Specification of Processability Theory's Developmental Stages

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1 Overview

This document provides a specification that fleshes out Processability Theory's definitions of the developmental stages for German verb placement. The core set of stages / verb placement types that Processability Theory (PT) recognizes for German are:

Bitte todo's für Kommentare nutzen!

(i) SVO

(ii) ADV

(iii) SEP

(iv) INV

(v) VEND

We will discuss these in detail in the following sections. We begin with some general information about the verb placement types and our understanding of them.

- Types (i)–(iv) are mainly associated with main clauses, whereas the final type (v), VEND, is normally found in subordinate clauses. These associations are, however, not exceptionless as will be detailed below.
- The literature on PT does not spell this out but we assume that the orderings that are indicated by the stages are implicitly to be understood against the background of topological field theory or some other theory that associates syntactic constituents (or subtrees in dependency terms) with slots in structured sequences or positions in trees that are ordered relative to each other.
- For our purposes, we will assume that these slots can be thought of as the fields of topological field theory for German. For overviews and discussion of that theory we refer the reader to [6, 2].
- Typically, when texts (or parts of texts) are assessed in terms of PT's stages, then the main focus is the highest stage that is exhibited. That is, if a learner produces 15 sentences, among which 11 SVO , 1 SEP , 3 VEND, then one would record VEND for the overall text.[1]
- When we annotate sentences that feature more than one stage, we record all the stages rather than just the highest.

[1] There is some variation within the Processability Theory literature regarding the number of instances of a pattern that are required to be found for researchers to conclude that a verb placements pattern has *emerged*. For our discussion of how the placement constellations are defined, it is not necessary to make a specific commitment to one threshold over all others.

2 Topological field theory

Table 2.1 briefly illustrates the connection between topological field theory and PT's stages. Note the following points:

- In terms of topological field theory, stages (i)–iv share as a common feature that the finite verb occupies the so-called left sentence bracket (Linke Satzklammer, abbreviated: LSK).
- VEND is a distinct case in that the finite verb then occupies the right sentence bracket (Rechte Satzklammer, abbreviated: RSK).
- If the finite verb in LSK is a tense auxiliary or a modal verb, then the associated participle or infinitive (or in some cases, a sequence of such elements) occupies RSK (cf. 7a-c)
- The Vorfeld (VF) slot normally allows only a single element / constituent, which is why the ADV constellation is (usually) ungrammatical relative to the L1 German grammar.
- In terms of topological field theory, the slots are always there even if not filled: for instance, in (1) of Table 2.1 we have an empty VVF and in all examples we have an empty NF (Nachfeld) except for (2c) and (7c).
- We take case (7c) to be a case of VEND even though the finite verb *habe* is not truly final if we consider the overall sentence because the NF is filled by the infinitival verb phrase *ein Auto zu kaufen*. Cases like this show that VEND cannot mean that the verb occupies the final position in the sequence of all its arguments and modifiers. Instead, VEND implicitly refers to the RSK slot: within that slot, the finite verb has to occur right-most.
- The verb constellations are not all exclusive: some of them can co-occur. In such cases, the clause at issue receives multiple labels rather than a new single one that would represent a particular combination.

- It is worth considering the relation between verb constellations / topological field theory and **sentence types**.
- There are certain major , if not exceptionless, regularities to observe.
  - Verb-first (V1) sentences are normally not declarative. V1 is mainly used to express imperatives and polar questions. The one exception are the narrative V1 sentences commonly found in jokes.
  - Verb-second sentences (V2) are mainly used as declaratives. One class of exceptions consists e.g. of echo questions such as 1.

    (1) *Du hast das Buch gelesen ?*
    You have the book read ?
    "You've read the book ?"

		(VVF)	VF	LSK	MF	RSK	NF
1a	SVO		Ich I	suche look-for	eine neue Wohnung a new flat		
2b	SVO	Aber But	ich I	suche look-for	eine neue Wohnung a new flat		
2c	SVO		Ich I	kenne know	ihn gut him well		den Peter Peter
3	ADV		Darum ich Therefore I	suche look-for	eine neue Wohnung a new flat		
4a	SEP		Ich I	muss must	eine neue Wohnung a new flat	suchen look-for	
4b	SEP	Und And	ich I	habe have	eine neue Wohnung a new flat	gesucht looked-for	
5a	INV		Darum Therefore	muss must	ich eine neue Wohnung I a new flat	suchen look-for	
6a	INV	Den Peter Peter	den that guy	kenn know	ich schon sehr lange I already for a long time		
6b	INV	Und And	darum therefore	muss must	ich eine neue Wohnung I a new flat	suchen find	
7a	VEND			weil because	ich eine neue Wohnung I a new flat	suche look-for	
7b	VEND			weil because	ich eine neue Wohnung I a new flat	gesucht habe looked-for have	
7c	VEND			weil because	ich gestern I yesterday	versucht habe tried have	ein Auto zu kaufen a car to buy
8	V1-imp			Suche Look-for	eine neue Wohnung a new flat		

Table 2.1: Verb placement and topological fields

VF =Vorfeld (prefield); LSK=Linke Satzklammar (left sentence bracket);
MF = Mittelfeld (midfield); RSK = Rechte Satzklammer (right sentence bracket); NF = Nachfeld (postfield);
VVF = Vorvorfeld (pre-prefield)

3 Sentence constituents

When we later discuss example sentences and abstract from the actual tokens to constituents of a clause, we use the abbreviations listed below to refer to the different constituents.

S	Subject
O	Object
A	Argument, including oblique arguments
M	Modifier/Adjunct
K	Copula
V	Verb
J	Conjunction
C	Complementizer
N	Negator
P	Predicative
E	non-lexical expletive
R	Root
X	Modifier or Argument

4 Sentence types

In our annotation of finite clauses for PT's stages, we also record the clause type. We use the inventory below which covers the main clause types of interest to us. This inventory could be refined depending on one's interests.

Label	**Description**
dec	declarative main clause
imp	imperative
qsyn	Yes/No question , polar question
qswh	Wh-question, open question
subadv	subordinate adverbial clause
subind	embedded question
subcomp	subject or object clause
subrel	adnominal clause (including relative clause)
other	all other clause types

Table 4.1: Sentence types

5 Annotation

In Table 2.1, we used simple tags to name the verb placement constellations that the relevant examples instantiate. In the sections below, we will present more details about the properties of the different constellations.

- For each example, we describe the **constituent order** of the clause that we are analyzing. Here, we sometimes add subscripts to the elements to indicate more specific subtypes. For instance, $S_{expl}VO$ means that the subject of an SVO sequence is an expletive; SVO_{Cl} means that the object is a clause rather than an NP.

- We also specify the **sentence type**. The sentence types used represent a limited set that encode (combinations of) function and status as a main or subordinate clause.

- The **verb constellation** is given as one of Processability Theory's (PT)**stages**: SVO, ADV, SEP, INV, or VEND. Examples may exhibit none of these constellations or they may exhibit multiple constellations at the same time.

- Moreover, we also provide certain extended annotations for certain constellations that are not instances of the five stages but which need to be understood in reference to the stages.
  - NO-X: stage X is called for but the clause does not feature that constellation. E.g. NO-SEP marks cases where, given filled left and right verbal brackets and an element that needs to go into the Midfield, we expect SEP but SEP is not observed and instead the clause exhibits another order (e.g. example (55) on p. 33).
  - !X: stage X is ungrammatically used where it is not expected. E.g. !SEP applies to an embedded question clause such as (63) on p. 33 that exhibits SEP (even though it should have exhibited VEND).
  - NO-X and !-X will often co-occur: the NO-anotation records what was expected, the !-annnotation records what was in fact found instead.
  - X-anti is used for cases where X is correctly avoided. For instance, SEP is normally not used when a verb takes an object clause that would end up in the Midfield (MF); instead the clause goes into the Nachfeld (NF), as shown by (60) on p. 33.
  - X-noev is used for cases where clauses lack certain elements that would provide clear evidence that a stage as defined by PT is exhibited.
    - For instance, in the case of SEP, simple sequences SVV with empty midfields are treated as providing no evidence whether the speaker has acquired the SEP stage (cf. (58 on p. 33)
    - In the case of VEND, short clauses consisting only of a complementizer/subordinator followed by SV are also treated as VEND-noev because potentially the speaker has simply produced an intransitive (main clause) SV-sequence.

- We provide an annotation for how **canonical** the structure is relative to the sentence type.

  - For declarative (main) clauses, for instance, SVO is canonical. We note this with the abbreviation CWO (canonical word order).
  - For subordinate adverbial clauses, VEND is the canonical order.
  - For non-subject wh-questions, INV is the canonical order.

- For those verb constellations that are among PT's defined stages, we also add annotation regarding the **prototypicality of the core constituents** of the constellation as viewed by PT.
  - In the case of SVO, if we have either an expletive subject or object or a clausal subject or object, we consider the instance of SVO peripheral. If we have pronominal or NP realizations for S and O, an instance of SVO is core.
  - In the case of SEP, we consider cases where a separable verb particle occupies the right sentence bracket as peripheral cases of SEP. (Much PT research does not consider them cases of SEP at all.)
    By contrast, we do not differentiate between core and peripheral in terms of the finite verb in the left bracket: no matter if it is a modal, a tense or passive auxiliary, all are equally central for our purposes.

- The **focal field** is used with a subset of verb constellations where a specific topological field is central. In these cases it is of interest whether the special field is filled by arguments or adjuncts.
  - In the case of INV, we record whether the element that has been moved into VF is an argument or an adjunct.
  - In the case of SEP, we record if MF contains any arguments or only adjuncts.
  - With ADV, we likewise record if the additional material in VF (besides S) is an argument or an adjunct.

  For SVO and VEND we recognize no special focal field.

- For SEP, we also record details about the properties of the **verbal bracket**, for instance, whether the finite verb is an auxiliary or a modal verb and whether the clause features a passive construction.

- Where applicable, we reference the **source** of any examples. Most of our examples come from one of a few learner corpora, namely:
  - Falko Essay L2 [4]
  - WHIG [1]
  - Merlin [5]

- The deTenTe20 corpus from sketchengine is a further source of (usually L1) examples. Cases without specified source are constructed or were found in web-searches.

6 SVO

6.1 Core SVO in declarative clauses

- For the purposes of analyzing developmental stages of verb placement in the framework of processability theory, the notion of canonical word order is applicable only to **declarative main** clauses with a single **finite lexical** verb.
- In such clauses, the prototypical word order in German as an L2 is **SVO** (subject-verb-object).
- Table 6.1 provides several examples of the core instances of SVO, where both S and O are realized by lexical NPs or pronouns.
  - Clauses with **complex tense or voice constructions** (esp. passive) featuring finite modal or auxiliary verbs are not treated as central isntances of this category. This means that, for instance, transitive sentences such as in (1) are to be assigned to the category SEP and only peripherally to the category SVO.

    (1) *[Hans S]* *[hat V_{aux}]* *[Schokolade O]* *[gekauft $V_{non-fin}$]* .
    Hans has chocolate bought .
    "Hans has bought chocolate."
  - **Copular clauses** such as 2 are not included in the SOV category since they do not feature a lexical verb.

    (2) *[Hans S]* *[ist V_{cop}]* *[Krankenpfleger Pred]* .
    Hans is a nurse .
    "Hans is a nurse."

    It is important to be sure what verbs / constructions are meant to be considered copulas in one's own annotation and to see what verbs are treated as copulas by any automatic tools one might use.
  - The presence of **local subjects and objects** is required. That is, clauses such as the right coordinate in (3) which share an argument with another clause (typically, the subject) via coordination are excluded.

    (3) Yuuka hörte gespannt zu und [aß V] [dabei M] [ihr Eis O]
    'Yuka listened attentively and ate her ice-cream all the while'
  - The structural description SVO (and others) is to be taken as a partial specification: SVO sentences may contain further material between V and O or following O.
  - German has **multiple types of objects** (requiring different cases). While accusative-case direct objects are prototypical, we also accept dative-case indirect objects (cf. 12) as well as the rarer genitive-case (cf. 13) objects.
  - Cases with **clausal subjects and objects** are recorded but not currently treated as simple instances of SVO but instead as peripheral cases.

  - Clauses with **expletives** in core argument positions are also treated in a special way.
  - Further, some verbs don't have objects but **oblique arguments** (typically prepositional phrases) as part of their valence requirements. We also subsume these cases under SVO, though as peripheral instances.
  - The verb is in second position as defined by traditional German grammar and the single slot preceding it, the VORFELD (*prefield*) is occupied by the subject. No further slot preceding the verb is filled.[1]

- SVO does not cover intransitive clauses that feature a subject and adjuncts. However, there is some uncertainty how to deal with clauses headed by transitive verbs that leave an object unexpressed.

- This category includes subcategorized obliques as well, even though these often have the form of a prepositional phrase (cf. 14).

[1] In topological field theorizing for German, there is no firm agreement on how many fields there are to the left of the left sentence bracket in addition to VF (see [6]). For our purposes, it is sufficient to assume a single slot preceding the VORFELD that we will call the VORVORFELD (*pre-prefield*). Processability theory describes such a slot with reference to X-bar theory simply as an XP, though the specific phrase types that can constitute that XP are formally and functionally limited, most centrally to adverbials. A filled XP slot is defined at PT's stage ADV.

Id	Example	Order	S. Type	PT stage	Canonicity	Proto.	Source
9	[Die Polizei S] [stellte V] [ihn O] – und der Bremer musste alles wieder aufräumen. 'The police caught him - and the Bremener had to clean everything up again.'	SVO	decl	SVO	CWO	core	deTenTen20
10	[Erfolgreiches Casino spielen mit einem Royal Flush S] [macht V] [einfach X] [Spaß O] 'Successfully playing Casino with a Royal Flush is simply fun.'	SVO	decl	SVO	CWO	core	deTenTen20
11	[Hannelore S] [kauft V] [es O] 'Hannelore is buying it.'	SVO	decl	SVO	CWO	core	
12	[Das S] [half V] [mir O] 'That helped me.'	SVO	decl	SVO	CWO	core	
13	[Wir S] [gedenken V] [der Verstorbenen O]. 'We remember the departed.'	SVO	decl	SVO	CWO	core	
14	[Sie S] [verstoßen V] [gegen das ausdrückliche Verbot Gottes A] ... 'They are violating God's explicit prohibition ...'	SVA	decl	SVO	CWO	peri	deTenTen20
15	[Er S] [fuhr V] [ein teures Auto O] und wohnte in einem gigantischen Haus . 'He drove an expensive car and lived in a giant home.'	SVO	decl	SVO	CWO	core	whig BNG2-2011-03-199

Table 6.1: Examples of SVO

6.2 SVO with clausal S or O in declarative clauses

- Either S or O or both may take the form of a finite clause.
- S may also take the form of a non-finite (infinitival) verb phrase (cf. example 21 in Table 6.2)
- These cases make for peripheral instances of SVO.

Id	Example	Order	S. Type	PT stage	Canon.	Proto.	Source
16	[Alle S] [glauben V], [dass die Hoffenheimer Herbstmeister werden O_{Cl}]. 'Everybody believes that Hoffenheim will be autumn champions'	SVO_{Cl}	decl	SVO	CWO	peri	
17	[Ich S] [glaube V], [dass jede Lehrerin ihren Unterricht interessant gestalten sollte O_{Cl}]. 'I believe that every teacher should make their lessons interesting.'	SVO_{Cl}	decl	SVO	CWO	peri	Falko usb012 2006_10_L2v2.4
18	[Daß er nicht kommt S_{Cl}] [überrascht V] [micht O] [nicht N] 'That he won't come doesn't surprise me'	S_{Cl}VON	decl	SVO	CWO	peri	xxx
19	[Dass die Quelle dafür die Steuern sind , die jeder von uns zahlt S_{Cl}] , [lässt V] [sie O] [kalt Pred] . 'The fact that the source of this is the taxes that each of us pays, leaves them cold.'	S_{Cl}VOX	decl	SVO	CWO	peri	Falko hu005 2006_09_L2v2.4
20	[Wer sie kennt S_{Cl}], [hat V] [mehr Freude am Vogelsang O]. 'Whoever knows them, gets greater enjoyment from bird song'.	S_{Cl}VO	decl	SVO	CWO	peri	xxx
21	[Dies zu wissen S_{Cl}] [macht V] [mir O] [Freude O] 'Knowing this makes me happy'	$S_{Cl}VOO$	decl	SVO	CWO	peri	xx

Table 6.2: Examples of SVO with clausal arguments

6.3 SVO in subordinate clauses

- In some cases, SVO can be found in non-root clauses.
- One example of this are so-called presentational relative clauses such as the one shown in 4, where the finite verb *hat* is in second position rather than clause-final.
- Another case involves dependent clauses of reporting verbs. If a complementizer is present, VEND is the only grammatical option (5). But if none is present, as in (6) then SVO must be used and VEND cannot be used.

(4) *Ich habe einen Freund der hat seit 7 Jahren Agoraphobie.*
I have a friend who has for 7 years agoraphobia .
"I have a friend who has had agoraphobia for 7 years."

(5) *Er sagt, dass er morgen das Auto repariert .*
He says that he tomorrow the car repairs.
"He says that he'll repair the car tomorrow."

(6) *Er sagt, er repariert das Auto morgen .*
He says he repairs the car tomorrow .
"He says he'll repair the car tomorrow."

Id	Example	Order	S. Type	PT stage	Canonicity	Proto.	Source
22	Man sagt , [wir S] [leben V] [in der Zeit , in der Englisch , Französisch und Spanisch immer mehr Popularität erwerben und nützlicher " angesehen werden A]. 'People say we live in a time when English, French and Spanish gain in popularity and are seen as more useful.'	SVA	subcomp	SVO	n/a	peri	
23	Du weißt, [er S] [mag V] [dich O] [auch M] ... 'You know he likes you too."	SVO	subcomp	SVO	n/a	core	

Table 6.3: Examples of SVO in subordinate sentences

6.4 Verb-initial order in declarative clauses

- German does have some limited use of verb-initial orders other than SVO in declarative clauses. However, these are heavily restricted to certain special genres. For instance, jokes told in German can feature so-called narrative V1-sentences, as shown in (7) and example 26 in Table 6.4.

  (7) [Sagt V] [der Arzt S] [zum Kleinkünstler M]: "Sie haben noch 6 Monate zu leben." – Darauf der Kleinkünstler: 6 Monate? So lange kann ich mir nicht leisten!"
  'The doctor says to the cabaret artist: "You have another 6 months to live. - To which the cabaret artist replies, "Six months? I can't afford that long!"'

- However, most learner corpus data is unlikely to contain any such uses.

- Instead, other word orders used in declarative clauses are most likely influenced by learner's L1 or constitute Interlanguage orders.

Id	Example	Order	S. Type	PT stage	Canonicity	Proto.	Source
24	[Hast V] [du S] [der Hunt O] 'You have a dog.'	VSO	decl	n/a	n/a	n/a	DiGS EP4b/5b SV6/8
25	[Ansehen V] [wir S] [das Völkerschlachtdenkmal O]. 'We'll look at the Monument to the Battle of the Nations.'	VSO	decl	n/a	n/a	n/a	
26	[Kommt V] [ein Mann S] [in eine Bar A] . 'A man comes into a bar .'	VSA	decl	n/a	n/a	n/ a	deTenTen20

Table 6.4: Examples of declarative VSO

6.5 Copular clauses

- Prototypical present tense or preterite copular clauses of all types are not treated as instances of SVO. Many copular clauses are not assigned a stage.
- However, perfect tense copular clauses such as (8) and cases where the copula occurs with a finite modal (9) are treated as instances of SEP.

  (8) *Kim ist um 8 Uhr hier gewesen .*
  Kim is at 8 o'clock here been .
  "Kim was here at 8 o'clock ."

  (9) *Max wollte schon immer Musikerin werden .*
  Max wanted already always musician become .
  "Max has always wanted to become a musician."

- Similarly, copular clauses may be assigned to VEND: for that placement constellation, copulas count just like other verbs (cf. 32 in Table 6.5).
- Note that word order variation exists in copular clauses as well, although the order S V_{cop} Pred is very prototypical.
- While moving the subject away from the slot preceding the finite verb is possible for copular clauses, for the purposes of PT's developmental stages that does not constitute core INV (inversion). Such cases are treated as peripheral cases of INV (30 in Table 6.5).
- Note that the specific configuration where the predicative of a copular clause is questioned (cf 31 in Table 6.5) is discussed under the label **Pseudo-inversion**. For details see [3].
- Finally, note that we treat ADV with copular clauses as peripheral (cf. 33)

Id	Example	Order	S. Type	PT stage	Canonicity	Proto.	Source
27	[Die Karte S] [ist K] [eine U-Bahnkarte P] und ich wollte nach Stadt Y fahren . 'The ticket is a ticket for the underground and I wanted to go to town Y.'	SKP	dec	n/a	n/a	n/a	Merlin 1091_0000258.
28	[Der Zaun S] [ist K] [aus Holz P]. 'The fence is made of wood'	SKP	dec	n/a	n/a	n/a	
29	[Das Baby S] [ist K] [gesund P] . 'The baby is healthy .'	SKP	dec	n/a	n/a	n/a	Merlin 1071_0242092
30	Ich suche schon lange Zeit eine Wohnung , [aber J] [so einfach P] [ist K] [das S] [nicht N] ! 'I have been looking for a new apartment for a long time but it's not simple !'	JPKSN	dec	INV	n/a	peri	Merlin 1091_0000126
31	Am endsten , [wie viel P] [ist K] [das Miete S] ? 'Finally, how much is the rent?'	XPKS	qswh	INV-pseudo	CWO	n/a	Merlin 1091_0000192
32	Aber ich kann nicht fahren , [weil J] [meine Mutter S] [krank P] [ist V] . 'But I cannot go because my mother is sick.'	JSPV	subadv	VEND	CWO	core??	Merlin 1091_0000275
33	[Deshalb M] [ich S] [war K] [immer M] [krank P] . 'Therefore, I was sick all the time'	MSKMP	decl	ADV	n/a	n/a	Merlin 1023_0108753.

Table 6.5: Examples of copular sentences

6.6 Intransitive sentences

- We treat as intransitive those clauses featuring a verb that requires only a subject but which can otherwise be modified by optional adjuncts.
- This means that clauses with verbs that have subcategorized prepositional phrases will be treated under the SVO-category (see above Section §6.1).

Id	Example	Order	S. Type	PT stage	Canonicity	Proto.	Source
34	[Er S] [kommt V_{fin}] [Freitag morgen M] und fahrt zurück Samstagabend .	SVM	decl	n/a	CWO	n/a	Merlin 1091_0000276
35	Das Baby braucht spezielle Betreuung und [es S] [weint V_{fin}] [fast jede Stunde M] .	SVM	decl	n/a	CWO	n/a	Merlin 1023_0108649

Table 6.6: Examples of intransitive sentences

7 ADV

- ADV is like SVO except that at least one additional element precedes the Subject within the Vorfeld (VF).
- The extra element often is an adjunct but it may be an argument (cf. (39) in Table 7.1).
- Formally, the extra element typically is an adverb or a PP. Potentially, it is an adverbial clause (cf. (40) in Table 7.1).

Id	Example	Order	S. Type	PT stage	Canonicity	Proto.	Focal field	Source
36	[Leider M] [ich S] [kann V] [nicht N] [kommen V] , ich muss vorbereit über mein Prüfung auch . 'Unfortunately, I cannot come, I must prepare for my exam, too.'	MSVNV	decl	ADV	n/a	n/a	noarg	Merlin 1061_0120382
37	[Leider M] [einige Leute S] [verstehen V] [es O] [nicht N]. 'Unfortunately, some people don't undersand it'	MSVON	decl	ADV	n/a	n/a	noarg	Falko usb015 2006_10_L2v2.4
38	[Morgen M] [ich S] [fahre V] [in Urlaub X] und Kätze bleiben in das Haus. 'Tomorrow I go on vacation and the cats stay in the house'	MSVX	decl	ADV	n/a	n/a	noarg	Merlin 1091_0000225
39	[Meiner Mutter O] [ich S] [kaufe V] [Blumen O] lit. 'For my mother I buy flowers'	OSVO	decl	ADV	n/a	n/a	arg	
40	[Wenn wir erlauben , alle Frauen sich zu befreien X_{cl}] , [wir S] [mussen V_{fin}] [solche Problemen O] [erwarten $V_{non-finite}$]. 'If we allow all women to liberate themselves we have to expect such problems'	XSVOV	decl	ADV	n/a	n/a	noarg	Whig BNG2-2011-02-175

Table 7.1: Examples of ADV

- The presence of two items in VF normally results in ungrammaticality so that use of such structures is mostly an L2 phenomenon. However, it is known that L1 German does feature certain cases where a so-called doubly filled pre-field is perfectly ok (cf. 1) At this point we're not attempting any automatic disambiguation of the two cases but we simply note that ADV is not uniformly an L2-structure.

  (1) [*Vermutlich*] [*ein Defekt an der Gashauptleitung*] *hat ... eine*
  Presumably a leak on the gas main line has ... a
  Gasexplosion ... verursacht .
  gas explosion ... caused .
  ''Presumably a defect in the gas main line caused a gas explosion .. ."

- Finally, consider example (2) below. It looks a bit similar to ADV except that instead of the adverbial preceding SVO, in 2 an wh-adverbial precedes SOV.

  Instances of SOV may occur as part of VEND in subordinate clauses or as echo questions in main clauses. If 2 is used as an echo question, then the pattern observed there is a peripheral use of VEND.

  (2) *Warum Hannelore Haarfarbe kauft ?*
  Why Hannelore hair-dye buys ?
  ' Why Hannelore is buying hair-dye?'

  If however, (2) were used by a learner as a simple wh-question then the sequence is ungrammatical. However, it would not be an instance of ADV since ADV is defined as consisting of an element being pre-pended SVO.

8 SEP

- SEP is characterized by the non-contiguous placement of the finite verb in LSK and the non-finite verb (or verb cluster) in RSK , with MF not being empty.
- Importantly, SEP is not present when a separable verb particle is placed clause-finally, separately from its finite lexical verb.
- Verbs with separable parts (often separable prefixes) are treated as peripheral cases of SEP (cf. 54 in Table 8).
- We don't require an object in MF; MF can just as well be filled be by an oblique argument or by a modifier.
- In some prior studies, the negator *nicht* as the sole element in MF wasn't considered as sufficient for assigning a clause to SEP. We consider *nicht* to be sufficient in that case, too.
- Typical combinations of finite and non-finite verb forms in SEP involve complex verb tenses, modal verb constructions, and the passive construction.
- These three constructions can also combine in certain ways, giving rise to complex verb clusters in the right sentence bracket (RSK).
- Note that SEP says nothing about the subject; accordingly certain subject-less constructions found especially in spoken German are considered SEP as well (cf. 50 in Table 8).
- SEP can be combined together with INV (inversion), ADV and SVO.
- SEP is not limited to declaratives, it can also occur in polar as well as WH-questions.
- SEP is, however, primarily defined as occurring only in main clauses. Uses in subordinate clauses are treated as peripheral.

Id	Example	Order	S. Type	PT stage	Canon.	Proto.	Focal field	Bracket	Source
41	Es kommt auch auf die Ziele der Bewegung an – für die englischen Suffragettes“ war die Hauptziel den Wahl zu bekommen , [und J] [endlich M] [ist V] [es S] [gelungen V] ‘It also depends on the goals of the movement – for the English ”suffragettes” the main goal was to get the vote, and they finally succeeded.’	JMVSV	decl	SEP	CWO	core	arg	aux	whig BNG2-2011-03-204
42	[Wann X] [bist V_{fin}] [du S] [heute X] [aus der Schule X] [gekommen $V_{non-finite}$] ? ‘When did you get back from school today?’	XVSXXV	qswh	SEP	CWO	core	arg	aux	
43	[Also M], [das Gefühl vom Guten S] [muss V_{fin}] [von Jugend an X] [gegeben werden $V_{non-finite}$] ‘Well the feeling about what is good must be passed on from youth onwards’.	MSVXV	decl	SEP	CWO	core	noarg	mod,pass	Falko usb004 2006_10_L2v2.4
44	[Ich S] [habe V_{fin}] [deine Handy number O] [verloren $V_{non-finite}$] . ‘I lost your cell phone number.’	SVOV	decl	SEP	CWO	core	arg	aux	Merlin 1091_0000274
45	[Der S] [hat V_{fin}] [eine Mütze O] [gekauft $V_{non-finite}$] . ‘He bought a cap.’	SVOV	decl	SEP	CWO	core	arg	aux	
46	[Darf V_{fin}] [ich S] [fragen $V_{non-fin}$], wie du heißt? ‘May I ask what your name is?’	$VSVO_{Cl}$	qsyn	SEP	CWO	core	arg	mod	

47	[Peter S] [ist V f in] [um 8 Uhr M] [hier Pred] [gewesen V nonf inite].'Peter was here at 8 o'clock.'	SVMPV	decl	SEP	CWO	peri	noarg	aux	
48	[Aber M] [kann V_{fin}] [man S] [aus diesem A] [Schließen $V_{non-finite}$] [dass diese Studien von geringem wert ist CCOMP] ? 'But can you conclude from this A that the study is of low value?'	$MVSXVO_{Cl}$	qsyn	SEP	CWO	core	arg	mod	Falko fu128 2006_10a_L2v2.4
49	Es scheint mir sehr schlecht wenn einer sich denkt , [er S] [kann V_{fin}] [jeder O] [Ausnutzen $V_{non-finite}$] [um seine eigene Wohl zu verbessern X] . 'It seems very bad to me when a person thinks they can exploit everybody to improve their own well-being'	$SVOVX_{Cl}$	subcomp	SEP	CWO	core	arg	mod	Whig BNG2-2011-02-176
50	[Dürften V_{fin}] [preislich X] [so um die 70-100€/Stück A] [liegen $V_{non-finite}$] 'Should be about 70-100 Euros apiece.'	VXAV	decl	SEP	CWO	core	arg	mod	
51	[Das Fahrzeug S] [wurde V_{fin}] [bei dem Unfall X] [schwer X] [beschädigt $V_{non-finite}$]. 'The car was severely damaged during the accident.'	SVXXV	decl	SEP	CWO	core	noarg	pass	
52	[Die Mutter S] [will V_{fin}] [das Auto O] [reparieren $V_{non-finite}$] 'Mother wants to repair the car.'	SVOV	decl	SEP	CWO	core	arg	mod	
53	[Sie S] [wird V_{finite}] [immer X] [kritisiert $V_{non-finite}$], aber der Vater , welcher das macht , nie . 'She is always criticized but the father who does it never is.'	SVXX	decl	SEP	CWO	core	noarg	pass	Falko fkb035_-2008_07_L2v2.4

54	[Ich S] [ziehe V_{fin}] [das häßliche Kleid O] [nicht X] [an V_{Part}]. 'I am not putting on that ugly dress '	SVOX	decl	SEP	CWO	peri	arg	lex	

Table 8.1: Examples of SEP

8.1 Structures to be distinguished from core SEP

- Some structures that could be considered to be candidates for SEP, are not treated as such but analyzed separately.
- Topological field analysis assumes that the slots, including MF, the midfield, are always present, even if they are not filled. However, processability theory sees the left and right bracket as contiguous when MF is not filled, calling this constellation Nähestellung 'close positioning'.
- Close / contiguous positioning occurs automatically when the verb takes only a subject (58).
- Close / contiguous positioning is sometimes called for by L1 German, in particular when the verb takes only an object clause: such a clause cannot be placed into MF but must go into NF (60-61 in Table 8.1). Placing it into MF is either exceedingly dispreferred or outright ungrammatical.
- With object NPs, by contrast, Nähestellung is grammatically incorrect: an object NP should be placed into MF (cf. 57 in Table 8.1).
- For adjunct PPs, placement into MF or NF is acceptable (cf. 2d in Table 8.1).
- SEP is felicitous in at least some subordinate clauses in L1 German. These uses may be associated primarily with the spoken modality (62). However, SEP is by no means universally acceptable in L1 subordinate clauses: (63) may be a plausible interlanguage utterance but it is not grammatical in L1 German.

Id	Example	Order	S. Type	PT stage	Canonicity	Proto.	Source
55	[Ich S] [habe V_{fin}] [gekauft $V_{non-finite}$] [ein Brot O]. 'I bought a loaf of bread '	SVVO	decl	NO-SEP	n/a	n/a	
56	[dann habens] - [er S] [hat V] [gefahren $V_{non-finite}$] [den Bub O] 'then they have - he has driven the boy'	SVVO	decl	NO-SEP	n/a	n/a	AUGS pl_Ka08
57	[Ich S] [will V_{fin}] [kaufen $V_{non-finite}$] [ein Brot O]. 'I want to buy a loaf of bread '	SVVO	decl	NO-SEP	n/a	n/a	
58	[Ich S] [bin V_{fin}] [gelaufen $V_{non-finite}$] . 'I have run'	SVV	decl	SEP-noev	n/a	core	
59	[Ich S] [habe V_{fin}] [getanzt $V_{non-finite}$] [vor Freude X]. 'I danced from joy'	SVVX	decl	SEP-noev	n/a	n/a	
60	[Ich S] [habe V_{fin}] [gedacht $V_{non-finite}$] [dass du nicht kommst O_{Cl}]. 'I thought you wouldn't come'	$SVVO_{Cl}$	decl	SEP-anti	n/a	n/a	
61	[Ich S] [habe V_{finite}] [gezeigt $V_{non-finite}$] , [dass Schlecht und Gut stammt nur aus zwei Gruppen O_{Cl}].	$SVVO_{Cl}$	decl	SEP-anti	n/a	n/a	Whig BNG2-2010-11-149
62	Er sagt, [der Vater S] [hat V_{fin}] [eine Mütze O] [gekauft $V_{non-finite}$]. 'He says father bought a cap'	SVOV	subcomp	SEP	no	n/a	
63	Er erinnert sich, [was O] [hat V_{fin}] [der Vater S] [gekauft $V_{non-finite}$].	OVSV	subind	!SEP	n/a	n/a	
64	Er erinnert sich, [was O] [hat V_{fin}] [der Vater S] [gekauft $V_{non-finite}$].	OVSV	subind	NO-VEND	n/a	n/a	

Table 8.2: Examples to be distinguished from core SEP

9 INV

- For INV it is necessary that S is not in VF but instead in MF (or rarely in NF), whereas another element occupies VF.
- Besides S another element is required following the finite verb.
- INV can combine with SEP.
- INV cannot co-occur either with SVO, ADV or with VEND.
- INV also doesn't cover so-called Pseudo inversion (see §6.5).
- Copular clauses where the predicative element precedes the finite verb are assigned to a separate type.
- Similarly, existential clauses exhibiting inversion are treated separately.
- As noted in §8, inversion and VP separation may apply simultaneously.
- In case of complex verb phrases, the non-finite verb (cluster) may be moved into VF, before the finite verb. We treat such cases under a special heading, too.

Id	Example	Order	S. Type	PT stage	Canonicity	Proto.	Focal field	Source
65	[Gern X] [helfe V_{fin}] [ich S] [Ihnen O] [weiter Prt]. 'I'll be happy to help you'.						noarg	
66	[Diesen Ausdruck O] [höre V_{fin}] [ich S] [ganz oft X]. 'I hear that expression very frequently.'	OVSX	decl	INV	n/a	n/a	arg	Falko nz001 2007_05_L2v2.4
67	[Aber J] [den Onkel O] [habe V_{fin}] [ich S] [nie X] [wiedergesehen $V_{non-finite}$]. 'But I never saw that uncle again'	JOVSXV	decl	INV	n/a	n/a	arg	
68	Sehr geehrte Damen und Herren , [Vom April 2011 M] [lerne V_{fin}] [Ich S] [Deutsch O], und gestern Aben las ich Ihre Anzeige in der Zeitung . 'Dear Ladies and Gentlemen, I have been studying German since April 2011 and last night I read your advertisement in the paper.'	MVSO	decl	INV	n/a	n/a	noarg	Merlin 1023_0111896
69	[Heute M] [geht V_{fin}] [das S] [nicht N] 'Today that is not possible'	MVSN	decl	INV	n/a	n/a	noarg	Falko kne07 2006_07_L2v2.4
70	[Heute M] [verändert V_{fin}] [sich O_{expl} [die Welt S] [schnell M] . 'Today the world is changing quickly.'	MVOS	decl	INV	n/a	n/a	noarg	Falko fu134 2007_11c_L2v2.4
71	Es kommt auch auf die Ziele der Bewegung an – für die englischen Suffragettes" war die Hauptziel den Wahl zu bekommen , [und J] [endlich M] [ist V_{fin}] [es S] [gelungen $V_{non-finite}$] 'It also depends on the goals of the movement – for the English "suffragettes" the main goal was to get the vote, and they finally succeeded.'	JMVSV	decl	INV	n/a	n/a	noarg	whig BNG2-2011-03-204

72	[Wo A] [steht V] [das Universitätssystem S] [in der schnell veränderten Welt M]? 'Where does the university system stand in a rapidly changing world?'	AVSM	qswh	INV	CWO	n/a	arg	Falko fu134 2007_11c_L2v2.4
73	[Wann M] [hast V_{fin}] [du S] [Zeit uns zu treffen O]? 'When do you have time to meet us?'	MVSO	qswh	INV	CWO	n/a	noarg	Merlin 1091_0000274

Table 9.1: Examples of INV

Id	Example	Order	S. Type	PT stage	Canonicity	Proto.	Source
74	[Heute X] [ist V_{fin}] [Otto S] [Sieger Pred] 'Today, Otto is the winner.'	XVSP	decl	INV	n/a	peri?	
75	[Aber CCONJ] [heute X] [ist V_{fin}] [alles S] [anders als es damals war Pred]. 'But today everything is different from what it was like then.'	JXVSP	decl	INV	n/a	peri?	fk006 2006_08_L2v2.4
76	[Bald X] [wird V_{fin}] [es S] [Winter Pred] 'Soon, it'll be winter'	XVSP	decl	INV	n/a	peri?	
77	[Rechts M] [gibt V] [es S_{expl}] [eine Zahbürste O]. 'On the right there is a toothbrush.	MVSO	decl	INV	n/a	peri?	
78	[Heute X] [gibt V_{fin}] [es S] [Kuchen Pred] 'There's cake today'	XVSP	decl	INV	n/a	peri?	
79	[Feiern $V_{non-finite}$] [kann V_{fin}] [man S] [den Tag O] [mit dem Verzehr von Pfannkuchen X] 'You can celebrate the day by eating pancakes.'	VVSOX	decl	INV	n/a	peri	
80	[Produziert $V_{non-finite}$] [hat V_{fin}] [er S] [in Tschechien M] 'He produced in the Czech Republic.'	VVSM	decl	INV	n/a	peri	

Table 9.2: Examples of peripheral INV

10 VEND

- Finite verbs are placed in the right sentence bracket of subordinate clauses.
- If the verb is a complex one, consisting of an auxiliary or modal and a non-finite verb, the whole verb cluster goes into the right sentence bracket and the finite verb goes last.
- VEND placement in principle applies to all types of subordinate clauses:
  - relative clauses with antecedents
  - free relative clauses
  - adverbial clauses
  - object or complement clauses
  - ...
- Importantly, we also treat as VEND any cases where we have a copular verb (cluster) in the right sentence bracket of a subordinate clause (cf. 2b FIXME in Table 10.1). (Recall that we don't treat SV_{cop}Pred as an instance of SVO.)
- Also, we also use the VEND rubric for certain sentence types that are used as ungoverned main clauses but which structurally look like subordinate clauses.
- As we noted in earlier sections, there are exceptions where, for instance, SEP or SVO may be found in subordinate clauses under certain circumstances.
- VEND-like ordering is sometimes found in learner language where it's unexpected: the copular complement clause in (1) exhibits VEND, even though the clause is not marked by a complementizer. We would ordinarily expect a verb-second word order in that clause.

(1)

ich	*denke*	*das*	*für*	*sie*	*eine*	*schöne*	*erlebnis*	*wird*	.
I	think	that	for	she	a	beautiful	experience	will-be	.

'I think that will be a good experience for her.' (Merlin 1061_0120374)'

Id	Example	Order	S. Type	PT stage	Canonicity	Proto.	Source
81	[Wer S] [das Gegenteil O] [behauptet V] , der lügt. (Falko fkb058_2008_08_L2v2.4) 'Whoever claims the opposite , they're lying.	SOV	other	VEND	CWO	core	Falko nz002 2007_05_L2v2.4
82	Ich kann nicht bei dir besuchen, [weil COMP] [ich S] [Deutsch O] [lernen $V_{nonfinite}$] [muss V_{fin}]. 'I can't visit you because I have to study German.'	CSOVV	subadv	VEND	CWO	core	Merlin 1061_0120274
83	[bis C] [Du S] [wieder M] [praktisch äh schräg über dem Kopf der Dame P] [bist V_{fin}] 'until you're practically um diagonally above the head of the lady.'	CSXXV	subadv	VEND	CWO	core	HaMaTaC 20
84	Ich bin froh, [dass C] [ich S] [meine Hausaufgaben O] [gefunden $V_{non-finite}$] [habe V_{fin}]. 'I am glad that I found my homework '	CSOV	subcomp	VEND	CWO	core	
85	Zweitens kommt es darauf an , [ob COMP] [er/ sie S] [BA oder eine höhere Stufe O] [studiert V_{fin}]. 'Secondly it depends on whether he or she studies at the BA- or a higher level.'	CSOV	subcomp	VEND	CWO	core	Falko cbs007 2006_09_L2v2.4
86	Aber an anderer Seite ... was mich betrifft , so hab ich mehrmals bemerkt , [dass C] [Männer S] [die " feminisierten " Frauen O] [nicht N] [gern X] [haben V_{fin}] , dass sie ihnen oft " komisch " finden .	CSONXV	subcomp	VEND	CWO	core	Falko fkb022 2008_07_L2v2.4

87	Die Feministinnen waren der Ansicht , [dass COMP] [die Frauen S] [die gleichen Rechte mit den Männern O] [haben V_{finite}] 'The feminists were of the view that the women had the same rights as the man have. '	CSOV	subrel	VEND	CWO	core	Falko fk006 2006_07_L2v2.4

Table 10.1: Examples of core VEND

10.1 Free-standing subordinate clauses

- German allows the use of subordinate clauses without explicit governors in certain contexts.
- That kind of use occurs, for instance, when the subordinate clause is the focus of a preceding question question that it answers.

  (2) *Warum will man das ? Weil die Gemeinden nicht das Geld*
  Why wants one that ? Because the municipalities not the money
  für reguläre Auftragsvergaben haben.
  for regular contract awards have.
  "Why do people want this? Because the municipalities do not have the money for regular contract awards."

- But in addition there are cases that require no such interactional context. Subordinate clauses may be used imperative-like (3), question-like (4) or exclamative like (5).

  (3) Dass du mir ja brav bist!
  'Be a good boy/girl now!'

  (4) Ob der Name Lyra noch bekannt ist?
  'I wonder if the name Lyra is still known?'

  (5) Dass Berliner immer so neidisch auf die tollsten Städte der Welt sein müssen.
  'That Berliners always have to be so envious of the greatest cities in the world.'

- We mark such uses with extra information. For illustration, see Table 10.2.

Id	Example	Order	S. Type	PT stage	Canonicity	Proto.	Source
88	Kanst du eine pakung Tee für mir mitbringen ? [Weil C] [das Türkiche Tee S] [sehr läcker P] [sind V_{fin}] . 'Can you bring me a packet of tea ? Because Turkish tea is very good.'	CSPV	other	VEND	n/a	n/a	Merlin 1061_0120391
89	[Ob C] [man S] [die deutsche Sprache O] [lernen $V_{non-fin}$] [muss V_{fin}] ?	CSOV	other	VEND	n/a	n/a	Merlin 1031_0003183
90	Die Entscheidung sollte man unbedingt jeden frei lassen . [Damit C] [wir alle S] [gegenseitig M] [andere Menschen und die Tradition O] [kennen $V_{non-finite}$] [lernen $V_{non-finite}$] [können V_{fin}] .	CSMOVVV	other	VEND	n/a	n/a	Merlin 1031_0001997
91	[Ob COMP] [die Verschlechterung der Beziehungen , die viele Scheidungen S] [am Feminismus A] [liegen V_{fin}] ? 'Whether the deterioration of relationships, the many divorces are due to feminism?'	CSAV	other	VEND	n/a	n/a	Falko fkb032 2008_07_L2v2.4
92	[Wie X] [er S] [rastet V_{fin}] ? 'How he's resting!'	XSV	other	VEND	n/a	n/a	KiDKo_mu_v2.0 > MuH11MD_07-1

Table 10.2: Examples of peripheral VEND

10.2 Non-VEND subordinate clauses

- German has some specialized subordinate sentence types in which the verb is not in final position.
- One consists of verb-first conditional (protasis) sentences as in (6)–(7). Such conditional sentences must precede their main (apodosis) clauses, unlike conditional sentences that are marked by a complementizer and which exhibit VEND.

(6) *Überquert man den Fluss Khodar findet man noch Überreste des*
Crosses one the river Khodar finds one still remains of-the
Chaturbuja-Tempels .
Chaturbuja-temple .
"If you cross the river Khodar, you can still find remains of the Chaturbuja temple."

(7) *Hat man die Höhle verlassen , dann liegt noch ein kleiner*
Has one the cave left , then lies a small walk
Fußmarsch vor einem .
before one .
"Once you have left the cave, there is still a short walk ahead of you."

- Formally, the conditional protasis clauses in (6)–(7) have the same structure as polar Yes/No questions (cf. 14.3). Accordingly, an example like 6 would, for instance, with the order VSO would be treated as a case of INV.
- V1-subordinate clauses may also occur with a concessive interpretation. They are treated the same as the conditional cases.

(8) *Mag er auch etwas zurückhaltend sein, er ist ein wahrer Tapferer*
May he too somewhat recticent be, he is a true brave-one
.
.
"Even if he's a bit reticent, he truly is a brave one!' (deTenTen20)'

- V2-sentences introduced by *kaum* can occur as subordinate clauses in the VF of main clauses. Depending on the arguments and modifiers present, *kaum*-sentences may be treated as cases of INV.

(9) *Kaum hatte der Bundesrat sein Okay für Kulturveranstaltungen*
Hardly had the federal-council its Okay for cultural-events
gegeben , fragte Matthias Peter Ostschweizer Künstlerinnen und
given , asked Matthias Peter East-Swiss artists-female and
Künstler an .
artists-mal to .
"No sooner had the Federal Council given its okay for cultural events than Matthias Peter enquired with eastern Swiss artists."

11 Non-finite clauses and sentences

- Non-finite clauses and sentences receive **no analysis** in terms of Processability Theory's stages.
- This also applies to clauses where it might appear as if the non-finite forms co-occur with arguments, in particular subjects.
  - Infinitves as imperatives

    (1) *Alle mal herhören!*
    All MP listen
    'Listen up, everybody!'
  - Participles as imperatives

    (2) *Alle Kids mal aufgepasst !!*
    all kids MP attention-paid
    'All kids pay attention!'
  - *What-me-worry* sentences

    (3) *Ich und tanzen ! Pfff.*
    I and dance ! Pfff
    'Me and dance ! Pfff.'

12 Multiple annotations

- As noted, certain clauses may receive multiple annotations at the same time, either because two (positive) constellations are compatible with each other such as SEP and INV, or because one constellation describes a positive constellation and the other a negative one.
- We give some illustrations of such cases in the table below.

Id	Example	Order	S. Type	PT stage	Canonicity	Proto.	Source
93a	[Gestern M] [habe V_{fin}] [ich S] [eine Fahrkarte für einen Wochenendausflug O] [gekauft $V_{non-finite}$] . 'Yesterday I bought a ticket for a weekend excursion.'	MVSOV	decl	SEP	CWO	core	Merlin 1091_0000267
93b	[Gestern M] [habe V_{fin}] [ich S] [eine Fahrkarte für einen Wochenendausflug O] [gekauft $V_{non-finite}$] . 'Yesterday I bought a ticket for a weekend excursion.'	MVSOV	decl	INV	n/a	core	Merlin 1091_0000267
94a	[vielleicht M] [haben V_{fin}] [sie S] [gehört $V_{non-finite}$] [auf ein Größe wohnung für sie A]. 'Maybe you heard about a large apartment for her.'	MVSVX	decl	INV	n/a	core	Merlin 1071_0024711
94b	[vielleicht M] [haben V_{fin}] [sie S] [gehört $V_{non-finite}$] [auf ein Größe wohnung für sie A]. 'Maybe you heard about a large apartment for her.'	MVSVX	decl	NO-SEP	n/a	n/a	Merlin 1071_0024711
95a	[ich S] [habe V_{fin}] [gehört $V_{non-finite}$] [das hast du Vater geworden O_{Cl}]. newline I heard that you became a father'	MVVO$_{Cl}$	decl	SVO	CWO	peri	1071_0024860
95b	[ich S] [habe V_{fin}] [gehört $V_{non-finite}$] [das hast du Vater geworden O_{Cl}] . 'I heard that you became a father.'	MVVO$_{Cl}$	decl	SEP-anti	n/a	n/a	1071_0024860

96a	[Zum Beispiel M] , [der frühe Feminismus S] [hat V_{fin}] [es E] [geschafft $V_{non-finite}$] , [dass Frauen wählen können O_{Cl}] . 'For instance, early feminism has made it possible for women to vote.'	$MSVEVO_{Cl}$	decl	SEP	CWO	core	Whig BNG2-2011-03-194
96b	[Zum Beispiel M] , [der frühe Feminismus S] [hat V_{fin}] [es E] [geschafft $V_{non-finite}$] , [dass Frauen wählen können O_{Cl}] . 'For instance, early feminism has made it possible for women to vote.'	$MSVEVO_{Cl}$	decl	ADV	n/a	n/a	Whig BNG2-2011-03-194

Table 12.1: Examples of multiple labels for individual clauses

13 Special syntactic contexts

13.1 Spoken language phenomena

Several of PT's verb constellations require elements that are unspecified as to whether they should be arguments or adjuncts. For instance, INV requires another element after the finite verb in addition to the subject.

In spoken language, we do not consider **fillers** like äh (∼ EN 'um','uh', 'hmm') (and its variants) as possible slot fillers. Likewise, in the case of repairs, we count only the repair but not the reparandum. (This is compatible with, for instance, UD's policy of attaching the reparandum to the repair so that only the latter has a relation to a potential governing predicate. As a consequence, the sentence in (1) exhibits SVO: *Also* is in VVF, the subject *ich* in VF, *vom Toaster* as an obliatory oblique is in MF, the modal particle *ja* is in MF but the filler *äh* is not assigned to any field.

(1) *Also äh ich kam ja vom Toaster.*
So um I came MP from toaster.
"So uh I came from the toaster, tho."
(HaMaTac)

As the discussion of the above example illustrates, **modal particles** do count as elements occupying slots. In the example below, *halt* would occupy the MF and give rise to SEP.

(2) *Du musst halt warten .*
You must MP wait .
"You just have to wait."

Another important phenomenon in spoken language (and also conceptually oral data) are **cliticized pronouns**. In example (3), the neuter-gender object pronoun *es* is phonological reduced to a clitic that fuses with the preceding verb. Phonologically speaking, the verb and the clitic form one phonological word. However, for our purposes, we will still treat the clitic as a separate syntactic token/word. On that treatment, (3) will be a case of SVO, rather than intransitive SV. Reasoning in a parallel way, (4) will be treated as an instance of INV: the cliticized subject pronoun *du* that is part of *kommste* (= *kommst* + *du*) is treated as a separate syntactic token so that we have two elements following the finite verb, rather than just one.

(3) *Ich hab's .*
I have-it .
"I have it."

(4) *Morgen kommste aber !*
Tomorrow come-you but !
"But tomorrow you're gonna come!'

13.2 Argument omissions

- German like many other languages allows for the omission of arguments under specific circumstances.
- These cases pose the question whether one should assume that there are phonetically empty elements present in the syntactic structure that factor into the analysis of transitivitiy and verb placement.
  - In some cases, the objects of specific verbs can be omitted under an indefinite interpretation.

    (5) *Ich lese gern.*
    I read happily/willingly.
    "I like to read (things/stuff)."
  - In other cases, the objects of specific verbs can be omitted under an anaphoric interpretation.

    (6) *Ich weiß* ∅ .
    I know ∅ .
    "I know/I know that."
  - In addition to lexically licensed omissions, there are particular constructions that license the omission of arguments. One important such case in spoken German is topic drop.

    (7) ∅ *Kenn ich* .
    ∅ know I .
    "I know that/him/her/them'.'

    (8) ∅ *Mag ich nicht* .
    ∅ like I not .
    "I don't like that/him/her/them'.'
- Practically speaking, we currently lack reliable analysis tools that could identify the cases above as anything other than intransitive verb uses.

13.3 Split arguments

- In a way that is somewhat complementary to argument omission, we sometimes get two elements in the syntax where semantically there is only one. Typically, a part of a unit is extracted and used independently.
- For instance, in 9 the item *davon* 'thereof' is split up and the first part, *da* is moved to the VF (Historically, *davon* is the fusion of a pronoun and an adposition.)
- In spoken language, such items composed of *da* and a preposition can be split up. Note that there is, however, no general preposition stranding in German. That is, in case of PPs with a lexical NP, no splitting up is possible.
- The sequence that results in splits such as 9 looks like INV. If all of *davon* had been moved to VF (cf. 10), we would not have INV since we require another element in MF besides the subject!

(9) *Da* *träumst* *du* *von.*
There dream you of.
'lit. 'You're dreaming thereof."

(10) *Davon* *träumst* *du.*
Thereof dream you.
"That's what you're dreaming of."

- Other examples involve NPs from which the head noun is extracted , leaving behind modifiers or quantifiers. An example is found in (11), which may be compared to the default joint realization of the object NP *keine Bücher* 'no books' in (12).

(11) *Bücher* *hat* *er* *keine.*
Books has he no/none.
"Books he doesn't have any"

(12) *Er* *hat* *keine* *Bücher.*
He has no books.
"He doesn't have any books."

For cases like the above, it is technically difficult to reliably distinguish them from similar looking constructions with multiple, separate constituents. For that reason, we accept the parts of split arguments as full tokens for our purposes. That is, we would treat both 9 and 11 as cases of INV.

13.4 Clauses that are part of larger structures

- There are certain syntactic constructions that contain whole clauses of a certain types as their parts.
- For instance, in (13) we see a formally unexpected (pseudo-)coordination of an NP and an SVO clause that in combination has an idiomatic conditional meaning.
- Within this and other similar constructions, the form of the contained clause is usually constrained and the speaker has no choice but to use a certain expected verb constellation. That is, in the case of 13 use of INV in the right coordinate would be unacceptable.
- We treat such clauses as if they were regular instances of their surface clause type.

(13) *Noch ein* *Wort* *und* *ich* *rede* *nie* *wieder* *mit* *Dir.*
Another word and I talk never again with you.
"Another word and I'll never talk to you again."

13.5 Parenthetical sentences

By parentheticals we prototypically mean expressions which can be inserted parenthetically into a host clause (14-15) but which also have a non-parenthetical use in which they take a content clause as complement (16).

(14) *Liebe* *geht* *durch* *den* *Magen,* *sagt* *man* .
love goes through the stomach, says one .
"The way to the heart is through the stomach, they say."

(15) *2017 sei das "Jahr der Entscheidung", heißt es , was die Zukunft*
2017 is the "year of decision", is-said it what the future of-the
der EU, wenn nicht gar der Demokratie betrifft .
EU , if not even the democracy concerns .
"2017 is the "year of decision", they say, for the future of the EU, if not for democracy."

(16) *Es heißt , daß dort einmal eine Burg gewesen sei.*
It is-said , that there once a caste been has.
"It is said that there had once been a castle there."

(17) *Zwischen Staaten , so sagte es Charles de Gaulle , gibt es keine*
Between states , so said it Charles de Gaule , gives it no
Freundschaft.
friendship.
"Between states, so said Charles de Gaulle, there is no friendship.' '

For the purposes of analyzing verb constellations, we set the parenthentical uses aside, including the ones like (17) that have an anaphoric element (above: *so*) inside the parenthentical clause. That is, applied to 14, while we provide no annotation for the parenthetical clause *sagt man* , we will label the embedding main clause *Liebe geht durch den Magen* according to our annotation scheme (with stage SVO).

14 Sentence types in main clauses other than declaratives

- We focus here on sentence types that can occur as main clauses.
- For the most part, subordinate clauses in L1 German exhibit verb-final order (VEND). Subordinate clauses that deviate from that regularity are discussed in the chapter on VEND .

14.1 Imperatives

- Imperatives are normally used sentence-initially in German.

  (1) Gebt den Leuten Zucker.
  'Give the people sugar'

- Informal imperatives (2) rarely feature an overt subject (though they can), whereas formal imperatives (3) must have one.

  (2) Geh du mal alleine.
  'You go alone'

  (3) Machen Sie mit!
  'Participate!'

- Inflected imperatives are given a special category.
- Imperative verb forms are not the only construction available for making requests or giving orders. German also frequently uses non-finite forms (cf. 4) for that purpose. These latter are outside the scope of PT. According to Wöllstein's topological analysis, they could be seen as exhibiting VEND.

  (4) Bitte warten.
  'Please wait.'

14.2 Exclamatives

- Exclamatives are formally quite varied in German.
- One prominent type of exclamative is verb-initial.

  (5) *Redet der einen Stuss!*
  Talks that-one a nonsense!
  "The nonsense that that guy is talking!"

14.3 Questions

- Most types of wh-questions clearly do not fall under SVO .
- The one type that structurally might be considered a good candidate for SVO are subject questions such as (6).

  (6) [Wer S] [ruft V] [das Restaurant O] [an V_{prt}] ?
  'Who is going to call the restaurant?'

- However, for Processability Theory, SVO is restricted to declaratives. We treat SVO as peripheral when found with subject questions.
- Neutral (or: unbiased) polar (or: Yes/No) questions in German have verb-first (V1) order.
- Core arguments following the verb can vary in their order based on various factors , including their length (or 'weight') , their morphosyntax and their information structural properties. In other words, we find both VSO (cf. 7) and VOS (8) sentences.

  (7) *Kauft Hannelore heute Haarfarbe ?*
  Buys Hannelore today hair-dye ?
  'Is Hannelore buying hair dye today?'

  (8) *Kauft das jemand ?*
  Buys that anybody ?
  "Is anybody buying that?"

- Note that we capture not only polar questions with direct objects but also other polar question types, including clauses with intransitive verbs and clauses headed by verbs taking an obligatory oblique argument.
- In addition to V1 we also find other orders for polar questions in learner language.
- In some cases, there may be ambiguity as to whether a polar question is an IL or L1-influenced form or represents a so-called biased Yes/No-question, which cannot be uttered out of the blue but encodes that the speaker has prior assumptions about the expected answer. Biased L1-questions in German (cf. 9) do not exhibit Verb-first order.

  (9) *Peter kommt auch?*
  Peter comes also?
  "Peter is coming as well?"

Id	Example	Order	S. Type	PT stage	Canonicity	Proto.	Focal field	Source
97	[Macht V] [der Mitarbeiter S] [einen Unterschied für die Gesellschaft O] ? 'Is the employee making a difference for society?'	VSO	qsyn	INV	CWO	peri	n/a	Whig BNG2-2011-03-208
98	[Hast V] [du S] [Zeit un lust am diesen Wochenende nach Stadt Z fahren O] ? 'Do you have time and inclination to go to town Z this weekend?'	VSO	qsyn	INV	CWO	peri	n/a	Merlin 1091_0000269
100	[Möchtest V] [du S] [die BusFahrkarte O] [haben V] ? 'Would you like to have the bus ticket?'	VSOV	qsyn	SEP	CWO	core	arg	Merlin 1091_0000266
100	[Möchtest V] [du S] [die BusFahrkarte O] [haben V] ? 'Would you like to have the bus ticket?'	VSOV	qsyn	INV	CWO	core	n/a	Merlin 1091_0000266

Table 14.1: Examples of Questions

15 Expletives

15.1 Elements: Expletives as S or O

- German features various cases in which expletive pronouns occupy core grammatical slots.
- Expletive subjects
  - Lexically specific expletives, e.g. with weather-related predicates such as *regnen* in (1): these are said to have no semantic role relative to their predicates. These instances of *es* cannot be eliminated by, for instance, re-ordering sentence constituents.

    (1) *Es regnet.*
    It rains.
    "It is raining"
  - Another subclass of lexically specific expletives occurs with presentational constructions such as *es geben* in (2).

    (2) *Es gibt Lasagne.*
    It gives lasagna.
    "There's lasagna."
  - So-called correlate *es* occupies a slot and co-occurs with an extraposed clause that provides the semantic argument to the predicate (cf. 3). This kind of *es* can be eliminated if the correlated clause is instead moved into its place (4).

    (3) *Es stört mich, dass er hier ist.*
    It bothers me that he here is.
    "It bothers me that he's here."

    (4) *Dass er hier ist, stört mich.*
    That he here is bothers me.
    "That he's here bothers me."
  - So-called Vorfeld (pre-field) *es* occupies the slot before the verb for information-structural reasons while the subject is displaced into a position after the verb (cf. 5). That this type of *es* is not really a subject can also be seen by the fact that it can oc-occur with plural form verbs with which it disagrees in number (as is the case in (5)).

    (5) *es standen sich zwei ziemlich dezimierte Mannschaften gegenüber*
    it stood each-other two quite decimated teams face-to-face
    "There were two quite decimated teams facing each other"

    (deTenTen20)

    (6) *zwei ziemlich dezimierte Mannschaften standen sich gegenüber*
    two quite decimated teams stood each-other face-to-face
    "Two quite decimated teams were facing each other."

- Expletive objects
  - Among these cases, we again find instances of correlate *es*, which occupy the object slot but co-occur with an extraposed clause that provides the semantic argument to the predicate. This kind of *es* can be eliminated if the correlated clause is instead moved into its place.
  - Another common type of expletive objects consists of reflexive pronouns that are lexically specific for certain verbs.
- Lexically conditioned expletives are represented as S_{expl} or O_{expl}. The other expletives that do not depend on particular verbs and that co-occur with a displaced S or O are represented as E.
- We finally illustrate annotations with expletive subjects and objects.
- Expletives result in instances of the stages that are peripheral in terms of their formal realization.

Id	Example	Order	S. Type	PT stage	Canonicity	Proto.	Source
101	[Es S_{expl}] [geht V] [mir O] [gut A]. 'I'm doing fine'	S_{expl}VOA	decl	SVO	CWO	peri	
102	[Es S_{expl}] [gibt V] [Kuchen O]. 'There's cake'	S_{expl}VO	decl	SVO	CWO	peri	
103	[Die Windschutzscheibe S] [verbog V] [sich O_{expl}] [stärker als erwartet M] 'The windshield bent more than expected'	SVO$_{expl}$M	decl	SVO	CWO	peri	
104	[Es E] [leben V] [viele Familien S] [hier A]. 'There are many families living here'	EVSA	decl	INV	n/a	peri	
105	[Es E] [stört V] [mich O], [dass Peter nie anklopft S_{Cl}]. 'It bothers me that Peter never knocks'	EVOS$_{Cl}$	decl	INV	n/a	peri	
106	[Ich S] [verstehe V] [es E] , [daß es Menschen gibt, die Peter nicht mögen O_{Cl}]. 'I get it that there are people who don't like Peter'	SVEO$_{cl}$	decl	SVO	CWO	peri	

Table 15.1: Examples with expletive elements

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