

What is Verb Second?

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Josef Bayer

1. Introduction

The goal of this paper is to throw light on the Verb Second (V2) phenomenon in German, including structures in which there is no constituent before the verb, i.e. Verb First (V1). It will be shown that the term V2 should not be taken as more than a descriptive label, the reason for this being that the verb appears in preposed position only for reasons of morphological integrity. What needs to appear in second position are only the features which are encoded in the inflection of the finite verb. The verb travels along because the inflection cannot be separated from it. Thus, V2 is a case of generalized pied-piping.

We will start in section 2 with a very general introduction of the phenomenon in which we compare the V2-language German with the non-V2-language English. The next four sections present phenomena which throw light on the nature of V2. Section 3 discusses constructions in which the lexical verb is supported by the verb *tun* (“to do”). Section 4 is an extension of this which introduces varieties of German in which the lexical verb is literally doubled. Section 5 turns to the verb *brauchen* (“to need”, “to be obliged to”) which is revealing with respect to V2 because it is a negative polarity item. Section 6 takes a look at V2 from the perspective of focus constructions in which the focused verb is associated with a focus particle such as *nur* (“only”). The next two sections present V2 from the perspective of language processing. Section 7 takes a look at particle verbs, and section 8 presents studies in which the efficiency of parsing has been studied by comparing V-final with V2 constructions. Section 9 puts the V2-phenomenon into the wider perspective of “X2” constructions and discusses V2 as a tool for turning a proposition into an utterance.

Although various aspects to be considered here may already be common ground for researchers working in syntax and particularly for those working in Germanic syntax, it seems to be important to pull various streams of evidence together to arrive at a more general picture of V2. In doing so, we will try to be as untechnical as possible in order to make the arguments also available to non-syntacticians.

2. The core phenomenon

The core phenomenon of V2 is best demonstrated in a comparison between related languages such as West-Germanic Dutch/German and a closely related language which has essentially lost the V2-property, English.¹ Consider the following contrasts

¹ For extensive discussion of V2 in relation to the Romance languages and a good general overview of V2 cf. Kaiser (2002).

(1)	<u>ENGLISH</u>	<u>GERMAN</u>
a.	John bought socks	Johann kaufte Socken
b.	*Socks bought John	Socken kaufte Johann
c.	Who bought socks?	Wer kaufte Socken?
d.	*What bought John?	Was kaufte Johann?
e.	What did John buy?	?Was tat Johann kaufen?
f.	*Fortunately bought John socks	Glücklicherweise kaufte Johann Socken
g.	Fortunately, John bought socks	*Glücklicherweise Johann kaufte Socken
h.	... that John bought socks	*... daß Johann kaufte Socken
i.	*... that John socks bought	... daß Johann Socken kaufte

In (1a,c) English and German look alike: Subject – verb – object. In (1b), this picture is disrupted. It shows that German can place a non-subject in front of the verb while English can hardly do so. Similarly in (1c). While German can simply place the wh-object in initial position as seen in (1d), English can do so only with the help of so-call "do-support", the equivalent of which sounds slightly awkward or childish in German as seen in (1e). The contrast between (1f) and (1g) shows that any constituent can be in front of the verb, in this case an adverb, whereas the same adverb must be attached above the subject in English. Thus, English looks here like "V3", whereas German insists on V2. The contrast between (1h) and (1g) shows that English is in the embedded clause SVO while German is SOV whenever a complementizer such as *dass* introduces the clause.

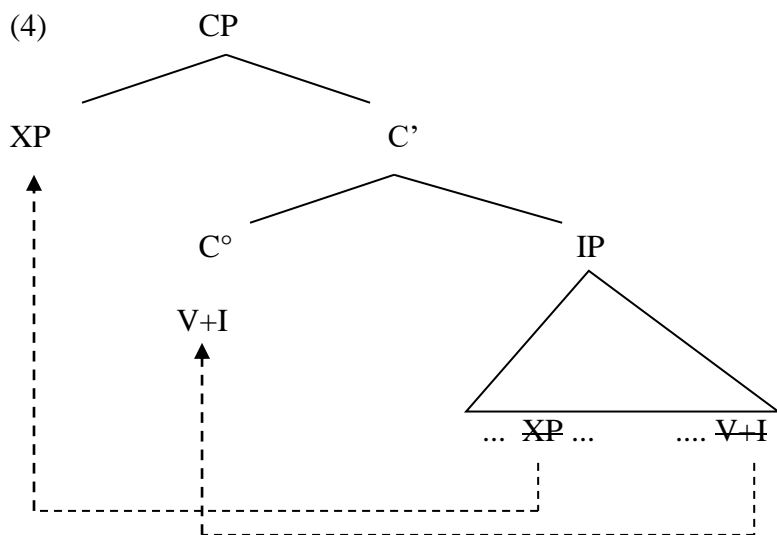
The situation looks intricate but is easily resolved once it is acknowledged that German has (predominantly) a base order SOV which shows up in the embedded clause but turns into its various main clause manifestations by two processes: (i) front the finite verb; (ii) position any constituent to the left of the finite verb (unless you are happy with a V1-clause as in yes/no questions, imperatives etc.). The fronted element can be the subject as in (1a,c) or the object as in (1b,d) or an adverb as in (1f) or whatever else: a verb phrase as in [*Socken gekauft*] *hat nur Johann* ("socks bought has only Johann"), or a clausal complement as in [*Dass die Welt rund ist*] *weiss sogar Johann* ("that the world round is knows even Johann"), or a single verb as in [*Gekauft*] *hat Johann nur Socken* ("bought has Johann only socks"), etc. English, in comparison, is SVO and stays with this order in most of its constructions, even in subject questions like (1c).² Modifiers like adverbs (cf. (1g)) or clauses as in *When he comes home, John takes off his socks*, can be attached to this SVO-basis. In limited cases this is also possible for focused objects as in *BEANS I really hate*. In questions and declaratives with negative operators (sometimes called "affective operators"), the non-subject gives rise to a V2-construction as seen in (2) and (3).

- (2) a. When did John buy socks?
b. Where did John buy socks?
c. How did John buy socks?
- (3) a. At no time did John buy socks
b. In none of these shops did John buy socks
c. Under no circumstances would John buy such ridiculous grey socks

These examples show remnants of the time in which English was much more like continental West-Germanic and was in fact an operative V2-language.

² This is controversial among syntacticians but at least the surface distribution suggests that the wh-subject stays where also a referential subject stays.

Following a long tradition of research that dates back into the late 19th century, the Principles and Parameters approach to generative syntax suggested for German a phrase structure roughly like in (4) in which C^o is a functional head position which in the embedded clause hosts a complementizer and in the main clause the finite verb which has picked up its finiteness features from a final functional head called I^o (for inflection).



Apart from any theoretical detail, the important point here is that the verb is “actually” in clause final position and comes to stay in V2 (or V1) position only as a result of movement by which the verb is taken out of its lexical projection and is inserted into a higher functional head position, here called C. An important insight is that it is exclusively the finite verb which undergoes this shift. The strong impression is then that V2 has something to do with the finiteness feature that is present in the inflected verb. This feature (or rather feature bundle) comprises information about tense, number, person and mood. A more radical suspicion is that V2 is only accidentally related to the verb, the accident being that the finiteness feature is spelled out on the verb. Morphological integrity (“You cannot linearly separate the verb stem from the inflectional morpheme!”) will then condition the verb to travel along with the finiteness information encoded in the inflectional morpheme. This process has become known as *Generalized Pied Piping*.³ We will see in the following that this more radical suspicion has much to recommend, and that V2 is in the end a process that involves the verb stem, the lexical part of the verb, only for the trivial reason of morphological combining of V and I(nfl). Thus, the conjecture we will defend in the following is as in (5):

(5) Conjecture about V2

The finite verb that appears in 2nd position in a V2-language is in this position only for the reason of generalized pied piping. Even when it is perceived in V2-position, its lexical part is evaluated in its base position, i.e. in German in clause-final position.

³ The finiteness feature moves, and the (minimal) verbal stem follows in order not to violate other constraints of the grammar.

3. Periphrastic *tun*

Certain registers of German have the possibility of inserting *tun* („to do“) as the carrier of the finiteness morphology.⁴

- (6) Ich glaube, dass der Klaus grade den Müll hinunter tragen tut
I believe that the Klaus now the garbage down carry does
“I believe that Klaus is right now carrying the garbage down”
- (7) Der Klaus tut grade den Müll hinunter tragen
“Klaus is right now carrying the garbage down”

Unlike *do* in English, German *tun* appears to retain some semantics. The immediate impression is that it requires a VP which is headed by an activity verb such as *tragen* in (6) and (7). Closer inspection reveals, however, that it is well compatible also with stative verbs as long as these can be construed as stage-level predicates (SLP). This is the case in (8):

- (8) Die Clarissa tut den ganzen Tag auf dem Sofa liegen
the Clarissa does the whole day on the couch lie
“Clarissa is lying the whole day on the couch”

Tun is incompatible with an individual-level predicate (ILP) such as *own*, *resemble*, *lie on a lake* etc.

- (9) *Der Klaus tut einen guten Charakter besitzen
the Klaus does a good character own
“Klaus has a good character”
- (10) *Der Klaus tut seinem Vater ziemlich ähneln
the Klaus does his father much resemble
“Klaus resembles his father quite a lot”
- (11) *Konstanz tut am Bodensee liegen
Konstanz does at-the Bodensee lie
“Constance lies at the Bodensee (Lake Konstanz)”

While there may also be more subtle semantic restrictions, this diagnostic seems to be sufficient for the following argumentation. Notice first that the verb *tun* in V2-position will under our previous assumptions appear in clause-final position for the purposes of core syntactic computation. As such it displays its semantic effects which may be compatible with the predicate as in (6) through (8) or not as in (9) through (11). Interestingly, the semantics of *tun* can be suspended, however. This is the case when the predicate has been moved to SpecCP such that no finite verb would be left to satisfy the V2 requirement. In this case *tun* steps in as the only option, and it does so without displaying any lexical semantics. Consider the following well-formed versions of (9) through (11) which have been slightly adjusted to make them stylistically more appropriate.

⁴ For details of this construction cf. Schwarz (2004) and Bader & Schmid (2008)

- (12) [Einen guten Charakter besitzen] tut der Klaus auf alle Fälle
a good character own does the Klaus in any cases
 “Klaus has a good character in any case”
- (13) [Seinem Vater ähneln] tut nur der Klaus
his father resemble does only the Klaus
 “Only Klaus resembles his father”
- (14) [Am Bodensee liegen] tut Stuttgart zum Glück nicht
at-the Bodensee lie does Stuttgart luckily not
 “Luckily Stuttgart does not lie at the Bodensee (Lake Constance)”

These cases show that the finite verb in V2-position can indeed be reduced to its bare inflectional part. A semantic conflict would be unavoidable if *tun* would be semantically “reconstructed” into the clause final position.⁵ The fact that such a conflict is absent shows that *tun* is inserted in V2-Position as a default option essentially guaranteeing nothing else but the presence of the finiteness features in C°. In this case, German *tun* is comparable to English *do*-support which demonstrably lacks the semantics of an action verb.⁶ It is important to see that this semantic suspension is only possible in V2 (or V1) position but never in V-final position. This shows that the locus of semantic inprepretation of the finite verb is the V-final position. If this is true, the semantically deviant examples in (9) through (11) must be deviant because the finite verb is reconstructed into the clause-final position.

4. Verb doubling

A number of German dialects as well as Jiddisch show verbal doubling according to which the infinitival form of the verb or a projection of it is in the Vorfeld (SpecCP) while the verb itself reappears in its finite Form in V2-position (C°). Fleischer (2008) calls this construction *topikalisierte Infinitivverdoppelung* (topicalized infinitive doubling). Among the German dialects, this construction appears in the Berlin dialect as well as in archaic peripheral varieties of Prussian on the northern end and high Alemannic of Graubünden on the southern end, as well as in diasporic German minority dialects which have survived in the former Soviet Union. Examples from Fleischer’s collection are given in (15) through (19). The sources can be found in Fleischer’s article.

⁵ We see “reconstruction” as the presence of an inaudible copy of the moved element which is used for semantic interpretation. According to Chomsky (1995), a trace of movement is such an inaudible copy. There are numerous examples which show so-called reconstruction effects, i.e. effects which require the moved phrase or part of the moved phrase to be semantically evaluated in the underlying position. To give a simple example from anaphoric binding, *himself* in (i) must be bound by *John*, and can only be bound (i.e. among other things c-commanded) when we assume that the phrase containing *himself* appears as a silent copy in the object position of the verb *likes*.

(i) [Which picture of himself_i] do you believe that John_i likes ~~which picture of himself_i~~ best?
 If *himself* would be evaluated where it is phonetically perceived, (i) would be as ungrammatical as

(ii) *Himself_i likes John_i

⁶ (i) Does he know French? vs.

(ii) *Tut er Französisch (sprechen) können? vs.

(iii) Französisch (sprechen) können tut er auf alle Fälle

- (15) Schaden schadet ihm das nichts
harm harms him that nothing
 “This does not harm him”
 PRUSSIAN (Reuter, 1967)
- (16) Schnifke schnûwe schnöffft hei nich, man Branntwîn sûpe söppt hei sêr
snuff snuff snuffs he not but brandy guzzle guzzles he very
 “He does not snuff tobacco but he guzzles a lot of brandy”
 PRUSSIAN (Frischbier, 1876)
- (17) aber ihr redet bloß und geben gebt ihr nichts
but you talk only and give give(2pl) you nothing
 “You only talk and talk but never give anything”
 PRUSSIAN (Bobrowski, 1964)
- (18) Syn bischt schoon albig der glych verdamt Schelm!
be are-you still always the same damned rogue
 “You are still the same old rogue!”
 ALEMANNIC (SPLÜGEN, DAVOS) (Dieth, 1939)
- (19) Weerchu weerschut=er weenig
work works =he little
 “He works little”
 ALEMANNIC (GRESSONEY, AOSTA VALLEY) (Zürrer)

Under the assumption that the verb in V2-Position is semantically relevant, these constructions look bizarre. Why would one want to simply repeat a verb or the verbal part of a predicate?⁷ Under the alternative assumption the doubled verb is nothing but the host of the finiteness features that must be positioned C° in order to turn the proposition into an utterance. Since the inflectional morpheme cannot be uttered as such, there must be a lexical carrier. While in Standard German this carrier is *tun*, the dialects under consideration simply use for this purpose the lexical form that is used in the topic position. What looks like an echo is simply one choice of spelling out finiteness in the V2-position.

The existence of such doubling dialects is another strong piece of evidence that the verb is not semantically interpreted in V2-position but is in fact nothing else but the morphological basis that allows the feature of finiteness to show up in this upper position of the clause. Since according to Fleischer (2008) information about doubling dialects is sparse we cannot be sure about the range of possibilities of doubling. However, in none of the examples does doubling occur in the verb’s underlying clause final position. The version of (15) seen in (20) appears to be non-existent.

- (20) (*)Ich glaube, dass ihm das nichts schaden schadet
I believe that him this nothing harm harms

(20) would constitute a case of genuine redundancy while the doublings seen in (15) through (19) are nothing but the result of spelling out the relevant finiteness feature in V2-position.⁸

⁷ Of course, there are languages in which the verb undergoes doubling, sometimes reduplication, for reasons of expressing progressive aspect, intensity of action etc. Such motivations can be safely excluded in these cases.

⁸ According to Jürg Fleischer (p.c.), his data collection does not contain a single example of doubling of the sort seen in (i). All the examples are rather of the V2-type seen in (ii).

The message of sections 4 and 5 is that the finite verb which appears in the German root clause in V2 (or in yes/no questions in V1) position, is not semantically interpreted in this position. The verb in V2-position is either interpreted in its underlying clause-final position, or it is generally not interpreted at all because the lexical part of the verb has already been inserted in a position (SpecCP) from which it can be reconstructed into its underlying trace position. In the latter cases – constructions with periphrastic *tun* and verb doubling – the verb in V2 is nothing but the morphological carrier of finiteness. In each such case, the verb is lexically inert in V2-position.

In the next two sections we will present more evidence to the effect that the verb in 2nd position is in fact reconstructed into its clause-final underlying position.

5. Negative polarity

The German verb *brauchen* (“to need”, “to be obliged to”) is a negative polarity item (NPI), on a par with other NPI such as *jemals* (“ever”), *überhaupt* (“at all”), *auch nur ein bisschen* (“even a little”) etc. *Brauchen* is a modal verb on a par with *müssen* (“must”), the difference being that *brauchen* can arise only as an NPI. As such it must appear in the scope of negation (or an operator with similar semantic properties, e.g. *nur die wenigsten*, “only the fewest”). Consider first some examples with adverbial NPIs:

- (21) Niemand / *Klaus hat den Kranken **jemals** besucht
nobody / Klaus has the patient ever visited
 “Nobody ever visited the patient” / “*Klaus has ever visited the patient”
- (22) Nur die wenigsten / *die meisten haben **überhaupt** zugehört
only the fewest / the most have at all listened
 “Only the fewest people listened at all” / “*Most of the people listened at all”
- (23) Keiner / *jeder hat **auch nur ein bisschen** aufgepasst
no one / everyone has also only a little attended
 “Nobody payed even a little attention” / “*Everybody payed even a little attention”

In each case one can show that the NPI is in the scope of a negative operator. This means that the NPI must be c-commanded by negation (in a local domain which we can for simplicity identify with the minimal clause in which the NPI and its negative licenser occur). Although adverbs can normally undergo movement to the “Vorfeld” (SpecCP), NPIs of this sort cannot do so as the following deviant examples show.⁹

-
- | | | |
|------|--|--------------------|
| (i) | dass Stuttgart zum Glück nicht [am Bodensee liegen] liegt | (V-final doubling) |
| (ii) | [Am Bodensee liegen] liegt Stuttgart zum Glück nicht | (V2-doubling) |

⁹ Cf. Meinunger (2004: 54) according to who „NPI licensing is known to be a very strong s-structure phenomenon“. This is also true for English *any*.

- (i) I couldn't find anyone
 (ii) *Anyone I couldn't find ~~anyone~~

The only possibility is to have the NPI in a larger phrase which undergoes reconstruction into a position in the scope of negation as seen in (iii)

- (iii) [A person [who knows anything about cholera]] could not be found ~~a person who knows anything about cholera~~

- (24) ***Jemals** hat niemand den Kranken ~~jemals~~ besucht
 (25) ***Überhaupt** haben nur die wenigsten ~~überhaupt~~ zugehört¹⁰
 (26) ***Auch nur ein bisschen** hat keiner ~~auch nur ein bisschen~~ aufgepasst

Notice now that the verb *brauchen* would appear to be surprising exception to the usually valid licensing requirement for NPI. Next to the canonical case in (27) we find also the V2-case in (28).

- (27) dass er sich nicht zu fürchten **braucht**
that he REF not to be-afraid needs
 “that he doesn’t need to be afraid”
- (28) Er **braucht** sich nicht zu fürchten ~~braucht~~
 “He doesn’t need to be afraid”

In (28), *brauchen* precedes and c-commands the negator *nicht* and thus appear to be outside its scope, exactly the reverse of the constellation that is normally found in NPI-licensing. This paradoxical situation is resolved if we assume that the verb has been moved to second position (C°) only for the reason of making its finiteness feature available in this position. For the sake of morphological integrity, the inflectional element *-t* cannot move alone.

- (29) *Er -t sich nicht zu fürchten **brauch-t**

Nevertheless, (29) appears to be the representation that is demanded by core syntax. So we conclude that (29) is ungrammatical for the PF-interface while it is in fact grammatical for core syntax (the LF-interface).

6. Association with focus

Association with a focus particle such as *nur* (“only”) is in German such that in the standard cases the focusing particle precedes and c-commands the associated focus. Consider first the case in which *nur* occupies a pre-VP scope position and associates with a focus constituent in VP (signalled here with capitals).

- (30) dass er nur [mit CLARISSA getanzt hat]
that he only with Clarissa danced has
 “that he danced only with Clarissa”
- (31) dass er nur [mit Clarissa GETANZT hat]
that he only with Clarissa danced has
 “that he only danced with Clarissa”

While (31) may not be perfect for everybody, it improves when the non-focused PP is scrambled out of VP as in (32).

- (32) dass er [mit Clarissa] nur [~~mit Clarissa~~ GETANZT hat]
that he with Clarissa only danced has
 “that he only danced with Clarissa”

¹⁰ There is another reading in which *überhaupt* is a clause linker in the sense of “by the way”. (5) is grammatical with this interpretation which is, however, irrelevant for the NPI-interpretation.

The focus particle can also join with the focus constituent directly as one can see in those cases in which a constituent occupies SpecCP.

- (33) [Nur mit CLARISSA] hat er getanzt
 (34) [Nur GETANZT] hat er mit Clarissa

Given that German is V2 and not V3, V4 etc., the strings in square brackets must be a single constituent.¹¹ The important point is that in each of the cases the particle precedes the focus. Notice now that German has the marked option of moving the focus constituent to the left of the particle as seen in (35) and (36). We indicate the marked character with the superscript M.

- (35) ^M[Mit CLARISSA] hat er nur [~~mit CLARISSA~~] getanzt
 (36) ^M GETANZT hat er [mit Clarissa] nur [~~mit Clarissa~~ GETANZT hat]

In these examples, *nur* can only associate with the focussed constituent if this constituent is reconstructed into its base position. Constituents in SpecCP with inverted order appear to be equally marked and may for certain speaker even be ungrammatical.¹²

- (37) ^M [Mit CLARISSA nur ~~mit CLARISSA~~] hat er getanzt
 (38) ^M [GETANZT nur ~~GETANZT~~] hat er mit Clarissa

Consider now a case in which the associated focus is identical with the finite verb. As long as the verb stays in its clause-final position the particle precedes it.

- (39) dass er [mit Clarissa] nur [~~mit Clarissa~~ TANZTE]
 „that he only DANCED with Clarissa (he didn't KISS her)“

Interestingly, the focused verb can undergo V2 without giving rise to the markedness seen in (35) through (38).

- (40) Er TANZTE mit Clarissa nur ~~TANZTE~~
 „He only DANCED with Clarissa (he didn't KISS her)“

How is this possible? It is possible if we assume that the focused finite verb is only in V2-position for the reason of morphological integrity while it remains as a lexical item together with its focus in clause-final position. The part of the representation which is relevant for core syntax and semantic interpretation is thus as in (41).

- (41) Er –te mit Clarissa nur TANZ–te

(41) echoes exactly what we have argued to be the appropriate structure for NPI-licensing in (29). Focus association is thus another piece of evidence for the correctness of (5).

In the next two sections, psycholinguistic evidence will be presented which indicates that the syntactic structure of V2 may also have consequences for language processing.

¹¹ This has been challenged by Jacobs (1983) and later again by Büring & Hartmann (2001). Their semantic arguments are, however, built on a misconception of the role of constituency and movement. For an alternative cf. Bayer (1996) and the comments in Reis (2005).

¹² E.g. for Büring & Hartmann (2001).

7. Particle verbs

German has lots of so-called “particle verbs” in which the particle is actually mostly (though not always) a preposition (P) which receives word accent and necessarily splits off and is left behind when the verb moves to V2-position. The exact structure of these particle verbs is not relevant here. What is relevant though is the fact that the P+V combination can deviate quite drastically from the productive syntax-driven rules of semantic composition, known as the “Fregean principle” according to which the meaning of a structure is a function of the meaning of its parts. For particle verbs such as *an+hören* (at+listen, “to listen to”), *zu+hören* (to+listen “to pay attention by listening”), *auf+steigen* (up+climb “to climb up”), *ab+steigen* (down+climb “to climb down) etc. semantic compositionality appears to be respected, *anhören* is some kind of listening, and so is *zuhören*; *aufsteigen* is some kind of climbing, and so is *absteigen*. Consider, however, the examples in (42).

- (42) a. *auf+hören*
 up listen “to stop”
- b. *an+fangen*
 at catch “to start”

These forms are entirely non-compositional. *Aufhören* is no sort of listening, and *anfangen* is likewise no sort of catching. These two may be the clearest examples, but they are certainly not the only ones. Many other particle verbs show next to regular compositionality fairly idiosyncratic meanings (which are added here after “next to ...”).

- (43) a. *ab+hauen*
 off chop “to chop off” (next “to leave rapidly”)
- b. *bei+bringen*
 at bring „to bring to“ (next to „to teach successfully to“, next to “injure”,
 in combination with *eine Verletzung*, etc.)
- c. *auf+stellen*
 up position „to put into vertical position“ (next to “to nominate”)
- d. *nach+stellen*
 after put „to reset (an alarmclock)“ (next to “to chase”)
- e. *aus+drücken*
 out squeeze „to squeeze out“ (next to „to express“)
- f. *aus+tragen*
 out carry „to distribute (e.g. newspaper) (next to “to hold (a match)” next
 to “to carry a child until birth” etc.)

Nevertheless, all of these verbs behave alike with respect to the process of splitting the finite verb from the particle in the V2-construction. Bierwisch (1983: 146 f.) points to semantic ambiguities which can arise when such verbs are being used. Consider his well-chosen example of a V1-construction in (44).

- (44) Hört der Pianist ... noch vor der Probe {zu üben auf+hört / die Bänder an+hört}
 „Does the pianist ... {stop practicing / listen to the tapes} before the rehearsal?”

As Bierwisch points out, the space which is signalled by the dots can in principle be of arbitrary length. Nevertheless, the example in which the resolution terminates in the non-compositional meaning “to stop” does not present an intuitively noticeable semantic parsing problem.¹³ Frazier, Flores d’Arcais & Coolen (1993) investigated the processing of particle verbs in Dutch by presenting their subjects with split (V2) and unsplit verbs (V-final). Consider their example of the verb *aan+bieden* (“to offer”).

- (45) a. Wie **bied** je nu de dranken **aan**?
who VERB you now the drinks PARTICLE
 “Who do you now offer the drinks?”
 b. Wie heb je nu de dranken **aangeboden**?
who have you now the drinks offered
 “Who have you now offered the drinks?”

They did not control for non-compositionality and local ambiguity. Nevertheless, one of their results shows that in a speeded grammaticality judgment, subjects responded significantly faster (542 ms) to split constructions of type (45a) than to unsplit constructions of type (45b) (768 ms).¹⁴ This result can be interpreted in two ways. (i) The parser has an advantage by using the lexical information of the verb in V2 position in order to make guesses about the particle to follow in final position, or (ii) the unresolved semantic representation of the verb in V2 does not inhibit efficient parsing whereas the present perfect form in the unsplit construction presents additional complexities which result in prolonged response times. Frazier et al. tend to accept the second interpretation. They argue for the existence of two subsystems: (a) “the syntactic processor, able to draw syntactic implications about the analysis of an input” and (b) “a lexical or morphological processor, unable to appreciate the global syntactic implications of its local morphological or lexical analysis” (p. 234). Starting from a model of morphological integration which is obviously uninformed about the special role that V2 plays in Dutch and German, they argue that the lexical verb in V2-position activates a partial representation which achieves a full lexical representation after the particle is encountered.

On the basis of the other evidence about V2 which we have seen so far one could argue more radically that the parser in fact *ignores* the lexical part of the verb in V2-position and integrates it only in the base position of the verb, i.e. in the position where normally the particle is available. Given that in head-final languages the parser has to build syntactic structure on the basis of non-verbal information, it is not unreasonable that V2 does not disrupt this strategy by occasionally turning the parser into a head-driven parser. The existence of particle verbs with non-compositional semantics and the impression that these do not present intuitively noticeable parsing difficulties in V2-constructions would support the hypothesis that the parser does not automatically change its strategies upon encountering V2-

¹³ For comparable cases of local sense ambiguity and semantic revision in English cf. Carlson & Tanenhaus (1988). Carlson & Tanenhaus used material like *Bill set the alarm clock ... {for six in the morning / onto the shelf}*. They found prolonged reaction when sentences of this kind had to be judged whereas no such effect appeared in sentences with sense stability but thematic ambiguity as in *Bill loaded the truck ... {with bricks / onto the ship}*.

¹⁴ Their experiment contained another variable the discussion of which is not relevant for the purpose of the present discussion.

constructions with a lexical verb in V2-position. In the next section a study will be presented which points in this direction.

8. Parsing V2- versus V-final sentences

Scheepers, Hemforth & Konieczny (2000) conducted an eye-tracking experiment with V2-versus V-final sentences in which they used psychological stative verbs such as *fürchten* (“to be afraid”) and psychological causative verbs such as *ängstigen* (“to frighten” i.e. “to make being afraid”). From a judgment study the authors knew that the order subject < object (S < O) is generally the preferred one but that the order O < S is acceptable in psychological causative verbs as long as the subject can receive a theme interpretation. The latter is always the case when the subject is inanimate as in *dass den Schüler_{ACC} das Geräusch_{NOM} ängstigte* (“that the noise frightened the student / caused the student to be afraid”). If there is no intrinsic asymmetry between the two DP in the sense of animacy as in *dass den Schüler_{ACC} die Lehrerin_{NOM} ängstigte* (“that the teacher frightened the student / caused the student to be afraid”), O < S order turns out to be dispreferred and hard to parse but still better than O < S order with psychological stative verbs as in *dass den Lehrer_{ACC} die Schülerin_{NOM} fürchtete* (“that the teacher frightened the student / caused the student to be afraid”). The latter case represents scrambling i.e. movement of the object over the subject which leads to a marked order that would in this case only be compatible with contrastive focus e.g. on the subject.

Scheepers et al. presented their subjects with sentences in SO-versus OS-order in two version: V2 versus V-final. The DPs were always such that the first one was Case-ambiguous (between nominative and accusative, e.g. *die Lehrerin*) while the second was Case-unambiguous (e.g. *der Lehrer* versus *den Lehrer*).

(46) a. V2, S < O

Offenbar	ängstigte	die strenge Lehrerin	den stillen Schüler	ein wenig
<i>obviously</i>	<i>frightened</i>	<i>the strict teacher</i>	<i>the quiet pupil (ACC)</i>	<i>a bit</i>

b. V2, O < S

Offenbar	ängstigte	die stille Schülerin	der strenge Lehrer	ein wenig
<i>obviously</i>	<i>frightened</i>	<i>the quiet pupil</i>	<i>the strict teacher (NOM)</i>	<i>a bit</i>

(47) a. V-end, S < O

dass	die strenge Lehrerin	den stillen Schüler	ein wenig	ängstigte
<i>that</i>	<i>the strict teacher</i>	<i>the quiet pupil (ACC)</i>	<i>a bit</i>	<i>frightened</i>

b. V-end, O < S

dass	die stille Schülerin	der strenge Lehrer	ein wenig	ängstigte
<i>that</i>	<i>the quiet pupil</i>	<i>the strict teacher (NOM)</i>	<i>a bit</i>	<i>frightened</i>

Case-disambiguation toward either the preferred SO-order or the less preferred OS-order was therefore always at the beginning of the second DP. Although there is no structural difference in complexity between V2- and V-final order, a plausible hypothesis for the parsing process is that V2 provides an advantage because the lexical properties of the verb including information

about the thematic roles it discharges and their ordering possibilities are earlier available than in V-final clauses.

Interestingly this is not what Scheepers et al. found. What they actually found is described as follows:

“The pattern of results in verb-second main clauses (V-Args condition), however, is quite striking, as it indicates a substantial asynchrony regarding the impact of functional and thematic constraints on argument ordering: although the verb was available before the subject-object ambiguity was encountered, and although the point of disambiguation came rather late, the thematic prominence effect was delayed until the clause-final position (i.e. until the clause final adverbial had been read).”

In both V-end and V2 it was the second NP which triggered prolonged reading times under OS-order, and it was in both cases the final region – the verb in the V-end condition and the adverbial *ein wenig* in the V2-condition – where influences of semantic verb type on preferred argument order became manifest. The authors explore various possibilities to explain this result but in doing so retain the idea that parsing, being strictly incremental, would take the verb in V2-position in the sense of a lexical head from which argument structure is projected. A parsing strategy of this kind can certainly not be excluded, but in the context of the previous considerations there is now an alternative which suggests that the parser may process the clause “as if it were a V-final clause” essentially reconstructing the lexical part of the verb where possible and taking into account only the finiteness feature that signals the categorial status of the root clause.

Experiments in which V2- and V-final constructions are contrasted can also be found in Bader & Bayer (2006: ch. 6). Like in the Scheepers et al. experiment, these experiments are built on the general finding that in verb-final constructions there is a strong preference for S < O order. The verbs were dative-assigning verbs like *imponieren* („to impress“), *gefallen* („to please“), *missfallen* („to displease“), *fehlen* („to miss“), *auffallen* („to strike s.o.; to catch s.o.’s eye“), *begegnen* („to meet“) which typically allow both S < O and O < S order. The task was to judge locally ambiguous sentences under time pressure in which a final conjunctive tag demands a disambiguation in favor of either an S < O reading or a O < S reading. As in the Frazier et al. (1993) study the sentences were offered in experiment 1 with an auxiliary in V2-position and the lexical verb in final position, and in experiment 2 with the lexical verb in V2-position. Examples of the materials appear in (48).

(48) Aux/V-final (exp.1)

a. Disambiguation toward S < O

Erwin hat nicht nur Sabine imponiert, sondern auch ihrem Opa
Erwin has not only Sabine impressed but also her grandpa-DAT
„Erwin impressed not only Sabine, but also her grandpa“

b. Disambiguation toward O < S

Erwin hat nicht nur Sabine imponiert, sondern auch ihr Opa
Erwin has not only Sabine impressed but also her grandpa-NOM
„Not only Sabine impressed the visitor, but her grandpa did too“

(49) V2 (exp.2)

a. Disambiguation toward S < O

Wahrscheinlich imponierte Erwin nicht nur Sabine, sondern auch
probably impressed Erwin not only Sabine but also
ihrem Opa
her grandpa-DAT
sondern auch ihrem Opa
„Erwin probably impressed not only Sabine, but also her grandpa“

b. Disambiguation toward O < S

Wahrscheinlich imponierte Erwin nicht nur Sabine, sondern auch
probably impressed Erwin not only Sabine but also
ihr Opa
her grandpa-NOM
„Erwin probably impressed not only Sabine, but also her grandpa“

In comparison with locally unambiguous sentences (overtly Case marked), disambiguation toward O < S induced a heavy garden path with chance level performance and prolonged response times in the Aux/V-final condition. In the V2-condition the performance was generally somewhat lower, and the garden path effect seen before (ex.1) in the disambiguation toward the O < S interpretation was reduced under the V2-condition. In addition, also disambiguation toward S < O revealed a comparably weak garden path which suggests that the parser cannot have simply ignored the verb in 2nd position.

These results indicate that the lexical verb in V2-position is obviously noticed and can take some influence on the efficiency with which the sentence is processed. It is, however, not clear what kind of information is exactly available for the parser and how this information guides the analysis of incoming material.¹⁵ Thus, more experiments will be needed before the Scheepers et al. and the Bader & Bayer results can be evaluated in the context of the syntactic and semantic observations about the status of V2.

9. Why V2?

From the evidence we have considered so far the conclusion should be drawn that the role of the verb in V2-constructions has been overestimated. If we are right, the verb is in second position simply because the features encoded in the verb's inflection need to be in this position. The minimal part of the verb which makes a phonological word has to move because of generalized pied-piping, an operation that respects lexical integrity, whereas the lexical part of the verb is actually needed elsewhere in the clause, in German in final position. This view puts V2 into a wider context of X2-phenomena. It corresponds rather closely to Anderson's (1993: 68) analysis of V2 as "realize the inflectional features of the clause immediately after its ini-

¹⁵ As Martin Salzmann (p.c.) points out, V2 would be disastrous for a parser that derives strong semantic commitments from the verb in V2-position. Consider the transition from (i) to (ii).

- (i) Peter hat ein Buch
Peter has a book „Peter is in possession of a book“
- (ii) Peter hat ein Buch verloren
Peter has a book lost „Peter has lost a book“

Whether the mind immediately computes a full semantic representation of (i) or not, it is clear that its revision toward, say (ii), must be extremely cheap.

tial element”. According to Anderson’s interpretation of Wackernagel’s law, one can draw a parallel between special clitics, i.e. clitics which attach to a phrase, and the case of V2 in which features of finiteness are part of the inflected verb. Both kinds of features gravitate to a clause-initial position in which they attach to a first constituent. An illuminating example may be Warlpiri. In this Australian language, the relevant features appear to be independent of the verb. The following examples from Hale (1983) show that tense and person morphemes are independent of the verbal stem and appear independently of the verb in second position.

(50) Ngajulu-rlu ka rna- ngku nyuntu nya - nyi
 I -ERG PRES ISUBJ- 2OBJ you see -NON- PAST
 “I see you”

(51) Wita yangka kapi -rna ma -ni
 small this FUT-ISUBJ take -NON-PAST
 „(I) will take this small one“

(52) Maliki- rli ka wawirri wajilipi-nyi
 dog -ERG PRES cangaroo chase -NON-PAST
 mata -kariyinyanu
 tired -RECIP
 „The do chases the cangaroo, and they are tired“

Anderson’s proposal (his (21)) is to take V2 as a version of morphological realization that achieves the same goal by moving the inflected verb:

(53) “Realize the inflectional features of a clause by (a) locating its first constituent, and (b) copying the features of Tense, Mood, and Agreement onto a word immediately following this anchor point.”

Nevertheless one may want to know why it is these features and not others, and why it is the second position rather than the third or fourth or fifth position. Languages abound with examples in which cliticization occurs in places lower than the designated second position perhaps often involving elements which have nothing to do with tense and person features. Furthermore V2 may also turn out to be V1. This is the case in German alternative questions, imperatives, conditional, and it is systematically the case in VSO-languages (whose surface word order is arguably the result of verb movement). Unless one wants to say that there is cliticization to a null category, there must be some further reason for placing these features in a high clausal position. Wechsler (1990; 1991) was perhaps the first to follow this intuition and to suggest an explanation in terms of clausal typing. Wechsler suggests that the syntactic features C (for the complementizer) and FIN (for the finite verb) “constitute an illocutionary force indicator for Germanic in the sense of Searle (1969. p. 30)”.¹⁶ V1/V2, and perhaps clitic placement in the broader conception of Wackernagel and Anderson, is obviously an important means to contribute features that turn a proposition into an utterance and thus anchor it in the ongoing discourse.

V-movement by itself appears to leave the type of utterance underdetermined so that further elements have to step in to assign the clause to a specific illocutionary type. This is clearly the case in wh-movement versus topicalization of a non-wh phrase. Although both are built on a

¹⁶ Rizzi (1997) and following work on the cartography of the left clausal periphery which involves a force projection can be seen as an extension of Wechsler’s proposal. The role of V2 in force marking in German is extensively discussed in a cross-linguistic perspective in Brandner (2004).

V2-construction, the former yields a question, the latter a declarative. In the same way, V1 may be tuned toward a disjunctive question or toward an imperative or yet some other type. In each case, V-movement appears to be an important device though in building the basis of force interpretation.¹⁷ A discourse-semantic theory of V2 in the sense of Wechsler is not necessarily in conflict with Anderson's morphology-based theory referred to above. The two accounts rather appear to focus on the semantic and on the phonological side respectively without suggesting a conflict.

Outside the Germanic language area, V2 is attested in Kashmiri. Unlike in German *dass*-CPs where the verb has to stay behind, V2 holds in Kashmiri also in embedded clauses which are introduced by the complementizers *zi* or *ki*.¹⁸ According to Bhatt (1999), V2 is responsible for the indication of mood and as such comparable to the German complementizer *dass* which in the absence of a *wh*-phrase indicates declarative mood, while the complementizer in Kashmiri is a pure subordinator. Thus, V2 seems to be in the service of clausal typing in Kashmiri as well even if it does not seem to turn the proposition into an utterance.

An important question is why so many languages of the world can do with neither verb movement nor clitic placement in the left periphery. Strict head final languages usually do not type their clauses at the left but rather on the right edge. Kayne's (1994) theory of a universal order of constituents which is developed around the *Linear Correspondence Axiom* (LCA) suggests that the typing information is nevertheless at a left functional position in these languages, and that the rest of the structure has been moved to the left of this position. The LCA-approach offers a very concrete answer according to which all languages are in a certain sense X2. It has no answer, however, why a language like German with a comfortable basic order that places the finite verb in final position should afford the luxury of moving the verb to C°. It is unclear at this moment how to account for the space of variation that Universal Grammar (UG) offers to meet the pressure of encoding features of illocutionary force in the sentence. V2 is part of the strategies that UG makes available to reach this goal. The findings about V2 in German which have been collected here should place this phenomenon high on the research agenda of researchers who strive for an complete picture of language and language systems.

¹⁷ Cf. Bayer (2004) for an elaboration of this idea.

¹⁸ Cf. Wali & Koul (1997: 17 ff.) and Bhatt (1999: 98 ff). Kashmiri shares this property with various Germanic languages other than Dutch and German. The non-application of V2 in comp-introduced CPs that one sees in these languages seems to be the exception rather than the rule.

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Freitag, Constantin (2021). *Verb-Second as a Reconstruction Phenomenon. Evidence from Grammar and Processing*. STUDIA GRAMMATICA 86, Berlin/Boston: De Gruyter.

Bayer, Josef & C. Freitag (2020). How much verb moves to second position? In H. Lohnstein & A. Tsiknakis (Hgg.), *Verb Second – Grammar Internal and Grammar External Interfaces*. 77-122. Interface Explorations [IE] 32. Berlin/New York: Mouton de Gruyter.