Generative approaches to Germanic languages

Stefan Müller

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1   Introduction

This paper is about the analysis of Germanic languages in Generative Grammar. I take the broad view on Generative Grammar that includes theories like LFG (Bresnan 1982, 2001, Dalrymple 2023), GPSG (Gazdar et al. 1985), and HPSG (Pollard & Sag 1994, Sag 1997, Müller et al. 2021). Even some branches of Construction Grammar regard themselves as being in the generative tradition (Fillmore et al. 1988: 501, Fillmore 1988: 36). When I refer to Generative Grammar in the narrow sense (basically Transformational Grammar/Government & Binding/Minimalism), I use the term established by Culicover & Jackendoff (2005: 3): Mainstream Generative Grammar (MGG). In what follows, I use some reduced and simplified form of HPSG (HPSG light; Müller 2023b) for the exposition: simple $\overline{\text{X}}$-like constituent trees augmented with some valence information.

   This overview article focuses on phenomena for which there is a consensus among theories. For example, the analysis of the verb position and V2 in Germanic is rather uncontroversial: it is assumed that the finite verb moves to initial position and that one consitutent is placed before this verb (Section 6). Section 2 lays out general assumptions and accounts for basic constituent order of SVO and SOV languages (SVO = Danish, English, Faroese, Icelandic, Norwegian, Swedish; SOV = Afrikaans, Dutch, Frisian, German). Phenomena like scrambling, verbal complex formation, and passive and case assignment are discussed in the Sections 3–5. Approaches to scrambling and fronting differ with respect to the position into which constituents are moved. So-called Cartographic approaches assume Topic or Focus phrases, that is, information structural notions are introduced into syntax. I briefly comment on these approaches in Section 7 and sum up the paper in a final conclusion.

2   General assumptions

Valence plays a crucial role in all generative theories. Valence specifications are lexical specifications. GB uses theta-grids, LFG uses specifications of grammatical functions that say which elements have to be present in certain local configurations, HPSG uses complex attribute value matrices to describe syntactic and semantic properties of selected arguments. Minimalism uses features in a way that resembles Categorial Grammar (Ajdukiewicz 1935, Steedman 2000). I will use a simplified version of HPSG (Müller 2023b) in what follows. Let us start with ditransitive verbs. (1) shows an English and a German example:

(1) a. The child gave the squirrel the nut.

   b. dass das   Kind dem   Eichhörnchen die   Nuss gab
      that the.NOM child the.DAT squirrel   the.ACC nut   gave

HPSG assumes that valence of heads is represented in lists. The so-called argument structure (ARG-ST). The ARG-ST lists of the examples in (1) contain three NPs. The elements of the ARG-ST list are mapped to the valence features SPR (for specifier) and COMPS (for complements). Many researchers in generative theories follow Haider (1993: Section 6.3.2) in assuming that subjects and complements of finite verbs should be treated similarly in SOV languages (Pollard 1996: 295, Eisenberg 1994: 376, Kiss 1995: 57, 78).[1] Hence, all arguments of finite verbs are represented in the same valence list. The subject in SVO languages has of course a special status. It is represented in the SPR list, while other arguments are represented in the COMPS list. (2) shows the preliminary ARG-ST list and the mapping to valence features for the English *give* and the German *geben* 'give':

(2)   ARG-ST (to be revised)

   a. give: $\langle$NP[*nom*], NP[*acc*], NP[*acc*]$\rangle$

   b. geben: $\langle$NP[*nom*], NP[*dat*], NP[*acc*]$\rangle$

                   SPR   COMPS

   c. give (SVO): $\langle$NP[*nom*]$\rangle$ $\langle$NP[*acc*], NP[*acc*]$\rangle$

   d. geben (SOV): $\langle\rangle$ $\langle$NP[*nom*], NP[*dat*], NP[*acc*]$\rangle$

I assume that the arguments on the ARG-ST list are in the same order for all Germanic languages (and maybe for lots of other languages as well). As can be seen in (2a,b), the case of the NPs may differ: English does not have a dative case. (2c) shows that the nominative NP is mapped to the SPR list and the two accusative objects are mapped to COMPS. (2d) shows that all arguments are mapped to COMPS for German.

The examples in (1) are analyzed as in Figure 1 and Figure 2, respectively. I assume binary branching structures. (The OV languages allow adjuncts to appear anywhere between arguments. Binary branching structures allow for a more straightforward integration of adjuncts. See Müller 2016: Section 18.1 on a general discussion of binary branching vs. flat structures.) VO languages combine the verb with the least oblique element from the COMPS list (the first element), while OV languages start from the end of the COMPS list (but see Section 3 for scrambling). Since the subject is in a separate valence feature, SVO languages form a VP to the exclusion of the subject by combining the verb with all complements in the COMPS list. SOV languages do not have a finite VP but have all arguments in the COMPS list. The finite verb combined with all its arguments in COMPS forms a finite clause, as in the figures below.

Since this is a paper about generative approaches to Germanic in general, it has to be mentioned that the branching for English is unusual as far as Mainstream Generative Grammar is concerned. The reason is that MGG uses tree configurations to constrain binding relations (the distribution of pronouns

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[1]See also Borsley (1989a: 349) for such an approach for the VSO language Welsh.
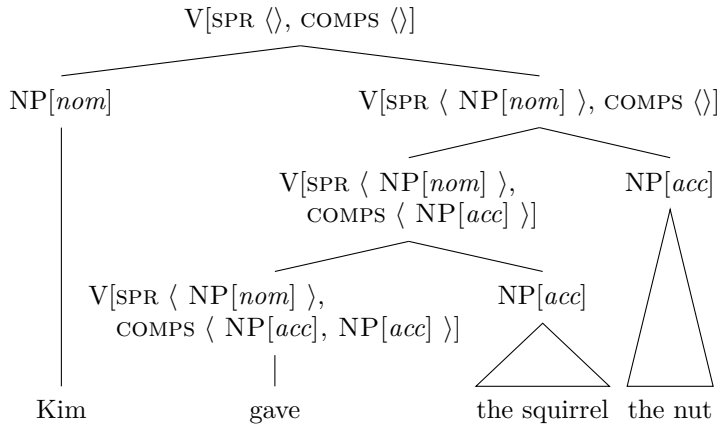
Figure 1: Analysis of the SVO order: subject on SPR und complements on the COMPS list
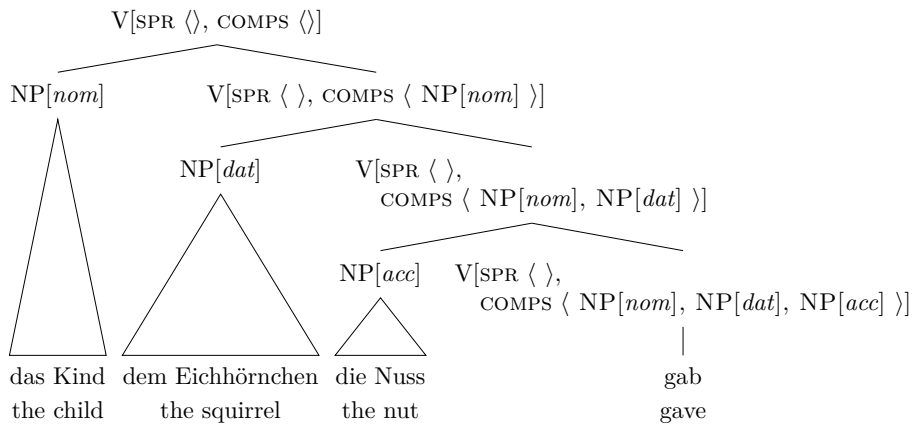

Figure 2: Analysis of the SOV order: all arguments are members of the COMPS list

and reflexives) and to compute possible scopings. c-command (Reinhart 1976: 32) is an important concept for this and it is defined with respect to other branchings that make additional structure for ditransitives necessary (Adger 2003: 133). There is an interesting conceptual difference between the approach explained here and the MGG approach: Binding principles are defined with respect to lists of arguments (argument structure, but see Branco 2021, Müller 2021 for details) rather than tree configurations. This means that the theory is defined with respect to potential structure rather than actual structure. There are certain puzzles that can be solved on the argument structure but do not seem to have a solution in approaches based on tree configurations. For example, in Balinese there are different voices that have different realizations of subject and object. This is accounted for by different mappings from the argument structure list to the valence list. The tree configurations of agentive and objective voice are different, but the argument structure and hence the predicted binding options

are not. Since this paper is on Germanic, I will not go into further details here, but refer the reader to the original papers by Manning & Sag (1998), Wechsler & Arka (1998), and Wechsler (1999) or to discussions in overview articles (Davis et al. 2021: Section 3.3, Müller 2021: Section 5).

3 Scrambling

The Germanic languages can be grouped in SVO and SOV languages. SVO languages are for example English, Danish, Norwegian, Swedish and SOV languages are for example Afrikaans, Dutch, German. Yiddish is said to be of a third type allowing for a mix of VO and OV combinations (den Besten & Moed-van Walraven 1986, Schallert 2007: 12, Haider 2010: 161, 2020). The SOV languages and Yiddish allow for so-called scrambling (see Ross 1967: 75 for the term scrambling), while the VO languages have rather strict order. (3) shows the German data.

(3) a. [weil]   das Kind dem Eichhörnchen die Nuss gab   (German)
        because the child the   squirrel   the nut   gave

     b. [weil]   das Kind die Nuss dem Eichhörnchen gab
        because the child the nut   the   squirrel   gave

     c. [weil]   die Nuss das Kind dem Eichhörnchen gab
        because the nut   the child the   squirrel   gave

     d. [weil]   die Nuss dem Eichhörnchen das Kind gab
        because the nut   the   squirrel   the child gave

     e. [weil]   dem Eichhörnchen das Kind die Nuss gab
        because the   squirrel   the child the nut   gave

     f. [weil]   dem Eichhörnchen die Nuss das Kind gab
        because the   squirrel   the nut   the child gave

The order in (3a) is the normal order, all other orders are marked, since the number of contexts in which they can be used is smaller than the number of contexts in which (3a) can be used (Höhle 1982).

The order of arguments in Dutch (SOV) is more restricted, but scrambling is possible as well, as the following examples from a Dutch reference grammar show (Geerts et al. 1984: 989, Haider 2010: 14, 152):

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

     b. Toen hebben de autoriteiten aan de moeder het kind
        then have   the authorities to   the mother the child
        teruggegeven
        back.given

Scrambling of two NP arguments is not possible in Dutch, but this can be explained by the lack of case marking in full NPs. Scrambling is avoided because of possible ambiguities. The same can be observed with NPs in German in case in which they are not sufficiently case marked. As noted by Wegener (1985: 45), (5) is not ambiguous:

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(5) Sie mischt Wein Wasser bei.   (German)
     she mixes wine water   at
     'She mixes wine with water.'

This means that there is wine and water is added to it. This corresponds to the order dat < acc. The situation is different with determiners:

(6)   a. Sie mischt dem   Wein das   Wasser bei.   (German)
         she mixes the.DAT wine the.ACC water   at
         'She mixes wine with water.'
      b. Sie mischt das   Wasser dem   Wein bei.
         she mixes the.ACC water   the.DAT wine at
         'She mixes wine with water.'

With determiners, we get the reading in (5) independent of the order of the noun phrases. If we change the order of determinerless NPs in (5), we get a different reading:

(7) Sie mischt Wasser Wein bei.   (German)
     she mixes water   wine at
     'She mixes water with wine.'

So, without any clues from case marking, one has dat < acc order; with case marking, both orders are possible.

There are basically two approaches to scrambling: the one that is probably most wide-spread in Generative Grammar is a movement-based approach (Frey 1993). The alternative is called base-generation (Fanselow 1993). A movement-based approach assumes that there is a certain configuration that is regarded as more basic than other configurations. This basic configuration is derived by phrase structure rules and the other orders are derived from this basic configuration by movement. In classical Transformational Grammar, this means that the tree for the basic configuration is mapped to a different tree with different order (Chomsky 1957). One constituent is removed and realized at the left periphery of the resulting tree. See Figure 3. The original position of the scrambled element is marked by a trace. It is usually argued that movement-based approaches to scrambling are needed to account for additional scopings that are only available in scrambled structures (Frey 1993: 185). The explanation is that one reading corresponds to the surface order and another reading to the order in the base. The interesting thing is that this argument backfires. There are certain configurations in which two arguments of a verb are moved simultaneously.

(8) Ich glaube, dass mindestens einem Verleger$_i$ fast   jedes Gedicht$_j$
     I   believe that at.least   one   publisher almost every poem
     nur dieser Dichter $\_\_i$ $\_\_j$ angeboten hat.
     only this   poet   offered   has
     'I think that only this poet offered almost every poem to at least one publisher.'

The theory predicts that both can be reconstructed or one of them can be (Kiss 2001: 146, Fanselow 2001: Section 2.6). This predicts readings that do not exist.

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                              IP
                ┌─────────────┴─────────────┐
            NP[acc]ᵢ                         IP
                                   ┌──────────┴──────────┐
                               NP[nom]                   I′
                                              ┌──────────┴──────┐
                                             VP                  I
                                              │
                                             V′
                                      ┌───────┴───────┐
                                   NP[dat]            V′
                                              ┌────────┴────┐
                                             NP             V
                                              │             │
  die Nuss  das Kind  dem Eichhörnchen       _ᵢ          gib-   -t
  the nut   the child  the squirrel                      give-  -s
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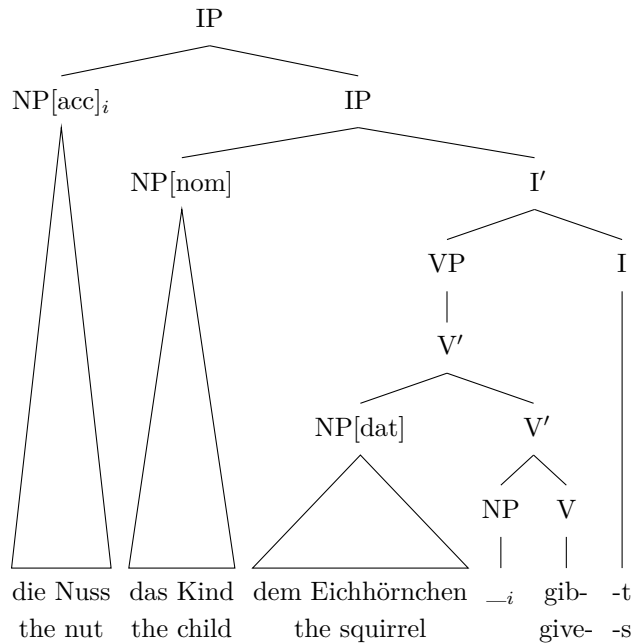
Figure 3: Analysis of local reordering as adjunction to IP in GB

So, researchers like Kiss (2001) and Fanselow (2001) do not assume movement-based accounts, but assume a base-generation approach in which the verb is combined with its arguments in the order they appear in the sentence. Interestingly this approach requires structures in which all arguments are realized as sisters of the verb and its projections. Additional layers of phrase structure are ruled out by design since if a subject has to be placed in a specifier position of some designated functional projection (say TP), movement is necessary to derive configurations in which the objects are scrambled to the left of the subject. Figure 3 illustrates: in order to linearize the accusative object to the left of the nominative, it has to leave the VP.

Figure 4 shows the analysis of (3b). It differs from Figure 2 in the order in which the arguments are combined with the verb. For scrambling languages a head may be combined with any of its arguments, so there is no need to start with the first or last element of the COMPS list. Any element in the COMPS list can be combined with the head and all remaining elements are passed on to the mother node. See Gunji (1986) for an early proposal along these lines for an HPSG grammar of Japanese. The resulting projection may combine with any remaining elements on the COMPS list in further steps until the phrase is fully saturated, that is, the COMPS list is the empty list.[2]

The next section deals with verbal complexes and provides an account for scrambling in so-called clause union cases, that is, cases in which arguments of several verbs are scrambled.

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[2]Note that I explain the analysis in a bottom-up way. This is for explanatory purposes only. HPSG is a constraint-based theory, hence there is no order in which constraints are applied and structure is build. This is important for the theory to be psycholinguistically plausible (Wasow 2021: Section 3.1).
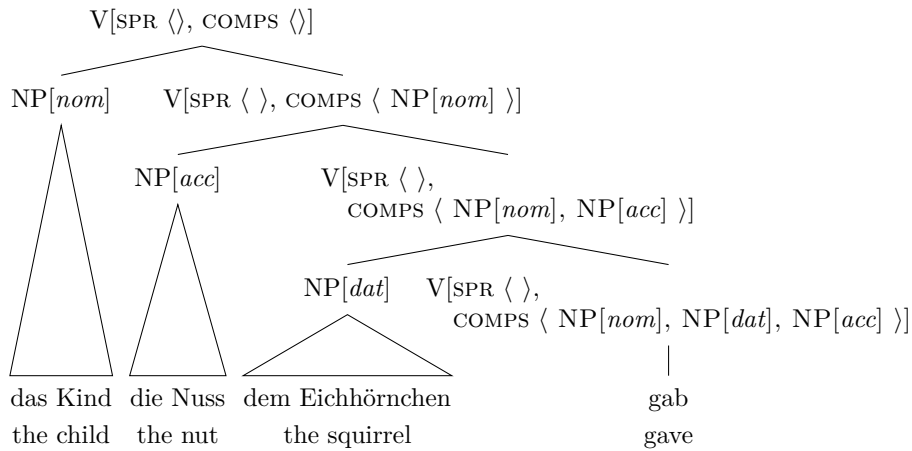
V[SPR ⟨⟩, COMPS ⟨⟩]

NP[*nom*]   V[SPR ⟨ ⟩, COMPS ⟨ NP[*nom*] ⟩]

NP[*acc*]   V[SPR ⟨ ⟩,
COMPS ⟨ NP[*nom*], NP[*acc*] ⟩]

NP[*dat*]   V[SPR ⟨ ⟩,
COMPS ⟨ NP[*nom*], NP[*dat*], NP[*acc*] ⟩]

das Kind   die Nuss   dem Eichhörnchen   gab
the child   the nut   the squirrel   gave

Figure 4: Analysis of the SOV order: all arguments are members of the COMPS list

4 Verbal complexes

The Germanic SOV languages form verbal complexes: the verbs are positioned at the end of the clause and arguments of the verbs are realized to the left of the verbs. Languages that allow for scrambling allow for the permutations of the non-verbal arguments. (9) shows a German example due to Haider (1986b: 110; 1991: 128):

(9) weil   es   ihr   jemand   zu lesen versprochen hat
    because it.ACC her.DAT somebody.NOM to read promised   has
    'because somebody promised her to read it'

versprochen 'promised' selects *zu lesen* 'to read'. The NPs *es* and *ihr* depend on *zu lesen* and *versprochen*, respectively, and *jemand* depends on the auxiliary *hat*. Other orders of the three NPs are possible as well. The generalization is that the three verbs together behave like a simplex verb as far as the ordering of the arguments are concerned.

As with scrambling and passive, there are two main approaches: the first one assumes that verbs project all their arguments and that full verbal projections are embedded under a verb. Such an approach is virtually conceptually necessary, if one assumes that semantic roles are assigned to tree positions. This also requires empty elements for the subjects of infinitives. *versprochen* embeds *PRO es zu lesen*, where PRO stands for the empty subject. *versprochen* combines with its arguments to form *jemand ihr [PRO es zu lesen] versprochen* and this is combined with *hat*. The subject of *versprochen* is moved to the subject position of *hat*. From this several movements apply to produce the order in (9).

The alternative is not to project the arguments in an unwanted order, but to form a verbal complex first. The verbs *zu lesen* and *versprochen* are combined and the resulting verbal complex has all the arguments that the involved verbs need. There are two ways to achieve this: one can assume the technique of argument attraction first suggested in Categorial Grammar and now wildly adopted in HPSG (Geach 1970, Hinrichs & Nakazawa 1994, Kiss 1995, Meurers 2000,
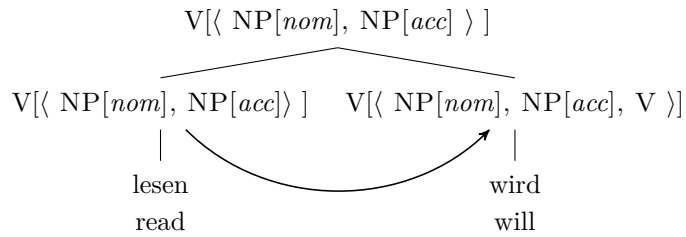
$$V[\langle\ NP[\mathit{nom}],\ NP[\mathit{acc}]\ \rangle\ ]$$

$$V[\langle\ NP[\mathit{nom}],\ NP[\mathit{acc}]\rangle\ ]\qquad V[\langle\ NP[\mathit{nom}],\ NP[\mathit{acc}],\ V\ \rangle]$$

lesen   wird

read   will

Figure 5: Analysis of the verbal complex formation of *lesen wird* 'read will' using argument composition (preliminary version)

$$V[\langle\ \rangle]$$
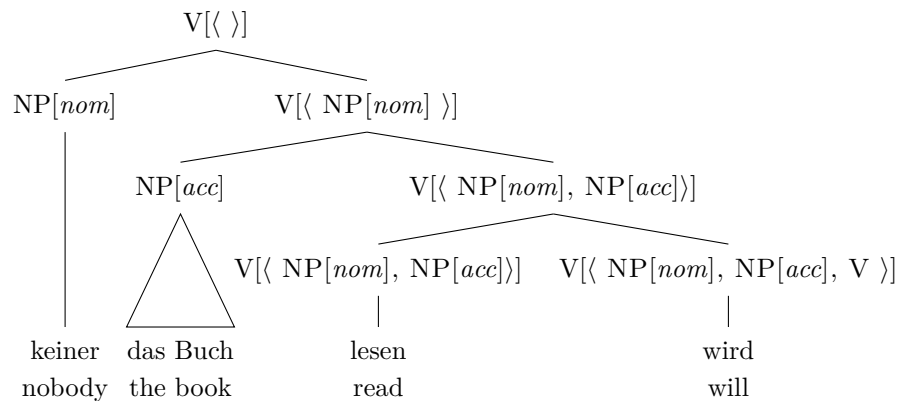
$$NP[\mathit{nom}]\qquad V[\langle\ NP[\mathit{nom}]\ \rangle]$$

$$NP[\mathit{acc}]\qquad V[\langle\ NP[\mathit{nom}],\ NP[\mathit{acc}]\rangle]$$

$$V[\langle\ NP[\mathit{nom}],\ NP[\mathit{acc}]\rangle]\qquad V[\langle\ NP[\mathit{nom}],\ NP[\mathit{acc}],\ V\ \rangle]$$

keiner   das Buch   lesen   wird

nobody   the book   read   will

Figure 6: Formation of a verbal complex and realization of arguments in normal order (simplyfied version)

Müller 2002) or pass arguments on in grammar rules (Kim 2016: Section 4.4.1, Van Eynde 2019: 1044).[3] In the latter approach, the unsaturated complements of both the head daughter and the complement daughter are added up to form the list of complements at the mother node. The first approach has the advantage that it can account for the so-called remote passive, which will be covered in Section 5.3.

Figure 5 shows the analysis of the verbal complex in (10) in simplified form. The auxiliary selects for the embedded verb and the arguments of this verb.

(10)   dass keiner   das Buch lesen wird
       that nobody the book read will
       'that nobody will read the book'

Figure 6 shows the full analysis of (10). The analysis is simplified in that all arguments of the infinitive are listed in one list. Usually subjects are represented in a different valence list for non-finite verbs. See Müller (2002: Chapter 2) and Müller (2023b: Chapter 5) for details.

The analysis of the alternative order in (11) is shown in Figure 7.

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[3]Van Eynde's formulation is inconsistent since he simultaneously requires the COMPS value of the mother node to have two conflicting values: one constraint requires the COMPS list of the mother to be longer or of the same length as the one of the head daughter and another one requires it to be shorter.
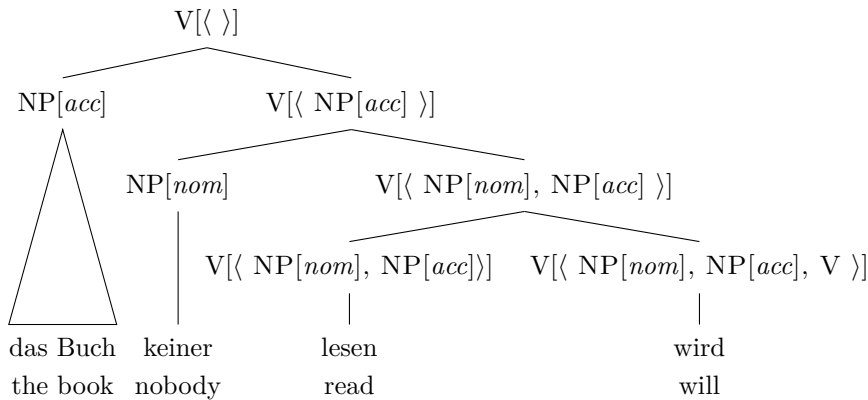
Figure 7: Formation of a verbal complex and scrambling of arguments (simplyfied version)

(11) [dass] das Buch keiner   lesen wird
       that the book nobody read will
      'that nobody will read the book'

The verbal complex behaves like a simplex verb: the arguments of the verbal complex can be combined with it in any order.

After having dealt with scrambling and verbal complexes, I now turn to passive.

5   Passive

As with scrambling, there are two main proposals in the literature: one is movement-based and the other is a direct-generation one. The classical analysis of the passive is movement-based. There was a special passive transformation that transformed trees of a certain form into trees with another form (Chomsky 1957: 43). Active sentences were mapped into passive ones. In later versions of the theory, the passive was derived by assuming several interacting constraints that forced the underlying object to move to subject position (Chomsky 1981: 124). It was assumed that the formation of the passive participle resulted in a lexical item that could not assign accusative to its object Burzio (1986: 178–185). This was called Burzio's Generalization, although it is nothing more than a stipulation to make the analysis work.[4] In addition a case filter was applied to structures ruling out NPs without case. It was assumed that subjects get case in the specifier position of IP and hence it was explained why the underlying object of the verb has to move to the specifier of IP. Figure 8 illustrates.

The problem of this analysis is that passive does not have anything to do with movement. The fact that the underlying object has to move in SVO languages is simply due to the nature of (most of) these languages. There is a designated subject position and when the subject is suppressed due to passivization some

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[4]See Haider (1999), Webelhuth (1995: 89), and Müller (2016) for a discussion of problems with Burzio's Generalization.
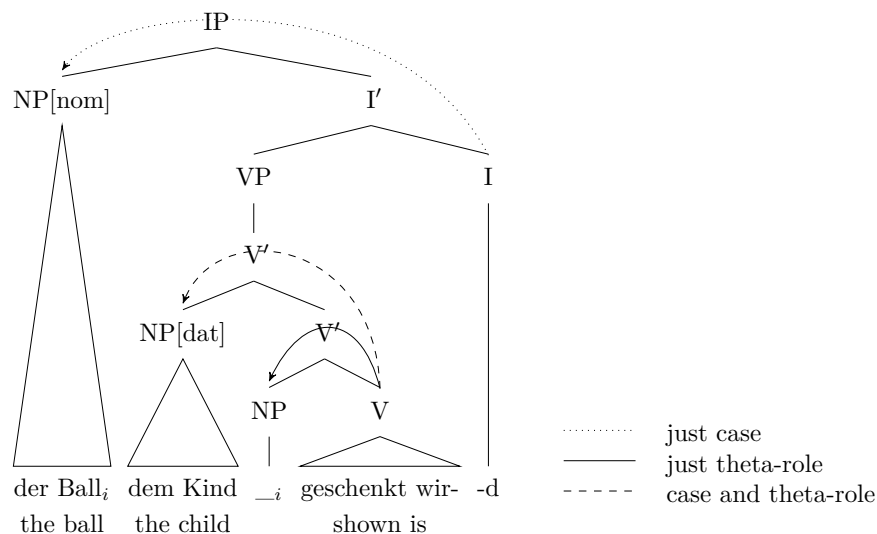
Figure 8: Case and theta-role assignment in passive clauses

other element has to fill the slot. For example, the object *the child* is realized to the right of the verb in the active in (12a) and to the left of the verb in (12b):

(12) a. Somebody gave [the child] [the ball].
      b. [The child] was given [the ball].

SOV languages behave differently. In fact, the unmarked order is the one with the underlying accusative object realized in the position it would have in active sentences (Lenerz 1977: Section 4.4.3). The following examples illustrate:

(13) a. weil   jemand   dem   Kind den   Ball schenkte
          because somebody.NOM the.DAT child the.ACC ball gave
          'because the girl gave the ball to the boy'
      b. weil   dem   Kind der   Ball geschenkt wurde
          because the.DAT child the.NOM ball given   AUX
          'because the ball was given to the child'
      c. weil   der   Ball dem   Kind geschenkt wurde
          because the.NOM ball the.DAT child given   AUX

(13b) is the unmarked order (Höhle 1982). So, if passive had anything to do with movement, one would be forced to assume that the passivization of (13a) is (13c) and then another movement has to be applied to derive the unmarked order in (13b). This means that the most natural order needs more transformational steps than a more marked order, a counter-intuitive result. Instead researchers like Grewendorf (1988: 155–157, 1995: 1311) and Lohnstein (2014: 180) assume that there is an empty expletive pronoun in subject position that is assigned nominative and transfers this case to the underlying object that stays in its position without movement. This, however, is a rather complex analysis for a simple set of data. It poses the challenge of learnability: how are learners

of the Germanic SOV languages supposed to discover that there is an IP and that they have to assume this complicated mechanism with invisible elements without any meaning whose only purpose is to fill a slot (motivated in grammars of English) and to transfer cas to an element elsewhere in the sentence. The only option to explain the acquisition of this analysis seems to be to assume that information about these mechanisms is part of our genetic endowment. This is or was assumed indeed, but given what we know now about genetics, it is highly unlikely to have such language-specific information encoded in our genes (Hauser, Chomsky & Fitch 2002; Bishop 2002, Dąbrowska 2004: Section 6.4.2.2, Fisher & Marcus 2005). So, while in earlier phases of Mainstream Generative Grammar it was often argued with the argument from the Poverty of the Stimulus, we can now argue with the Inverse Argument of the Poverty of the Stimulus (Müller 2023b: 156): since we know that analysis X is too complicated to be acquirable and since it is impossible for such specific information to be encoded in our genes, it cannot be a plausible analysis. In the following, I will therefore discuss a simpler and more direct analysis of the passive.

5.1 Passive as argument reduction

An alternative to a movement-based analysis of the passive was suggested by Haider (1986a) in the framework of GB and it is used in HPSG as well (Heinz & Matiasek 1994, Müller 2002: Chapter 3, 2003). The so-called designated argument (the subject of unergative and transitive verbs) is suppressed in the passive. NPs can have structural or lexical case. Case is not assigned to positions in trees but according to the position in the argument structure list: the first NP with structural case gets nominative, all other NPs get accusative in verbal environments. Nominative and accusative are structural cases in verbal environments, genitive is a structural case in nominal environments. (14) shows the ARG-ST lists of our example lexical items:

(14)   ARG-ST

     a. give-: $\langle \text{NP}[str]_i,\ \text{NP}[str]_j,\ \text{NP}[lacc]_k \rangle$

     b. geb-: $\langle \text{NP}[str]_i,\ \text{NP}[ldat]_j,\ \text{NP}[str]_k \rangle$

The case of the subject and the primary object in English are structural cases and the case of the subject and the direct object (the last element in the ARG-ST list) are structural cases in German. I follow in assuming that the dative is a lexical case in German.[5] Case assignment for active sentences results in nominative, accusative, accusative for English and in nominative, dative, accusative in German. The indices are linked to the semantic roles in the semantic representation of the verbs. See Davis, Koenig & Wechsler (2021) for more on linking.

Now, the generalization about passive is that the subject is suppressed. This is true for so-called personal and impersonal passives. As was explained above, passive has nothing to do with movement. That the object moves to the subject position in SVO languages has to do with the designated subject position that

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[5]This is a controversial issue. See Müller (2023b: Section 7.2.1.3) for discussion. I also assume that the Icelandic dative is a lexical case. This makes the right prediction as far as case assignment and agreement in Icelandic is concerned.

has to be filled (Note that Icelandic allows for subjectless passives despite being an SVO language.).

For transitive verbs the designated argument is always the first NP on the ARG-ST list (the subject). A lexical rule is applied to the verbal stems and licenses the participle forms in (15):

(15)

	ARG-ST	SPR	COMPS
a. given:	$\langle \text{NP}[str]_j, \text{NP}[lacc]_k \rangle$	$\langle \text{NP}[str]_j \rangle$	$\langle \text{NP}[lacc]_k \rangle$
b. gegeben:	$\langle \text{NP}[ldat]_j, \text{NP}[str]_k \rangle$	$\langle \rangle$	$\langle \text{NP}[ldat]_j, \text{NP}[str]_k \rangle$

The first NP in the argument structure list of *given* gets nominative. And the second argument of *gegeben* 'given' too, since it is the first NP with structural case. After combination with the auxiliary, the first argument of *given* is realized as a specifier and the other arguments as complements. Since the specifier is realized to the left of the verb, we get the SVO order and what looks like movement in English is just the result of mapping ARG-ST elements to valence features. No movement is involved. See Müller (2016: Chapter 20) on the alleged parallelism between extraction, passive, and scrambling. In German, the auxiliary and the particple form a verbal complex and the dative and the nominative are realized as complements of *gegeben wurde* 'given was'. The normal order is the same as the order of the elements in the COMPS list, but scrambling is possible.

This approach to case assignment and passive works well for the Germanic languages and also accounts for quirky subjects in Icelandic (Zaenen, Maling & Thráinsson 1985). The details will not be discussed here due to space limitations but see Müller (2023b).

5.2 Impersonal passives

There are interesting differences between the Germanic languages as far as impersonal passives are concerned: SOV languages like German and Dutch allow for impersonal passives, while some SVO languages do not allow for them. That the Germanic SOV languages are fine with subjectless constructions is not surprising, since they do not have a designated subject position. There are subjectless constructions with active verbs like those in (16):[6]

(16) a. Ihm   graut vor   der Prüfung.   (German)
     him.DAT dreads before the exam

     'He dreads the exam.'

  b. Mich   friert.
     me.ACC freezes

     'I am freezing.'

  c. weil   schulfrei ist
     because school.free is

     'because there is no school today'

Hence impersonal passives like the ones in (17) are expected.

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[6]For further discussion of subjectless verbs in German, see Haider (1993: Sections 6.2.1, 6.5), Fanselow (2000), Nerbonne (1986: 912) and Müller (2007: Section 3.2).

(17) a. Heute wird nicht gearbeitet.   (German)
      today is   not   worked
      'There is no working today.'

     b. Dem   Kind wurde geholfen.
        the.DAT child was   helped
        'The child was helped.'

The ARG-ST list of intransitive verbs look as follows:

(18) a. *geschlafen*: ARG-ST ⟨ ⟩

      b. *geholfen*:   ARG-ST ⟨ NP[*ldat*]$_j$ ⟩

The participle of *schlafen* has no element in its ARG-ST list. Auxiliary and main verb form a verbal complex that simply does not take any arguments at all. *geholfen* selects for a dative argument. The dative is a lexical case and hence the case of the object of *helfen* is determined in the lexical item. It does not change in the passive.

The case of the SVO languages is more interesting. Impersonal passives are strictly ungrammatical in English.

(19) * There was slept.

Interestingly, they are possible in Danish. Danish inserts an expletive to fill the subject position. This expletive insertion is not restricted to passives but also applies to intransitives:

(20) a. at   der   ikke går   en mand på gaden
         that EXPL not walks a   man in street.DEF
         'that no man is walking in the street'

      b.
        add example

The examples are constructed with negation to make sure that we have an SVO structure and the expletive is not a positional expletive as is known from V2 structures in German and other languages.
references

   der is the subject in (20a) and *en mand* is in the position of the object.
   So, we have an interesting situation here: the passive lexical rule that blocks the subject licenses lexical items without a subject. Since general constraints for the distribution of arguments to the valence features for English and Danish require a subject, the passive of an intransitive verb is excluded. Danish has a way of fixing this by adding an expletive to the argument structure list of the passive participle and hence makes it usable in passive constructions:

(21) fordi   der   bliver arbejdet   (Danish)
      because EXPL is   worked
      'because there is working there'

To complete the picture of the Germanic languages: Icelandic is an SVO language but allows for subjectless constructions, as the following examples from Thráinsson (2007: 264) show.

(22) a. Oft   var talað um   þennan mann.   (Icelandic)
      often was talked about this   Mann.ACC.SG.M
      'This man was often talked about.'

   b. Aldrei hefur verið sofið í þessu rúmi.
      never has   been slept in this   bed.DAT
      'This bed has never been slept in.'

This means that the passive participle may be used right away in Icelandic without the insertion of an expletive.

5.3 Remote passive

The following examples pose an interesting challenge for grammatical theories. Höhle (1978: 175–176) observed that objects of German infinitives with *zu* appear in the nominative in certain contexts.

(23) a. daß er   auch von mir zu überreden versucht wurde[7] (German)
      that he.NOM also by me to persuade tried   AUX
      'that an attempt to persuade him was also made by me'

   b. weil   der   Wagen oft   zu reparieren versucht wurde
      because the.NOM car   often to repair   tried   AUX
      'because many attempts were made to repair the car'

The passive participle is *versucht*, but it is not an object of this verb that is realized as a subject but an object of a verb embedded below the participle. The question for theories assuming verb phrases rather than verbal complexes is: why is the object of *zu reparieren* moving to some place to be realized as subject? It could stay in the verb phrase as in (24) and get accusative there:

(24) a. weil   den   Wagen zu reparieren oft   versucht wurde
      because the.ACC car   to repair   often tried   AUX

   b. weil   oft versucht wurde, den Wagen zu   reparieren
      because often tried   AUX the.ACC car to   repair

Theories assuming a verbal complex with argument attraction have a straightforward account: *versuchen* is a verb that optionally forms a verbal complex. It can either enter verbal complexes or embed a complete VP as in (24). If it forms a verbal complex it selects an infinitive with *zu* and all the complements of this infinitive. In the active this would be *den Wagen* 'the car':

(25) weil   jemand   den   Wagen oft   zu reparieren versuchen
     because somebody.NOM the.ACC car   often to repair   tried
     wird
     will

Since a verbal complex is formed, *versuchen* attracts the object. This is specified in the lexical item for *versuchen*, so *den Wagen* is also an argument of *versuchen*. The subject of *zu reparieren* is coindexed with the subject of *versuchen*, since *versuchen* is a control verb (see Pollard & Sag 1994: Chapter 7 on control). The subject of *versuchen* and the object of both *zu reparieren* and also *versuchen*

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[7]Oppenrieder (1991: 212).

is realized as subject and object of the whole verbal complex. As such these elements are also arguments of *wird*. In this environment the first NP with structural case gets nominative and the second accusative. Hence, *jemand* is nominative and *den Wagen* is accusative.

Now, if the passive lexical rule applies to *versuch-*, the designated argument of *versuch-* is blocked. When the participle is combined with the passive auxiliary, the blocked argument is not deblocked, so the first element on the ARG-ST list of the auxiliary is the NP that is the object of *zu reparieren*. Since it is the first element with structural case, it gets nominative and hence the remote passive follows from verbal complex formation.

6 Verb first and verb second

The Germanic languages with the exception of English are verb second (V2) languages. This means that (almost) any constituent can be placed initially in front of the finite verb.

(26) a. Ich habe das Buch gestern   gelesen.   (German)
          I   have the book yesterday read
          'I have read the book yesterday.'

      b. Das Buch habe ich gestern   gelesen.
          the book have I   yesterday read

      c. Gestern   habe ich das Buch gelesen.
          yesterday have I   the book read

      d. Gelesen habe ich das Buch gestern,   gekauft hatte ich es aber
          read   have I   the book yesterday bought had   I   it but
          schon vor   einem Monat.
          yet   before a   month
          'I read the book yesterday, but I bought it last month already.'

      e. Das Buch gelesen habe ich gestern.
          the book read   have I   yesterday
          'I have read the book yesterday.'

(27) shows Danish examples with a fronted object and a fronted adverb:

(27) a. Bogen   læst hver   straks.   (Danish)
          book.DEF reads everybody promptly
          'Everybody reads the book promptly.'

      b. Straks   læst hver   bogen.
          promptly reads everybody book.DEF
          'Everybody reads the book promptly.'

As theses examples from German and Danish show, the property of being a V2 language is independent of the classification as SOV or SVO language: German is SOV and Danish is SVO. Note also that by just looking at the sentence in (27a), one could get the impression that Danish is an OVS language. This may be confusing at first encounter, but the two dimensions of classifying languages

SOV vs. SVO and V2 vs. non-V2 are independent and orders that can be derived by scrambling are irrelevant for the SOV, OSV, SVO, classification.[8]

English is not a V2 language, but there are frontings that are structurally similar to the V2 frontings:

(28) $Chris_i$, we saw $\_\_{}_i$.

The object of *saw* is not realized in the object position to the right of *saw* but to the left of the subject. English is called a residual V2 language (Rizzi 1990: 375), since there are some traces of earlier V2 patterns left in question formation. (29) shows an example:

(29) $[Which\ book]_i$ did Kim read $\_\_{}_i$?

The object is fronted and appears before the auxiliary. The subject is serialized to the right of the auxiliary.

The fronted constituent in English and the other Germanic languages is not necessarily from the same clause, but may depend on a deeply embedded element:

(30) a. $Chris_i$, [we think [Anna claims [that Sandy saw $\_\_{}_i$]]].

     b. Wer_i wohl   meint   er, dass $\_\_{}_i$ ihm seine Arbeit hier bezahlen
        who perhaps assumes he that   him his   work here pay
        werde?[9]   (German)
        shall

     c. $[Um$ zwei Millionen $Mark]_i$ soll   er versucht haben,
        around two million   Deutsche.Marks should he tried   have
        [eine Versicherung $\_\_{}_i$ zu betrügen].[10]
        an   insurance.company   to deceive
        'He apparently tried to cheat an insurance company out of two million Deutsche Marks.'

     d. $[Gegen$ $ihn]_i$ falle es den Republikanern hingegen schwerer,
        against him fall it the Republicans   however more.difficult
        [[Angriffe $\_\_{}_i$] zu lancieren].[11]
          attacks   to launch
        'It is, however, more difficult for the Republicans to launch attacks against him.'

This shows that these frontings are nonlocal dependencies. This means that movement or something equivalent has to be used to account for such frontings.[12] In Mainstream Generative Grammar, it is assumed that constituents are generated in their base-position and then they are moved to higher specifier positions until they finally end up in the position in front of the finite verb.

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[8]See Müller (2023b: Section 2.1) for a discussion of the methodology of Dryer (2013) to classify languages, which is based on counting patterns an determining the most frequent order. This method fails for the Germanic SOV languages, since the V2 phenomenon disturbs the counting.

[9]Paul (1919: 321). Paul provides two pages full of attested examples of extractions out of *dass* clauses.

[10]taz, 04.05.2001, p. 20.

[11]taz, 08.02.2008, p. 9.

[12]See Müller (2023c) and Müller (2023a) for a discussion of Dependency Grammar proposals.

The HPSG approach, which was originally developed in GPSG by Gerald Gazdar (1981), is similar, but it is representational. It is not the case that some structure is generated first and then changed, but a certain structure is licensed directly. A trace is assumed in the position in which the fronted element would be realized normally. This trace is not there because another constituent is moved from this position but it is a lexical item in its own right that just acts as a placeholder. Like a joker, it assumes all properties that are required in a certain local context. The information about the missing constituent is passed on to dominating nodes along the projection path until there is a filler higher up in the tree.

As was explained in Section 2, Germanic languages are classified as SVO or SOV languages. The examples in (26) are not in SOV order and neither are the Danish examples in (27). The general approach to V2 in the generative world in the broader sense, is that the finite verb is moved to a position before the rest of the clause and then one constituent is fronted. For SVO languages, this means that the finite verb is placed in front of the subject and then an argument or an adjunct can be put before the finite verb.[13] SVO and SOV languages are similar in forming yes/no questions by just fronting the verb:

(31) a. Liest$_i$ Conny das Buch __$_i$?
         reads Conny the book

      b. Læst$_i$ Conny __$_i$ bogen
         reads Conny   book.DEF

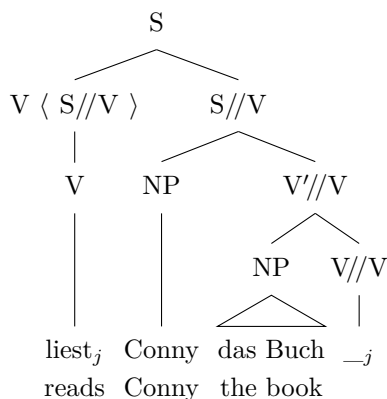The respective analyses are given in Figure 9 and Figure 10.

Figure 9: Analysis of verb position in German (SOV)

The analysis uses a lexical rule (or unary projection) that maps a verb as it would appear in non-verb-initial sentences onto a verb that selects for a clause with exactly this verb missing. (The analysis goes back to Jacobson (1987), who suggested a head-movement analysis for English in Categorial Grammar.

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[13]Note again that the explanation given here talks about movement in a certain order. While this is a good way to explain V2 sentences, there is nothing procedural/derivational about the HPSG analysis. Psycholinguistic experiments show us that language processing is incremental. So such a representational and non-derivational approach seems to be the right way to go.
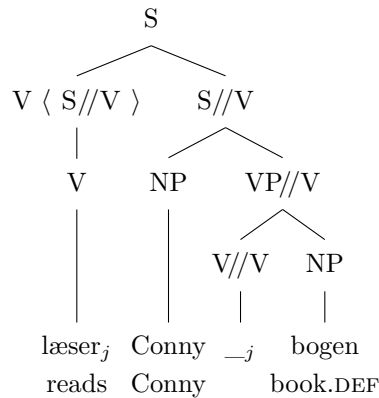
```
                        S
                 ┌──────┴──────┐
          V ⟨ S//V ⟩          S//V
               │         ┌──────┼──────┐
               V        NP          VP//V
               │         │        ┌────┴────┐
               │         │      V//V       NP
               │         │        │         │
            læser_j    Conny     _j       bogen
             reads     Conny            book.DEF
```

Figure 10: Analysis of verb position in Danish (SVO)

It was later adapted by Borsley (1989b) in a paper that showed how the Barriers conception of clause structure (Chomsky 1986) can be formalized in HPSG.) A trace fulfills the role of the verb in final position in Figure 9. The crucial part of the analysis is that the information about the properties of the trace are passed on along the projection path. This is marked with the double slash notation. The verb trace shares its features with the representation behind the double slash (//V), this is projected and the verb in initial position can select an S with a missing verb (S//V). Since the double slash information is identical with the properties of the verbal trace and identical to the verb in initial position, it is ensured that semantic information and information about valence is present at the trace.

This analysis of head movement has a nice property: the finite verb behaves the way complementizers behave. The complementizer *dass* 'that' in (32) selects for a verb final projection in the same way as the finite verb in initial position in Figure 9.

(32)   dass Conny das Buch liest
       that Conny the book reads
       'that Conny reads the book'

The only difference is that the complementizer requires a clause with an overt verb, while the fronted verb requires a clause with a missing verb, namely the verb that is input to the lexical rule. This captures Höhle's (1997) insight that finite verbs and complementizers form a natural class.

The analysis of verb second and fronting in general uses a similar device: there is a trace acting as a joker. It has unspecified syntactic and semantic properties. When combined with a head, the head and the rule used for combination impose properties on the trace and the information about what is missing locally is passed up the tree. As was shown above, the dependencies may be nonlocal, so this is a crucial difference in comparison to head-movement: head-movement information is passed upwards along the head path, while information about constituent fronting is passed on with a separate feature and this feature is passed on even across clause boundaries. Hence we distinguish between slash and double slash. The slash-based analysis of nonlocal dependencies goes back

to Gazdar's (1981) GPSG analysis.

Figure 11 shows the analysis of (33a) and Figure 12 shows the one of (33b):

(33)   a. Das Buch liest   Conny.   (German)
          the book reads Conny
          'Conny reads the book.'

       b. Bogen   læser Conny.   (Danish)
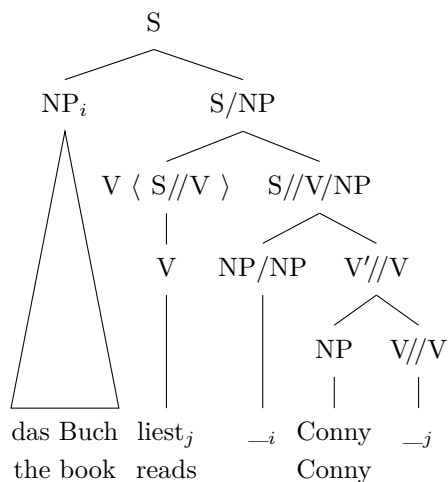   book.DEF reads Conny
          'Conny reads the book.'
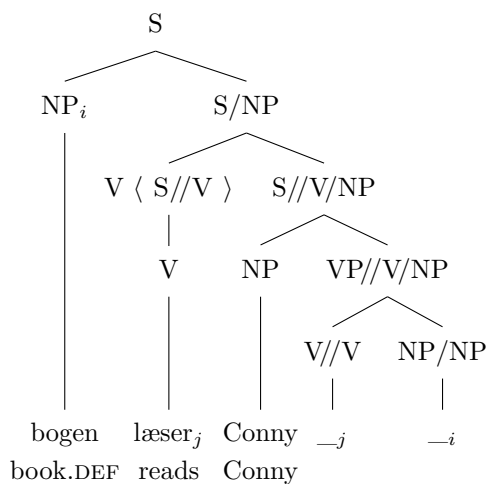

Figure 11: Analysis of V2 in German (SOV)

Figure 12: Analysis of V2 in Danish (SVO)

The figures show the combined analyses of verb "movement" (double slash: '//') and NP "movement" (slash: '/'). The interesting fact about the analysis

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is that nothing is actually moved, but information is shared. One effect is that constituents with head-movement or with extracted elements can be described and selected for. This is needed to account for extraction path marking effects (Bouma et al. 2001: Section 3.2). For example, Irish has complementizers that differ in form depending on whether they are combined with sentences with a gap or without a gap.

Another interesting property of this analysis is that it has an interesting account of Across the Board extraction (ATB; Ross 1967, Williams 1978: Section 4.2.4.1). Slash information is shared in coordinations and hence it is ensured that gaps appear in all conjuncts (Gazdar 1981: 173). Across the Board extraction is problematic for transformational accounts, since ATB extraction would require several constituents extracted from several subtrees to land in the same position (as in the analysis suggested by Lohnstein 2014: 183), something that is just technically impossible without extensions of the general mechanisms used in transformational theories.

It is interesting to note that those who work on formalization of Minimalist approaches (Stabler 2011, Torr & Stabler 2016, Torr 2019) also assume a slash-based analysis of nonlocal dependencies. See Müller (2023c: 177–180) for discussion.

7 Germanic syntax uncontaminated by information structure (or any other non-syntactic categories)

This paper dealt with the syntax of the Germanic languages. I followed here the view expressed by Fanselow (2003, 2006), Neeleman & van de Koot (2008), Struckmeier (2017: 3) and Haider (2021): syntax is about distribution of material and category formation. This is the classical view on syntax and it is assumed in all non-MGG frameworks. MGG has some variants like Cartography (Cinque & Rizzi 2010) that assume Topic phrase, Focus phrases but also Subject phrases and Object phrases, Speaker and Hearer phrases and so on. The phrases are not named according to their distribution but according to the elements that appear in their specifiers. All this is implausible as far as acquisition is concerned (Cinque & Rizzi 2010: 57 assume at least 400 innate categories among them categories like 'nation') and it comes with a host of technical difficulties (Haider 2021, Müller 2023b).

Information structure constraints can be stated with respect to syntactic structure (Engdahl & Vallduví 1994, 1996, De Kuthy 2021) and to prosodic information, but the three components are not conflated. Topic and focus are not syntactic categories. See also Kuhn (2007) on interfaces between syntax and other parts of the grammar. Theories like LFG and HPSG argue for a thight integration of grammatical knowledge, something that is nowadays known under the label of Parallel Architecture (Jackendoff 2007).

8 Outlook and summary

It was shown that Germanic languages can be classified into SVO and SOV languages. Yiddish is said to be of a third type. The SVO languages have a designated subject position, the SOV languages treat subjects and complements alike. SOV languages allow for scrambling, while this is more restricted in SVO languages. All Germanic languages allow for non-local dependencies and all Germanic languages except English are V2 languages. The passive has some variation as far as impersonal passives are concerned. SVO languages with the exception of Icelandic require the subject position to be filled. From this it follows that the passive of intransitive verbs is excluded (English). However, languages like Danish allow for the insertion of an expletive in sentences with passives and intransitives. This makes impersonal passives possible, provided an expletive pronoun is inserted.

The approaches that have been discussed here can be roughly grouped in two groups: those that assume that semantic roles are connected to certain positions in trees and those who assume a lexical encoding of argument structure in which the arguments are connected to semantic roles. Given that there are certain phrase structure schemata (Merge, $\overline{\text{X}}$-schemata, ID-schemata of HPSG), the lexical specifications stand for potential structure, while the first class of approaches refers to actual structure. I discussed scrambling, verbal complex formation, and passive and demonstrated for all these phenomena that the account relying on actual structure + movement runs into problems. There is also the question of how articulate a phrase structure is needed. Do we need IP or TP? Under Haider's view, which I follow here, the IP approach is not suitable for SOV languages. As I showed, assuming an IP required movement-based approaches to scrambling, which make wrong predictions.

Some of the analyses in Generative Grammar are just hopelessly complex (Kayne 1994, Laenzlinger 2004, Cinque & Rizzi 2010) and have to be rejected for reasons of acquirability. This is the Inverse Argument of the Poverty of the Stimulus. Due to space limitations and since this argument is sufficient, I did not go into further details with regard to these approaches, but see Haider (2021) and Müller (2023b) for discussion of technical problems of these approaches.

So, what has been proposed here is a minimal, distribution-based syntax of the Germanic languages that covers the core areas of constituent order, verbal complexes and the active-passive alternation.

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