubly prefixed verbs would become deviant too. In addition, simple particle-verb combination would be inverted by fronting and stranding. Needless to say, there is no construction in German or Dutch in which a particle is stranded by fronting the verb and the verb does not target the 'C°-position', that is, the position of the finite verb in V2 and VI clauses.
13. I do not endorse the universal clause structure hypothesis. As argued in Haider (1997a, b), I take clause structure to be the minimal complete structure for the given array of terminals. UG dictates the functional architecture as a function of the given inventory. If, for instance, a language does not have any morphosyntactic agreement relations (e.g., Chinese), the core grammar does not have to project agreement nodes.
14. Note that this cannot be checked in Dutch: sentential infinitival complements are ungrammatical in VP-internal positions. Either clause union or extraposition applies. Hence a clause-internal infinitival clause is licit only in a fronted position preceding the structural subject position (which Dutch seems to provide, see footnote 36), and it is opaque for extraction, then, as expected. The fact that German clauses remain transparent shows what is intended to be shown, namely that there is no functional subject position,
    (i) *Met wie$_i$ zou [morgen $e_i$te mogen eten] je meer plezier doen
    with whom would [*tomorrow to be-allowed-to eat*] *you more pleasure give*

15. This example I gratefully acknowledge Werner Frey. It originally was the cold comfort for investors who had lost their money in an investment fraud. As a reviewer points out, the corresponding case in Dutch is not acceptable.
16. An anonymous reviewer points out that the data discussed so far do not rule out the possibility that there are functional projections in between C° and the VP in German but that they are simply skipped. The discussion of the distribution of expletives in German in Section 3.2 provides reasons for excluding this possibility.
17. A projection is complex if it contains more than one complement phrase.
18. In terms of the Minimalist Program this would read as follows: merger is directionally constrained.
19. *Basic Branching Constraint* (BBC): "Projection-internal branching nodes of the (functionally or lexically extended) projection line *follows* their sister node." In other words, lexical projections and their functional extensions are structured as in (i) but not as in (ii):

    (i) . . . [. . . [. . . [. . .]]]
    (ii) ∗ . . . . [[[. . .] . . .] . . .]

20. If an inherently defined *light verb* were necessary for establishing a complex head-initial VP, a '*light noun*' would be necessary for complex head-initial N projections, for which an analogous shell structure is needed and empirically justified (s Haider 1992/2000). Both attempts are unnecessary. It is a bare phrase structure effect.
21 An XP is local to a head h° iff it is either the immediate complement of h° or the spec of the immediate complement (that is, the spec of the subjacent shell).
22. A reviewer justly asks why there could not be another shell such that the verb from its highest position could license all argument positions. In fact, this is the division line between VSO and SVO languages. In SVO, projection stops when all arguments are locally projected. The spec position of a shell is a local position, but it is not within the directional licensing domain. If all arguments have to be projected within the licensing domain of the head, the result is a VSO system. In VO languages, shell projection is triggered by argument discharge only; in VSO, shells are triggered by discharge and licensing.
23. The following examples from French illustrate the Romance agreement with the predicate:

    (i) Les soldats$_i$ sont [VPt$_i$ morts t$_i$] (French)
    the soldiers are died$_{M.Pl}$ the soldiers have died.
    (ii) Les victimes$_i$ sont [VP t$_i$ mortes t$_i$]
    the victims are died$_{F.Pl}$ the victims have died

24. The representational version of this restriction is this: projections are right branching (see footnote 20). Kayne (1994) proposed a linearization constraint with the same result, that is, the exclusion of merging to the right.
25. EPP (Extended Projection Principle): sentences must have subjects, that is, there is an obligatory spec-position that is lexicalized with the subject (or an expletive).
26. One reviewer wonders whether German could not have *VP-internal* quirky subjects, referring to Belletti and Rizzi-type (1988) psych verbs ('ditransitive ergative verbs' whose highest argument could be a VP-internal quirky subject). First, in German, these verbs are verbs with the neutral order Acc-Nom. The accusative precedes, but it shows no subject properties. (For more details see Haider and Rosengren 2003, p.216; see Pesetsky 1995, pp.19–53 for a criticism of the unaccusative approach to these verbs.) Second, 'quirky subject' behavior is a structural effect of a functional position. For example, a dative of a passivized double-object verb is not designated as passive subject by the verb in Icelandic; it becomes subject by virtue of being the highest argument in the VP, which gets moved to a spec position. It is the spec position that provides the structural subject properties.
27. This claim is based on the unacceptability of 1st and 2nd person pronouns as VP-internal nominatives.

28. Note that this is a general problem of the 'split-Infl-approach': since the respective features are associated with separate functional heads, namely *Pers* and *Num*, the ungrammatical type of 'split agreement' in Icelandic is actually predicted, rather than excluded. It does not follow from any principle that the respective specs cannot be inhabited by different phrases providing independent feature values for each instance of agreement with a functional head and that the finite verb picks up and spells out these features.
29. I shall not expand on claims as on p. 72: "The dative [. . .] can function as an antecedent for an unexpressed subject of an infinitive, a property also confined to subjects". Control in *ohne* 'without-to' constructions is not confined to subjects: *Man schickte mich*^{i} *wieder weg, ohne* PRO^{i} *angehört warden zu sein* 'they sent me away without having been listened-to'.
30. One of the Duden examples is this: 'Die Suffixe$_{\text{Nom}}$ werden von einer Flexionssilbe gefolgt' 'the suffixes are followed by an inflection syllable'.
31. Several of her citations contain the passive of 'help'. In this respect, it is instructive that German newspapers made a lot of fun of a popular TV entertainer (Verona Feldbusch) who had uttered: *Hier werden sie*$_{\text{Nom}}$ *geholfen* 'Here are you helped' instead of the grammatically correct *Hier wird ihnen*$_{\text{Dat}}$ *geholfen*. This might indicate dialectal variation but not with respect to oblique PRO, but only with respect to dative-nominative promotion, as in standard Dutch (with the loss of dative).
32. The patterns of Icelandic are not fully parallel with Faroese. Note that the Icelandic counterpart of (35c) is ungrammatical. What is important for the present argumentation is that there is unambiguous evidence for a functional subject position in these language in one form or another.
33. One reviewer points out that the variant of (33a) without the expletive need not be regarded as fully deviant.
34. 'Dropping' in Icelandic refers to argument structure, not to surface structure, since the remaining accusative is promoted to a quirky subject.
35. In German, various elements may be fronted by scrambling. Remnant V projections are not scrambled, so the effects of stylistic fronting could be detected easily.
36. It is not a sufficient condition because of Dutch, as the following well-known contrast illustrates. An expletive *er* is required in subjectless constructions without a preceding (locative) adverbial.

    (i) In deze hoek wird (er) volgens mij gefluisterd (Dutch) (Paardekoper 1963, p. 55) in this corner is (there) according-to me whispered
    (ii) Werd * (er) gefluisterd (in deze hoek) (Dutch) (Paardekoper 1963, p. 55)

    If the presence of the expletive is an indicator of a structural *subject* position in Dutch, then the contrast between German and Dutch must be the result of a third factor. The long-standing observation of den Besten (1985) on dative inversion points to a factor that is not related to subject-hood (see Neeleman and Weerman 1999, pp. 210–213).
37. The gloss mimics the stranding of the verbal prefix in German.
38. But see also Collins and Thráinsson (1996, pp. 415f.) and the comments below.
39. Note that syntactic recoverability means structural or morpho- syntactic identification and crucially not identification by indirect inferencing based on some *effects* that scrambling may bring about, for instance for the information structure. For a more detailed discussion of the role of information structure in scrambling, especially with reference to Dutch, see Haider and Rosengren (2003, pp. 238–240).
40. A reviewer suggests that "A much more straightforward take on why (44b) is out in Dutch is that Dutch does not allow null-headed dative PPs *in situ*, to the right of the direct object." True, but irrelevent, since (44b) would be an *in situ* dative *to the left* of the direct object, with the direct object scrambled across the dative as in German.

41. Note that this way of looking at the problem presupposes that a grammar is a cognitive algorithm for mapping linear sequences on hierarchical structures. It does not project antecedent-gap relations for sequences that are possible base orders.
42. Not for verbs with V-Acc-Dat or V-Dat-Dat order.
43. Neeleman and Weerman (1999) proposed a slightly different implementation of this approach.
44. Collins and Thráinsson (1996, p.436) star the English examples with the adjacent particle. However, a V-adjacent particle in a double object constructions is not ruled out for all speakers as Emonds (1976) and Oehrle (1976) note. Stranding a particle (rather than full pied piping) seems to be the preferred option.
45. It is presupposed here that the structures provided by the core grammar (as a function of UG) are parser friendly, given that UG and parsing developed in a process of cognitive co-evolution (see Haider 2003). The data-to-parser fit is optimal if the parser – a left corner parser – can simultaneously operate bottom up and top down, that is, with continuous data processing (bottom up) plus grammar guidance (top down information on possible structures). This is best implemented with right-branching projection structures.
46. 'Lexical extension of a VP' refers to verbal elements that contribute to the aspectual, modal, epistemic, or other semantic modifications of a VP by selecting the respective VP as complement. In German and Dutch, these verbs are obligatorily clustering. In addition, a large subclass of control verb is clustering optionally.
47. 'Non-verbal material' means adverbials, arguments, secondary predicates, extraposed phrases, etc. Only (stranded) particles (which I consider to be parts of a complex verbal element) are allowed in the cluster. For the argument to be presented here, the essential property is this: can the sequence of verbs be split by other elements? In VO languages, this is the cardinal evidence for separate V projections.
48. Let me emphasize that the no-intervener property is clear counterevidence for any analysis of cluster constructions that operates with V projections (or higher projections) as minimal building units of clusters. In Koopman and Szabolcsi's (2000) as well as in Wurmbrand's (2001) work, this crucial empirical aspect is not adequately honored. In Koopman and Szabolcsi (2000) filters are introduced; in Wurmbrand (2001) the fact is neglected.
49. Topicalization of the cluster is chosen in order to make sure that we are indeed dealing with the clustering variant of the two possible constructions.
50. In the verbal cluster, the subject argument of the infinitival verb is not projected. It is identified with the controller-argument of the selecting verb in the amalgamated argument structures of the clustering verbs (see Haider 1994, 2003 and the brief exposition to follow below).
51. The acceptability improves with the pronominal replaced by a reflexive, but the result is still marginal, for reasons unclear to me.
52. The brackets indicate that in the expanded infinitival form (i.e. *zu* + V°); the would-be nominative is syntactically inactivated. This can be seen directly in the participial construction (first analyzed in Haider 1984):

    a. ein [das Problem analysierender] Syntaktiker
       a this problem analyze$_{+AGR}$ syntactician
       'a syntactician analyzing this problem'

    b. ein [*zu* analysierender] Syntaktiker
       a to analyze$_{+AGR}$ syntactician
       a syntactician to be analyzed

53. Note that the indices of the verbs just refer to the relative order in the input, not to the dependency relations. V_1 is the first verb in the input. In VO, this is the highest one, in OV this is the lowest one.
54. 'Sub-optimal' is meant as a meta-linguistic qualification: as Dutch shows, the cluster too could be fully BBC compatible. Note that there are phenomena in German (the so-called 'Ersatz-infinitiv' or IPP constructions) with inverted orders like Dutch. But the fact that German

clusters (may) keep the order corresponding to the directional licensing relation for complements shows at least that the BBC does not have a full grip on clusters.

55. Agr-S' is used here as the label for the functional head that directionally licenses the highest argument position in a head-initial VP. Licensing may involve agreement (in languages like English) or not (as in Icelandic).
56. Yiddish does not contradict this claim (see Haider and Rosengren 1998,2003) since it is an OV language with VP-internal V fronting (see Section 2.3, above).
57. It is puzzling because it apparently violates Burzio's generalization (Reuland 2000). (63d) shows that the accusative of the object of this verb behaves as expected. It is not puzzling if the accusative in (63c) is both object argument and structural subject.

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