

# V2 in first-language acquisition: early child grammars fall within the range of universal grammar<sup>1</sup>

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## *Abstract*

*The main objective of this paper is to show that young children infer grammars for the primary data on the basis of innate knowledge (universal grammar). The most interesting cases are intermediate grammars, which allow sentence structures that do not correspond to the experimental data (but to some other natural language) and disallow sentence structures that are grammatical with respect to the target grammar. The investigation concentrates on the setting of three parameters that are held to describe adult German, a V2 language: the Case parameter, the head-position parameter, and the finiteness parameter. It will be shown that bilingual as well as monolingual children may abduce "wrong" grammars, which, however, correspond to other V2 languages, like Yiddish, for example. One of the possible reasons for wrong choices within a parameterized grammatical system will be discussed, namely the confusing categorical status of complementizers.*

## **Introduction**

The concept of universal grammar (UG) has given the field of language acquisition a new and exciting direction. Perhaps the most important observation with respect to the UG hypothesis is that children come to know aspects of the respective input language(s) for which no direct evidence is available in the data: they know things subconsciously about binding relations, can identify paraphrases, etc. Another important salient fact about language acquisition is that children come to master a rich grammatical system rapidly, even explosively for some structural aspects of the respective input language(s), without making false assumptions or errors. The UG-constrained nature of early German child grammar will be the subject of this paper (cf. also Clahsen 1990; Clahsen and Penke

1992; Fritzenschaft et al. 1990; Meisel 1994; Penner 1994; Poeppel and Wexler 1993; Roeper 1992; Rothweiler 1993; Tracy 1991; Weissenborn 1990). The main goal will be to show that intermediate child grammars are constrained by UG, even in cases where child grammar generates or allows sentence structures that do not correspond to the input and disallows sentence structures found in the target language. I will address the question of what the underlying syntactic structure of German children's utterances might look like.

The paper is organized as follows: the first section considers the syntactic structure of adult German. It also covers a refinement of the distinction between A (argument) and A' (nonargument) positions and discusses how this fits into the descriptive framework of verb-second languages (henceforth V2).<sup>2</sup> Section 2 aims at giving a very sketchy overview of studies on the acquisition of German as a V2-language. Of course it is unavoidable that a selection must be made from the quantity of interesting work in this field. The presentation of my own research on the acquisition of German sentence structure is the topic of section 3. I will discuss, among other things, interesting constructions observed in the acquisition process of some children, namely V2 effects in German embedded clauses (where the subject immediately follows the finite verb). The assumption is that these children have chosen the wrong value of one parameter of UG for German. I will conclude the section with a brief discussion of the reasons for parameter missettings.

## 1. Theoretical preliminaries

### 1.1. Adult German

German is a verb-second language: the finite verb occupies the second position in main clauses, independently of the grammatical function of the constituent in first position.

- (1) das Buch hat er gelesen.  
the book has he read  
'he has read the book.'

In subordinate clauses, the finite verb appears clause-finally.

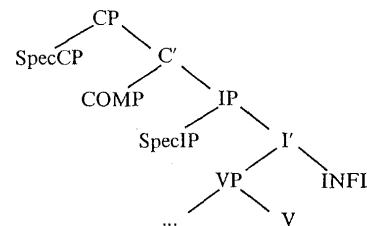
- (2) ich hoffe daß er das Buch gelesen hat.  
I hope that he the book read has  
'I hope that he has read the book.'

There are some exceptions to this regularity; *weil* 'because' and *obwohl* 'although' allow both verb-final and V3 orders (in spoken German; ... *weil er hat das Buch gelesen* 'because he has the book read' for example), *denn* 'since' disallows verb-final clauses.

Nonfinite verbs follow their complement(s) in both main and subordinate clauses (cf. examples [1] and [2]).

Within principles-and-parameters theory these facts about adult German are accounted for by two parameters: the head-position parameter, which is specified as "head-final" for the projections VP and IP, and an extension of the finiteness parameter (which specifies the distribution of finiteness; cf. Platzack 1983; Platzack and Holmberg 1989) whereby INFL is doubly instantiated in German, once IP-internally and once IP-externally in COMP. Head-final V is the position of the nonfinite verb in both main and subordinate clauses. The V2 property of main clauses is derived by movement of the finite verb into head-initial COMP, which is specified as INFL, and by movement of a maximal projection into Spec,CP. Raising of the finite verb into COMP is blocked in subordinate clauses introduced by a complementizer, since COMP already contains a lexical item;<sup>3</sup> the finite verb occupies the head-final INFL position.<sup>4</sup> This gives rise to the following structure:

### (3) German



Linguists have suggested that the components of INFL, TNS (Tense) and AGR(eement) may best be regarded as separate categories that project in syntax (cf. Chomsky 1989; Pollock 1989; Zubizarreta 1992, among others). This analysis raises many questions that still have to be answered, such as questions concerning the number, the internal structure, and the subcategorization relations of these verbal functional categories (cf. Iatridou 1990). Perhaps child grammars allow us to gain insight into these issues (cf. the syntactic trees developed in sections 3.1.1.1, 3.1.1.2, and 3.1.2.1).

## 1.2. A- and A'-positions

Chomsky (1981, 1986: 80) defines two types of positions for syntactic phrases (XPs), A-positions and A'-positions. A-positions are positions in which theta roles can be assigned in principle. Positions that are assigned a theta role are theta positions. Whether theta roles are in fact assigned depends on the choice of lexical items. In this sense, the Spec,IP position occupied by the subject may, under well-defined circumstances, be interpreted as an A-position without being a theta position. This is the case in raising constructions, for example. Positions that are not assigned grammatical functions such as subject or object are A'-positions, including the clause-external position Spec,CP and adjoined positions.

The A or A' nature of a syntactic position as proposed by Chomsky is a characteristic of the category involved: being an A-position or an A'-position is a static property of the respective category. In other words, the Spec,IP position is an A-position, even in those cases where no theta role is assigned. Furthermore, under Chomsky's conception of A- and A'-positions, the possibility of the existence of positions having a dual (A and A') status is excluded.

Turning to the definition of A-position first, proposals concerning the position of the clausal subject indicate that the notion of A-position is best divorced from that of theta position and defined independently instead. The class of theta positions seems to be included in the class of A-positions.

It has been suggested that the clausal subject originates in a position within the VP. "Move NP" moves the subject into its S-structure position, namely Spec,IP. Kuroda (1988) argues in favor of Spec,VP as the base position of the clausal subject (cf. also Rizzi and Roberts 1989). Sportiche (1988) suggests that the subject is a sister of VP at the level of D-structure, that is, in a VP-adjoined position. Ignoring the details of both analyses, these proposals have consequences for the definition of the Spec,IP position as an A-position since theta-marking of the subject applies within VP. How, then, can A-position be defined?

On the basis of her analysis of verb movement in Kru languages, Koopman (1984) suggests a more dynamic definition of A-position, where A-position is defined as any obligatory position, denoting theta-marked positions and case positions. Thus, Spec,IP is included in the class of A-positions, by virtue of (nominative) Case assignment.<sup>5,6</sup> In what follows, I will adopt Koopman's definition of A-position.

I will now turn to the possibility of having positions with a dual (A and A') status. The definition of A-position adopted here hinges on Case assignment. If we assume with Travis (1984) that Case assignment is

directional, the possibility of having specifiers that are interpreted as both an A-position and an A'-position in one language is excluded. Each specifier is available for either A- or A'-moved XPs. This view, however, has been disputed. The assumption that A'-movement is always external to the IP-system does not seem to be justified from a typological perspective. Researchers like Diesing (1990), analyzing Yiddish sentence structure, have expressed their doubts about the IP-system as a pure A-system. Apart from Yiddish there are other languages for which these doubts are reasonable: Hungarian (Horvath 1981), Hittian (Koopman 1984), and Quechua (Lefebvre and Muysken 1978), for example. The most important observations with respect to A'-movement are the following:

– In many languages wh-phrases do not form a syntactic constituent with the position that complementizers occur in. Lefebvre and Muysken (1978) show that wh-phrases appear clause-initially in Quechua, whereas complementizers are clause-final.

– There are some languages where topicalization of a nonsubject constituent is allowed in embedded clauses, giving rise to V2-effects (COMP-XP-V<sub>fin</sub>-S<sub>obj</sub>) as observed in Yiddish (as in [4u]) (Diesing 1990), Icelandic ([4b]) (Platzack 1992), and Old High German ([4c]) (Tomaselli 1991):

- (4) a. Ir zolt visn zayn, mayne libe kinderlekh, az vayn  
 you<sub>pl</sub> should know be my dear children that wine  
 ken men makhn fun troybn oykh  
 can one make from grapes also
- b. Jón sagði að þessa bók hefði ég átt að lesa.  
 John said that this book had I had to read
- c. ... dhazs dhar ist Christ chizechnit.  
 that there is Christ meant

In contrast to topicalization, movement of a wh-operator phrase is excluded in embedded clauses. In other words, only topicalization is compatible with an overt complementizer. This observation lends support to the conclusion that V2 in direct questions is the result of V-to-C movement across languages, while the nature of V2 in constructions created by topicalization may vary.

How can we account for the data in (4) and, more importantly, for the difference between topicalization and wh-question formation?<sup>7</sup> Reis and Rosengren (1988)<sup>8</sup> define A'-movement as movement of an XP into an A'-position. XP is further (lexically) specified as [-wh], indicating the syntactic XP-property, and as [+wh] if the XP is an operator. Operator phrases are treated as [-wh] XPs to which a specific lexical property has been added, namely the [+wh]-operator property. Topicalization and wh-question formation share the property that both

give rise to an A'-chain. They differ with respect to the types of phrases involved: topicalization is movement of a [-wh] phrase (*das Buch habe ich heute gelesen* 'the book have I today read') or a [+wh] phrase (quantifier) (*alle Kinder sieht sie* 'all children sees she'). Wh-question formation involves only [+wh] phrases. Furthermore, in contrast to topicalization (of a [-wh] phrase), which is motivated by pragmatic functions, wh-question formation has consequences for scope properties and as such must be visible for LF (cf. also Carroll 1981).

As outlined in Reis and Rosengren (1988), [+wh] phrases act out their property of taking scope depending on the sentence type (not in [+wh]-imperative formation). The authors suggest that the property of taking scope can best be captured by the [+wh] feature in the relevant clause-initial position (of the landing site), which is independently needed for defining the interrogative sentence type. To summarize, in addition to the features [-wh] and [+wh] of the moved XP the authors propose the specification of the respective A'-position as [-wh] or [+wh] (sentence scope). These distinctions are displayed in (5).

- (5)
- |                                     |                        |
|-------------------------------------|------------------------|
| [-wh] phrase into [-wh] A' position | topicalization         |
| [-wh] phrase into [+wh] A' position | nonexistent            |
| [+wh] phrase into [-wh] A' position | movement of quantifier |
| [+wh] phrase into [+wh] A' position | wh-question formation  |

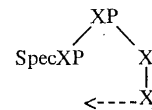
Given the distinctions listed in (5), there are two types of A'-positions: those specified as [-wh] and those marked as [+wh]. Extending this analysis to the IP-system of the languages mentioned above, we may argue that Spec,IP has a dual status (Diesing 1990). It functions as an A-position if the subject XP (which is assigned nominative Case) is moved into it and as an A'-position specified as [-wh] if it hosts a [-wh]-marked constituent (nonoperator XPs) or a [+wh]-marked quantifier; [+wh]-marked wh-phrases are excluded from Spec,IP by its specification as [-wh]. Note that Spec,IP as an A'-position differs from Spec,CP, since it is only the latter that can be marked as [+wh].

The question arises of what determines the dual status of Spec,IP. In other words, we have to explain why this position may not function as an A'-position in all natural languages. Rizzi and Roberts (1989) make use of the idea of directionality of Case assignment and suggest that in French INFL can assign nominative Case only leftward (hence the ungrammaticality of *a Jean lu le livre* 'has John read the book'), while in Germanic languages either direction of assignment is possible. We may formulate a parameter that incorporates this insight:

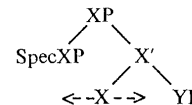
- (6) Case parameter: INFL assigns Nominative
1. directionally
    - a. to the right
    - b. to the left
  2. nondirectionally

French — a non-V2 language — chooses option 1(b) of the Case parameter. German and Yiddish choose option (2). These choices give rise to the configurations (7a) and (7b) respectively:

- (7) a. French



- b. German/Yiddish



In other words, Spec,IP may only function as an A'-position in languages where nominative Case is assigned nondirectionally.

In a language like German where INFL is instantiated in COMP, Spec,CP has the dual A/A'-status (i.e. V2 is the result of V-to-C movement across the board). In a language like Yiddish where INFL is not instantiated in COMP, it is the Spec,IP position that functions both as an A-position and as an A'-position (i.e. V2 [topicalization] is the result of V-to-I movement).

Cross-linguistic variation may thus be captured by the following parameters:

- (8)
- | Case parameter             | Finiteness parameter      | Head parameter    |
|----------------------------|---------------------------|-------------------|
| French Nom leftward        | INFL IP-internal          | INFL head-initial |
| German Nom nondirectional  | INFL IP-internal/external | INFL head-final   |
| Yiddish Nom nondirectional | INFL IP-internal          | INFL head-initial |

The common denominator of V2 languages then is the conflation of the A and the A' system (partial, as in Yiddish, or complete, as in German).

In what follows, I will show that children acquiring German explore the range of possibilities offered by UG for analyzing V2 constructions.

## 2. V2 in the acquisition of German: some uncontroversial findings

When we look at the acquisition of German word order in monolingual and bilingual children we find considerable variation with respect to verb placement. Many researchers, Clahsen (1982, 1986) among them, have observed that the dominant word order in main clauses involves the placement of the verb in final position during early developmental phases; *hier buch vorlesen* 'here book out-read'.<sup>9</sup> However, as outlined in Mills (1985), it is not clear that the verb-final order is an error since it is a regularity of adult German. Although the number of deviant (from the view of the target system) verb-final patterns drops significantly during later developmental phases, it does not completely disappear. For example, Tracy (1994) reports on a monolingual child, Valle, who uses root wh-questions where the finite verb is placed clause-finally; *wo der peter hinsitzt?* 'where the Peter down-sits' (cf. also Penner 1994); compare also declarative clauses such as *schiff jetzt fährt* 'boat now goes' (Clahsen 1982).

A number of researchers have observed that the pattern  $S_{ubj}-V_{fin}-XP$  is predominant during later developmental stages (from approximately age 2;0,<sup>10</sup> onward). However,  $XP-V_{fin}-S_{ubj}$  orders are also attested from then on, mostly with locatives, temporals, and wh-phrases (*wo* 'where') in clause-initial position (cf. Gawlitzek-Maiwald et al. 1992; Meisel 1986, 1990, 1994; Müller 1990, 1993; Penner 1992; Tracy 1991; Verrips and Weissenborn 1992; Weissenborn 1990, among others). Fronting of a nonsubject constituent sometimes results in a V3 ( $XP-S_{ubj}-V_{fin}-[YP]$ ) pattern: *da auch einer füttert pferde* 'there also someone feeds horses'. A considerable amount of individual variation has been observed with respect to the frequency of usage of V3 patterns (Meisel 1986).

Although there is much dispute concerning the underlying syntactic structure of the mentioned surface structures, nearly all researchers agree that V2 patterns (where the subject appears in the position immediately following the finite verb) emerge early and that V2 is not obligatory in child grammar.

The next step is the integration of subordinate clauses introduced by complementizers. The most important observation is that the productive use of such subordinate clauses coincides with the discovery of V2 as an obligatory property of German. Note also that the placement of finite verbs in subordinate clauses is supposed to be an area of error-free acquisition (Clahsen 1982, 1986, 1990; Rothweiler 1993), in contrast to the continuous development observed for main clauses (but cf. section 3.1.2).

## 3. The data

I analyzed data from monolingual German and bilingual German/French and German/Italian children. The monolingual data are taken from Stern and Stern's (1928) diary study and from published material of a research project at the University of Tübingen (d'Avis and Gretsck 1994; Fritzenschaft et al. 1990; Fritzenschaft and Gretsck 1992; Gawlitzek-Maiwald et al. 1992). The data from the bilingual German/French children originate from the longitudinal DUFDE study (Deutsch Und Französisch — Doppelter Erstspracherwerb 'German and French — Simultaneous First Language Acquisition') (Meisel 1986, 1990, 1994; Meisel and Müller 1992; Müller 1990, 1993; Müller and Penner 1994; Penner and Müller 1992).<sup>11</sup> The data from the bilingual German/Italian children are taken from Taeschner (1983).

(9) The children	
monolingual children	Günther (Gü) Hilde (Hi) Benny (Be)
bilingual German/French	Caroline (Ca) Ivar (Iv) Pascal (Pa)
bilingual German/Italian	Giulia (Gi) Lisa (Li)

In what follows, I want to focus on Ivar's acquisition of German, and I will use the data from the other children for the purpose of comparison.<sup>12</sup>

### 3.1. Two major developmental phases in the acquisition of German

Ivar and the other monolingual and bilingual children studied here pass through roughly two major developmental phases with respect to the acquisition of German as a V2 language.<sup>13</sup> The first major phase is characterized by<sup>14</sup>

- the absence of overt complementizers in subordinate clauses (Fritzenschaft et al. 1990; Müller 1993, 1994; cf. also Penner 1990, 1992; Rothweiler 1993; Tracy 1991; Weissenborn 1990, among others);
- the absence of object topicalization (cf. also Weissenborn 1990);<sup>15</sup>
- root-constituent questions deviating from the corresponding structure in the adult language (cf. also Penner 1994; Tracy 1991, 1994).

These observations about early child language have been interpreted as evidence in favor of the hypothesis that the CP is absent in child

grammar during this developmental stage (Clahsen 1990; Gawlitzek-Maiwald et al. 1992; Meisel and Müller 1992; Penner 1990; Radford 1987; Roeper 1992, among others). This view, however, has been disputed. Under the approach outlined in Hyams (1992), Poeppel and Wexler (1993), and Valian (1992), among others, the CP is available from the very beginning of language development. This research focuses on the constructions used by the children that are described as CP-structures in the adult system, *wo* 'where' questions for example.<sup>16</sup>

Penner and Müller (1992) and Müller and Penner (1994) argue that the way to make progress on this issue is not to reduce it to a yes-no question. Instead, it is necessary to explore the way the young child makes use of the CP. Their analysis of children's early subordinate clauses in German, Swiss German, and French reveals that the C-projection is available in subordinate clauses by the age of approximately two years. One piece of evidence in favor of this view is that children use dummy place holders (DPL) in early subordinate clauses in the position of the complementizer, as in *will de tasse holen mm wasser trinken kann* (Gü) 'want the cup take DPL water drink can'. Dummy place holders are undifferentiated lexical items like the schwa sound and nasals, reduced forms like *weil* 'because', or forms that have a correspondence in the target language like the adverbial *da* 'there'.<sup>17</sup> Furthermore, the children use only a subset of possible subordinate clauses in German, namely adjunct clauses (e.g. adverbial and relative clauses). The authors stress the fact that the children are sensitive to the features needed for subordination (which are [REF] [referentiality] and [Q] [question] in their framework).<sup>18</sup> Apart from the observations already mentioned this is supported by the lack of strict subcategorization errors during later developmental phases. Of course this account of the phenomena is limited to the structures the children actually use. The final observation to be explained is why the children do not use targetlike complementizers but, instead, nonspecified or underspecified place holders. The claim is that although the CP is available during the early stage it cannot be lexically instantiated by inserting the lexical items required by the target language since the instantiation that are involves features that are still absent in child grammar, the feature involved in operator-variable relations (cf. also Roeper and de Villiers 1992) and INFL in COMP. Both are inherent features of COMP.

In contrast to subordinate clauses, where the C-position has features assigned from outside (by the matrix verb), main clauses are not assigned any features. Since the inherent features of C are still lacking, it is argued that, consequently, the CP is not projected in main clauses (cf. Rizzi 1992 for a similar view).

The main characteristic of the second developmental phase is that the children use targetlike complementizers. At this point of development child grammar starts to converge with adult grammar. There is evidence for object topicalizations and targetlike root-constituent questions.

Researchers have looked at languages other than German and have come up with very similar observations. The results of this research strongly suggest that changes in child grammar are directly related to changes within the C-system. Investigations of the way in which the C-system develops promise important insights with respect to language development in general.

In the next sections I will consider the setting of the three parameters presented in section 1, the Case parameter, the head-position parameter, and the finiteness parameter, by the bilingual child Ivar. I will argue that his intermediate grammars fall within the range of UG, and, in particular, even in cases where he "constructs" a grammar that excludes certain structures although they would be grammatical in the target language and fails to exclude others that the target language does not allow. The hypothesis is that Ivar chooses the wrong value of the finiteness parameter for German. In fact, the resulting grammar is a natural language that shares some properties of adult Yiddish.

The first part of the analysis deals with the first major developmental phase in child language development. I will focus on the usage and structure of main clauses. The second part discusses the second major developmental phase and in particular the acquisition of embedded clauses.

### 3.1.1. V2 in German main clauses

3.1.1.1. The Case parameter: Spec,IP as an A-position and an A'-position. During the first developmental phase, which extends to the age of 2;11, Ivar mainly uses  $S_{\text{obj}}-V_{\text{fin}}-XP$  patterns. However, as early as 2;3, there is evidence for the first V2 patterns where the subject immediately follows the finite verb, namely  $XP-V_{\text{fin}}-S_{\text{obj}}$ . To illustrate:<sup>19</sup>

- (10) a. da war das (2;3,5;Iv).  
there was it  
'it was THERE.'
- b. hier is des (2;4,9;Iv)  
here is it  
'it is HERE.'
- c. wo is deddy? (2;4,9;Iv).  
where is teddy  
'where is the teddy?'

- d. je[s], je[s] geht dc(r) drin (2;7,17;Iv).  
 now now goes it inside  
 'it goes inside NOW.'
- e. so geht des (2;7,17;Iv).  
 like this goes it  
 'it goes LIKE THIS.'

V2 constructions where the first constituent is an element other than *jetzt* 'now', *so* 'like this', *da* 'there', *hier* 'here', or *wo* 'where' are very rare in Ivar's data. However, they do sometimes appear:<sup>20</sup>

- (11) a. Kaputt is der (2;4,9;Iv).  
 broken is it  
 'it is BROKEN.'
- b. mit der pyjama kann ich rausgehn (2;10,11;Iv).  
 with the pyjama can I out-go  
 'I can go outside WITH THE PYJAMA.'

The following restriction can be observed: the nonsubject constituent in the first position of V2 constructions is never a quantifier phrase such as *alle Kinder* 'all children' or an indefinite NP.

Interestingly enough, Ivar employs V1 patterns. The sentences of (12) correspond to topic-drop constructions in adult German (Rizzi 1992).

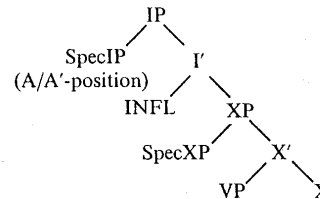
- (12) a. kann man rein [ato] (2;5,7;Iv).  
 can one inside car  
 'we can put the car inside.'
- b. wolln wir nich (2;6,6;Iv).  
 want we not  
 'we don't want it.'
- c. ham wir noch eine lücke (2;10,11;Iv).  
 have we another hole  
 'there we have another hole.'

The subject is thus placed not only in clause-initial position ( $S_{\text{subj}}-V_{\text{fin}}-XP$ ), but also in the position immediately following the finite verb. There are also constructions in which the same subject occupies both positions, the one immediately preceding the finite verb and the one immediately following it; *i bin i ein hirsch* (2;7,17;Iv) 'I am I a deer'. Pascal and Caroline also use subject-copying constructions: *du nimmst du 'ne blaue* 'you take you a blue (one)' and *wir wolln wir, eine kutsche machen* 'we want we a cab make'.

Constructions such as (10a)–(10e), (11a)–(11c), and (12a)–(12c) indicate that Ivar has discovered the V2 property of German. This property

is related to the correct setting of the nominative Case parameter for German, which corresponds to the value "nondirectional." Nominative Case may thus be assigned or checked in two positions, Spec,IP and Spec,AGRP, as proposed in Meisel and Müller (1992).<sup>21</sup> The authors present a syntactic analysis of V2 constructions based on the "split INFL hypothesis," according to which some INFL features are held to be independent heads (Chomsky 1989; Pollock 1989; for child grammar cf. Clahsen 1990; Clahsen and Penke 1992). They suggest that Ivar's grammar and that of the other children (Caroline and Pascal) contain two verbal functional categories (above VP), which they call AGR<sup>22</sup> and INFL.<sup>23</sup> Furthermore, they argue in favor of Pollock's analysis, namely that INFL dominates AGR.<sup>24</sup> The sentence structure for German has the form in (13) in child grammar, where AGRP is written as XP (for a discussion see note 22).

(13) German



Of particular interest for the issue under discussion, namely the V2 property, is the proposal that Spec,IP has a dual status, hence the child's IP-system and the IP-system found in adult Yiddish are identical (Müller 1990, 1993).  $S_{\text{subj}}-V_{\text{fin}}-XP$  patterns and V2 constructions like  $XP-V_{\text{fin}}-S_{\text{subj}}$  can be accounted for by postulating that Spec,IP may host both subjects and nonsubject constituents.

As the following discussion will show, child grammar still differs significantly from adult German. Root questions deviate from the adult system with respect to the position of the finite verb (some children use verb-final root wh-questions: Penner 1994; Tracy 1991, 1994) and with respect to their interpretation as questions (Penner 1994), that is, syntactically and semantically. Ivar's root questions are restricted to the wh-words *wo* 'where' and *was* 'what' (in constructions such as *was is das?* 'what is it?', which are rote-learned). Although they always display the correct V2 pattern, there is very little doubt that these questions are not instances of operator-variable relations where an operator A'-binds a variable. The following observations offer evidence for this assumption:

- Wh-operator phrases are completely absent in embedded clauses (cf. Penner and Müller 1992); consider the contrast in (14):

- (14) a. i muß i muß fragen mama ha-hat hat die  
I must I must ask mummy has has the  
k[j]ebe (2;10,11;Iv).  
glue  
'I have to ask Mummy where she has (put) the glue.'  
b. wo is der auto? (2;8,18;Iv).  
where is the car

Compare also examples from the other children:

- (14) c. guck mal ich hab, hab ich (2;6,22;Ca).  
look once I have have I  
'look what I have.'  
d. wo is mein auto (2;7,6;Ca).  
where is my car  
e. papa sieh mal hilde emacht hat (2;6;Hi).  
daddy look once Hilde done has  
'Daddy look what Hilde has done.'  
f. wo is 'n dein taschentuch? (2;6;Hi)  
where is then your handkerchief  
'where is your handkerchief?'  
g. eisenbahn, güterzug Rauch haus is (2,6;Gü).  
train goods train smoke out is  
'a goods train where smoke comes out.'  
h. wo is 'n de puppe (1;4;Gü).  
where is then the doll  
'where is the doll.'

- Wh-words other than *wo* (and *was*) are absent, in particular wh-constituent questions like *welches Kind hast du gesehen?* 'which child have you seen?'

- Fronting of nonsubject quantifier phrases like *alle*<sub>[pl]</sub> *männer* 'all men' or *alles*<sub>[sg]</sub> *tiere* (= alle Tiere) 'all animals', which Ivar already uses (and of indefinites, cf. Diesing 1992 for an analysis of indefinites), is not attested.

In Reis and Rosengren's (1988) framework, we may account for these observations by using the distinction between the [-wh] feature and the [+wh] operator feature. Note that the data indicate that Ivar and the other children are sensitive to both features. As a result, they treat quantifier phrases differently from [-wh] phrases, for example; in con-

trast to the latter, the former are never fronted. The [+wh] feature is not absent, then, but it cannot be licensed in child syntax.

Given these observations, I want to propose that we are indeed dealing with an A'-position in the case of Spec,IP and that A'-movement is available in child grammar. However, child grammar lacks movement operations that involve the [+wh] feature. Clearly, though, operations that involve the XP-property [-wh] are attested in the data. The most interesting consequence is that the result is a grammar that corresponds to adult Yiddish in this respect, where topicalization is not in complementary distribution with a complementizer.<sup>25</sup>

Unless we want to analyze the early *wo* questions as rote-learned constructions (cf. Müller 1990, 1993 for a discussion of this issue), the important question that remains to be answered is what their structure is. This is still a controversial issue, but there is little doubt that the analyses of *wo* questions in child grammar differ from their adult counterpart. I want to suggest that *wo* is base-generated in Spec,IP in child grammar. More specifically, *wo* questions would not involve an A'-chain as in adult grammar; that is, the child assumes the following structure: [<sub>IP</sub> wo is<sub>j</sub> [<sub>XP</sub> der auto<sub>i</sub> [<sub>VP</sub> e<sub>i</sub> e<sub>j</sub>] e<sub>j</sub>]]. Semantically, *wo* is used correctly by the child, as a question word. Syntactically, however, *wo* is not analyzed as an operator phrase and as such is allowed in the Spec,IP position.

A close investigation of the data from Ivar reveals that the nonmovement approach to *wo* questions is very plausible.

Failure to move a wh-phrase in adult German results in an echo-question interpretation (A: *Sie aß Äpfel und Birnen*. 'She ate apples and pears'. B: *Sie aß WAS?* 'She ate WHAT?'). Furthermore, in many languages fronting of the wh-phrase is truly optional in the sense that failure to move still results in a wh-question interpretation, for example in French (*Elle a vu qui?* 'She has seen whom?'). Interestingly enough, *wo* and *où* 'where', which Ivar and the other children already use, are always placed clause-initially, even in the French data. The nonmovement approach outlined here allows us to make the prediction that *wo* and *où* are never found in more than one syntactic position.

Note that in contrast to *wo*, *da* 'there' is placed in more than one syntactic position, even within the same sentence. Consider the examples in (15).

- (15) a. da der muß da (2;9,18;Iv).  
there it must there  
'there it has to go'  
b. und da muß noch ein bauklotz aber da (2;10,24;Iv).  
and there must another brick but there  
'and there we have to put another brick.'



- c. da is ein bobo da (2;7;Pa).  
there is a hurt there  
'there is a hurt.'
- d. das-da is knochen da (2;10,13;Pa).  
it-there is bone there  
'there is a bone.'

Apart from  $S_{\text{ubj}}\text{-}V_{\text{fin}}\text{-XP}$ ,  $\text{XP}\text{-}V_{\text{fin}}\text{-}S_{\text{ubj}}$ , and  $V_{\text{fin}}\text{-}S_{\text{ubj}}\text{-XP}$ , Ivar also uses the deviant pattern  $\text{XP}\text{-}S_{\text{ubj}}\text{-}V_{\text{fin}}\text{-}(YP)$  (from the point of view of the target system) in his German main clauses. This pattern is quite frequent, as shown in Figure 1. Some examples are given in (16):

- (16) a. das ivar mat (2;6,6;Iv).  
this Ivar makes  
'Ivar makes THIS ONE.'
- b. jetzt der zaun teht (2;7,17;Iv).  
now the fence stands  
'the fence is put up NOW.'
- c. die du kannst essen (2;8,15;Iv).  
these you can eat  
'you can eat THESE.'
- d. un je[s] der ißt dadrauf (2;9,5;Iv).  
and now it eats there-on  
'AND NOW it eats on it.'

This pattern shows up in French as well, where it represents an option of the adult language. To illustrate:

- (17) a. ça on met (2;5,7;Iv).  
this one puts  
'we put THIS ONE.'
- b. ici on peut dormir (2;5,7;Iv).  
here one can sleep  
'we can sleep HERE.'
- c. après on va dormir (2;8,15;Iv).  
afterwards one will sleep  
'we will sleep AFTERWARDS.'
- d. là je sors son-ton pied (2;9,18;Iv).  
there I take out his-your foot  
'I take out your foot THERE.'

With this in mind, we must now address the question of whether the usage of  $\text{XP}\text{-}S_{\text{ubj}}\text{-}V_{\text{fin}}$  patterns in German is due to Ivar's bilingualism.

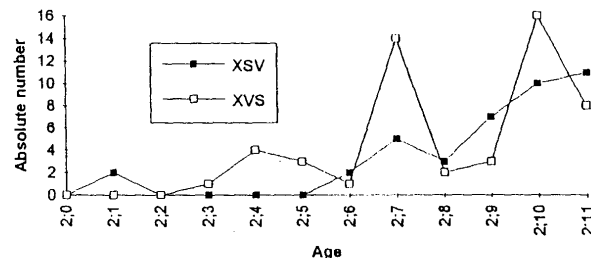


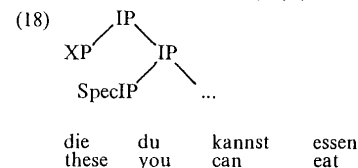
Figure 1. Absolute number of XSV in relation to XVS in IVAR

Does he apply the French option to both grammatical systems? The transfer hypothesis faces various problems. It is not plausible for the following reasons:

- Monolingual German children use  $\text{XP}\text{-}S_{\text{ubj}}\text{-}V_{\text{fin}}\text{-}(YP)$  patterns as well (cf. section 2).

- As soon as Ivar starts to use complementizers (during the second developmental phase at 3;0)  $\text{XP}\text{-}S_{\text{ubj}}\text{-}V_{\text{fin}}\text{-}(YP)$  patterns disappear completely. The presence of V3 patterns in German seems to be related, then, to the nonavailability of the CP level in main clauses during this first developmental stage.

In Müller (1993) I have suggested that the topicalized element in root V3 constructions is adjoined to the highest functional projection available, that is, to IP, as shown in (18) (cf. also de Villiers 1991 for English).



The IP-adjoined position functions as an A'-position, thus hosting non-subject constituents such as *die* 'these' in (18).<sup>26</sup>

Adjunction to IP is an option of UG. In languages like English and French the surface string "that/que- $\text{XP}\text{-}S_{\text{ubj}}$ " is grammatical, depending on the categorial nature of XP (cf. examples below, which are taken from Baltin 1982: 17-19 for English and French; cf. also Carroll 1981: 180 for French). To illustrate:

- (19) a. it's obvious that Mary, he can't stand.  
 b. tout le monde sait qu' aujourd'hui tu viens pas.  
 everybody knows that today you come not

3.1.1.2. The head-position parameter. The next parameter to be studied is the head-position parameter. Meisel and Müller (1992) argue that Ivar has set the head-position parameter to the correct value for German during this developmental phase, which corresponds to "head-final" (cf. the structure in [13] for German).

Interestingly enough, Ivar uses verb-final patterns in German main clauses from early on. This also holds for the other bilingual and the monolingual children. For example,<sup>27</sup>

- (20) a. ivar buch buch liest (2;4,7;Iv).  
 Ivar book book reads  
 'Ivar reads the book.'  
 b. de da der alle is (2;8,15;Iv).  
 this there this finished is  
 'this one there is finished.'  
 c. da so macht ( = der) (2;2,12;Pa).  
 it like this goes  
 'it goes like this.'  
 d. ich ich wie hol ( = wieder) (2;4,21;Pa).  
 I I back get  
 'I get it back.'  
 e. diese da drauf is (2;10;Ca).  
 this one there on top is  
 'this one is there on top.'  
 f. diese deckel (steht) (2;10;Ca).  
 this one cover stands  
 'this one stands on the cover.'  
 g. puppe ein loch hat (2;5;Hi).  
 doll a hole has  
 'the doll has a hole.'  
 h. tanten wieder mitkommen (2;8;Hi).  
 aunts again with-come  
 'the aunts join us again.'  
 i. ich andern semmel eßt (2;9;Gü).  
 I other roll eat  
 'I eat another roll.'  
 j. elet e heiß is (2;10;Gü).  
 tray hot is  
 'the tray is hot.'

Furthermore, Ivar's corpus contains constructions where the same finite verb appears twice, initially and finally.

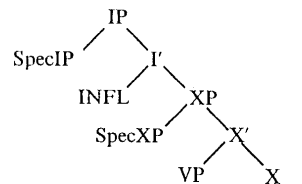
- (21) a. und macht boum macht (2;6,6;Iv).  
 and goes bang goes  
 'and it goes bang.'  
 b. jetzt sagt der das sagt (3;3,12;Iv).  
 now says he that says  
 'now he says that.'

Other constructions contain a finite auxiliary verb in the leftmost verbal position and a finite main verb in the clause-final position.<sup>28</sup>

- (22) a. kann nich [s]ornstein fährt (2;5,7;Iv).  
 can not chimney drives  
 'it cannot drive with a chimney.'  
 b. so geht der frißt (2;7,17;Iv).  
 like this goes it eats  
 'it eats like this.'

As outlined in Meisel and Müller (1992) and Müller (1990), the constructions mentioned above have the syntactic structure in (23):

(23) German



ivar			buch	liest
jetzt	sagt	der	das	sagt
so	geht	der		frißt

Ivar's grammar of German and that of the other children thus contain a head-final verbal functional category (for an extensive discussion of this issue cf. Müller 1993).

Before I investigate V2 phenomena in German subordinate clauses, let me briefly summarize the most important findings. The main goal was to show that early child grammar is constrained by UG. One of the observations that was taken to verify this hypothesis is that children construct intermediate grammars that allow sentence structures that do

not correspond to the experiential data but to other natural (existing) languages instead. Furthermore, I have argued that for both parameters, the Case parameter and the head-position parameter, the correct values have been chosen. I will now proceed to the discussion of the finiteness parameter.

### 3.1.2. V2 in German subordinate clauses

3.1.2.1. The finiteness parameter. In contrast to the other two bilingual children studied, Caroline and Pascal, Ivar uses wrong word orders in his subordinate clauses.<sup>29</sup> The finite verb shows up in the position immediately following the subject, that is, in third position in the presence of a complementizer. Consider the examples in (24).

- (24) a. [vis] du war bibi (= als) (3;1,24;Iv).  
when you were baby  
'when you were a baby.'
- b. erst wenn wir sind fertig mit das (3;4,9;Iv).  
first when we are ready with it  
'not until we have finished it.'
- c. du wif[n] daß mamma nimm das weg ne? (3;7,17;Iv).  
you want that Mummy take it away right  
'you want that Mummy takes it away right?'
- d. guck mal wie des is groß (3;8,1;Iv).  
look once how this is big  
'look how big this is.'
- e. sagen wir mal daß das is ein baum (3;10,25;Iv).  
say we once that this is a tree  
'let's say that this is a tree.'

First targetlike complementizers appear at 3;0. Until 4;4, only 7 (4%) of the 167 subordinate clauses are verb-final. As outlined in Müller (1993, 1994), Ivar has set the finiteness parameter to the wrong value for German, which means that INFL is not instantiated IP-externally in COMP. This setting predicts that the presence of a complementizer does not prevent the finite verb from moving into the (structural) V2 position in his grammar.

One explanation for the usage of wrong word orders may be Ivar's bilingualism. Embedded clauses in adult and Ivar's French are not verb-final, and the child may transfer this knowledge into his German grammar; that is, the child assumes the French sentence structure to be valid for French and German. In what follows, however, I will show that Ivar's

grammar of German resembles adult Yiddish and that we are not dealing with transfer.

The corpus also contains examples for V2 effects in embedded clauses (COMP-XP-V<sub>fin</sub>-S<sub>obj</sub>[YP]). V2 topicalization thus is compatible with a complementizer in Ivar's grammar of German, as compared to adult Yiddish. To illustrate:

- (25) a. wenn da komm andere schiffe dann gehn die  
when there come other bouts then go these  
dagegen (3;4,23;Iv).  
there-against  
'when other boats come there then they run against this one.'
- b. ... daß dann sagt er ... (3;5,7;Iv).  
that then says he  
'that he says then ...'
- c. weiß du warum da sind so böse tiere (4;4,21;Iv).  
know you why there are such vicious animals  
'do you know why there are such vicious animals.'

Constructions like those in (25) are absent in the French data from Ivar (and in the adult language). Under the transfer hypothesis the absence of constructions like (25a)–(25c) would be quite surprising since adult French does have residual V2 in main clauses (subject-clitic inversion) and Ivar also uses this pattern in French main clauses during the second developmental phase. The same observations apply to monolingual French children (Müller 1993; Weissenborn 1990).

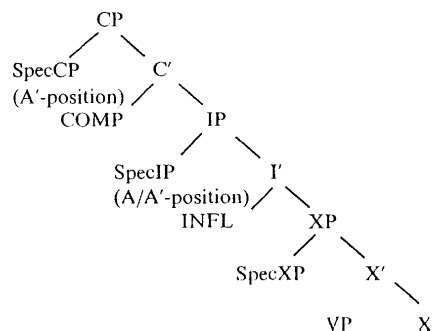
Again, Ivar's corpus contains examples of copying effects in subordinate clauses where the finite verb is placed in the V3 position and clause-finally, *wenn da sind eh da sind [n]öwen sind ...* (3;4,23) 'when there are lions are'. Finite verbs in clause-final position are absent in the French data.

Ivar's sentence structure for German has the form in (26) (for an extensive discussion of the differences between Ivar's German and French grammar cf. Müller 1993).

In addition, Ivar is not the only child who produces wrong word orders in German subordinate clauses. The two German/Italian bilingual children Lisa and Giulia, studied by Taeschner (1983), also make productive use of word orders that can be found neither in adult German nor in adult Italian. They sometimes place the finite verb in the position immediately following the complementizer, as shown in (27).

- (27) a. ja guck was ham die gemacht (Li).  
yes look what have they done  
'Look what they have done.'

(26) German



daß mama ninu das weg  
 daß dann sagt er  
 wenn da sind löwen sind

- b. wenn hast du alles das hier gelesen, kriegt du das  
 when have you all this here read get you this  
 hier (Li).  
 here  
 'when you have read all this then you get this one here.'

At the same point of development the children use both the pattern COMP-S<sub>obj</sub>-V<sub>fin</sub>-XP as in *wenn lisa ist schön brav ...* (Li) 'when Lisa is nice', and the targetlike verb-final pattern.

Most importantly, Fritzenschaft et al. (1990) report on a monolingual child, Benny, who uses the same deviant patterns as the German/Italian bilingual children for a period of ten months.

(28) COMP-S<sub>obj</sub>-V<sub>fin</sub>-XP

- a. will die meerjungfrau haben daß du has net die  
 want the mermaid have that you have not the  
 meerjungfrau (3;0,19;Be).  
 mermaid  
 'I want to have the mermaid so that you won't get it.'
- b. du wenn des dreht sich was tut's dann? (3;2,26;Be).  
 you when it turns itself what does it then  
 'when it turns what is it doing then?'

- c. weil du hast das gesagt (3;2,29;Be)  
 because you have it said  
 'because you have said it.'

COMP-V<sub>fin</sub>-S<sub>obj</sub>-XP

- d. wenn hab ich geburtstag habt ... (3;1,4;Be).  
 when have I birthday had  
 'when I had birthday ...'
- e. weil hast du das doch gesagt (3;2,29;Be).  
 because have you it really said  
 'because you really have said it.'
- f. weißt du wer geht jetzt daraus? (3;6,2;Be).  
 know you who goes now there-out  
 'do you know who goes out of it now?'

Again, as in the case of the (German/Italian) bilingual children, the targetlike verb-final pattern is used during the same period.

- (29) a. weil sie dann noch ein kleines mädchen war (3;2,0;Be).  
 because she then still a small girl was  
 'because she still was a small girl at that time.'
- b. ich freue mich daß es nicht regnet (3;2,26;Be).  
 I am glad that it not rains  
 'I am glad that it does not rain.'
- c. jetzt guck mal de wauwau rein ob de ritter  
 now look once the doggy inside whether the knight  
 hoch drinne is (3;6,2;Be).  
 high inside is  
 '... and check whether the knight is high up inside.'

The most interesting cases for the purpose of this paper are instances of the order COMP-V<sub>fin</sub>-S<sub>obj</sub>-XP. This order is found in adult Afrikaans, as in (30a) (du Plessis 1986), and in Welsh, (30b) (Pollard 1991), among others.<sup>30</sup> In other words, it represents an option of UG.

- (30) a. ek het gewonder wat het hy gelees.  
 I have wondered what has he read
- b. dywedodd Gwyn y gwelodd ef y bechgyn.  
 said Gwyn that saw he the boys

One may object at this point that child grammar, exhibiting a great range of possibilities, simply appears to be unconstrained in the sense that "everything is possible."

There is in fact empirical evidence that helps remove doubts about the plausibility of the UG hypothesis. The first important observation is that

not all children make use of all the possibilities outlined here. Rather, each child seems to prefer one particular pattern. Ivar, for instance, does not use the order COMP-V<sub>fin</sub>-S<sub>obj</sub>-XP, except for those subordinate clauses where the element introducing it (a *wh*-word or a relative pronoun) functions as the subject of the clause; see below. Note also that this pattern is excluded from adult Yiddish.

More importantly, there is one possibility that is excluded on independent grounds and is also absent in the data from all children that use incorrect word orders. If the element introducing the embedded clause functions as the subject of the clause, the finite verb has to follow it immediately; that is, the order COMP<sub>subj</sub>-XP-V<sub>fin</sub>-YP is "ungrammatical." Consider the following contrast:

- (31) a. guck mal was<sub>subj</sub> is hier (3;7,17;Iv).  
look once what is here.
- b. guck mal was<sub>obj</sub> ich hab (3;7,17;Iv).  
look once what I have.
- c. wer<sub>subj</sub> hat gewonnen muß alle teile wegnehmen mit den  
who has won must all parts away-take with the  
würfen (4;0,18;Iv).  
dice  
'the one who has won has to take all parts away with the dice.'
- d. guck mal was<sub>obj</sub> ich hab hier (3;10,25;Iv).  
look once what I have here.
- e. das sind kleine blätter die<sub>subj</sub> heißen kräuter (4;4,21;Iv).  
these are small leaves that mean herbs  
'these are small leaves that are called herbs.'
- f. ... das is die tiere die<sub>obj</sub> es gibt ... (4;4,21;Iv).  
this is the animals that it exists  
'these are the animals that exist.'

Within principles-and-parameters theory the ungrammaticality and thus the absence of the order COMP<sub>subj</sub>-XP-V<sub>fin</sub>-YP are accounted for by constraints on movement. If the subject (*wer* 'who') is raised into Spec,CP, it has to pass through the Spec,IP position. Since Spec,IP contains the trace of the moved subject, it cannot host another element, thus excluding the surface string COMP<sub>subj</sub>-XP-V<sub>fin</sub>-YP. The grammars of all children studied are compatible with this constraint of UG.

There is a second constraint obeyed by all children: *wh*-question formation is in complementary distribution with a complementizer (although, as we have seen, topicalization is not).

In sum, then, children may construct grammars that do not correspond to the respective target grammar(s). Again, these grammars, although "incorrect" with respect to the adult model, are possible grammars that remain within the options offered by UG.

### 3.2. Parameter missetting

Recently, some researchers have proposed a more constrained version of parameter theory. Among others, Valian (1988, 1990) has pointed out that the current version of the parameter model cannot accurately describe the way the child arrives at the target grammar. Given the fact that the data the child is exposed to are sometimes contradictory, s/he could switch parameter values an infinite number of times and as a consequence never settle on the correct value. This clearly raises a fundamental theoretical problem. Apart from theoretical shortcomings, there is also empirical evidence in favor of the assumption that children do not constantly switch the value of parameters during the acquisition process. Obviously, the theory of UG must be buttressed by a theory of acquisition that constrains how parameters are set. What is needed then is a constraint that requires that parameters must not be reset during language development. The parameter-setting constraint (Clahsen 1990; cf. also Penner 1992; Roeper and Weissenborn 1990; Weissenborn 1990) has been formulated in order to meet these requirements. It states that fixed parameters cannot be reset.

As discussed in Müller (1993, 1994), Ivar's acquisition of the correct position of finite verbs in embedded clauses represents evidence in favor of the parameter-setting constraint. The main observations are the following:

- Ivar needs approximately two years in order to acquire the correct position of the finite verb in embedded clauses.
- Acquisition is a gradual learning process and not instantaneous. There is no radical shift in development.
- The correct position and deviant positions of the finite verb in embedded clauses coexist for the same complementizer and the same finite verb.
- Ivar learns the targetlike position of the finite verb in embedded clauses in an item-by-item fashion, that is, separately for each complementizer. We are dealing with an inductive learning process.

The question is how we may account for choices of wrong parameter values. In order to set parameters, the learner has to analyze the lexical material s/he finds in the input. For the issue under discussion the children

have to recognize that complementizers are functional categories in German that are specified as INFL. In Müller (1993, 1994) I hypothesized that Ivar does not at first analyze complementizers as functional categories and that this analysis forces him into setting the finiteness parameter to the wrong value for German.

It can be observed that the category COMP in Ivar's grammar of German develops out of a lexical category, namely the preposition *für* 'for'.<sup>31</sup> Such a development is not observed in Caroline's or in Pascal's German. The lexical nature of the forerunner *für* might lead Ivar to the hypothesis that a new category that is lexical is needed in syntax in order to generate complementizers. If complementizers are first analyzed as lexical categories, they cannot be associated with or specified as INFL.

At the age of 2;7, or four months before adultlike complementizers begin to appear, Ivar starts to use the preposition *für*, which introduces not only NPs but also whole sentences. It is interesting to note that these sentences may contain a finite or a nonfinite verb form.

(32) *für* + NP

- a. der [got]      fum fum jeans (2;8,1;Iv).  
this belongs to to jeans
- b. fu du der geschenk (2;11,7;Iv).  
for you the gift

*für* + S

- c. fum tiere    weg    nich [n]aufen (2;7,17;Iv).  
for animals away not run  
'in order for the animals not to run away.'
- d. muß da    sei    rein guck pour pour tie[j]e    nich nich  
has there to go in look for for animals not not  
weg[n]aufen (2;8,1;Iv).  
away-run  
'this has to go in there in order for the animals not to run away.'
- e. das für k[j]emmen deine haare (2;10,11;Iv).  
this for to put      your hair  
'this is for to put in your hair.'

Observe also what occurs later in the developmental process:

- (32) f. das is für der rauch geht hoch, in das hau (3;4,9;Iv).  
this is for the smoke goes up in the house  
'in order for the smoke to go up ...'

- g. fum björn hat des abgerißt (3;4,23;Iv).  
for Björn has it off-torn  
'because Björn has torn it off.'
- h. föm föm für die kinder, kann das abrissen (3;4,23;Iv).  
for for for the children can it off-tear  
'in order for the children to tear it off.'

There is more evidence to suggest that *für* is categorized as a preposition: besides the form *für*, Ivar uses the variants *fo*, *fum*, *föm*, which do not correspond to the target language, but which are possible forms in German. In adult German, some prepositions may fuse with case-marked articles, such as *an* (= *an dem* 'at the<sub>DAT</sub>'), *zum* (= *zu dem* 'to the<sub>DAT</sub>'). In contrast to prepositions, complementizers are invariant in German (or at least in the variety of German to which Ivar is exposed). This is also true for Ivar's language use. Furthermore, Ivar never uses complementizers in combination with NPs.

The usage of a preposition in order to introduce early embedded clauses can also be observed in English children. The English children studied by Brown (1973), Adam and Eve, use *for* to introduce finite clauses: *for the sun get in my eyes* (Adam), *for for bus stops* (Eve).

With this in mind, we might still ask why children wrongly classify complementizers. There is no doubt that subordinating conjunctions in adult German share many properties with lexical categories such as prepositions. For instance, they encode similar semantic relations (temporal, causal) and they appear in front of sentences and noun phrases respectively. Note that there are also homonymous forms, such as *bis*, for example, which function as prepositions (*bis montag* 'until Monday') and as a conjunction (*er las das Buch bis es an der Tür klingelte* 'he read the book until the doorbell rang'). Thus, there may be confusion with respect to the categorial status of these elements in the child's grammatical system. If we consider the fact that subordinating conjunctions are used by the children only at a later point in development where they already make productive use of prepositions, the hypothesis about the wrong classification of subordinating conjunctions becomes even more plausible. Note that authors like Bickerton (1981), Koopman and Lefebvre (1981), Washabaugh (1975), and Woolford (1979) argue for some English- and French-based creoles that prepositions (*for*, *pour*) are possible precursors of complementizers.

Finally, I want to emphasize the possible importance of the fact that there are exceptions to the verb-final regularity in adult German: *weil* 'because', *obwohl* 'although', and *denn* 'since' (cf. section 1.1). This prop-

erty of adult German may contribute to the confusion found with the category "complementizer."<sup>32</sup>

The same arguments that have been advanced for prepositions are also valid for adverbs in relation to conjunctions. The usage of the order COMP-V<sub>fin</sub>-S<sub>obj</sub>-XP, which has been attested in Benny's corpus, may indicate a wrong categorial analysis of German conjunctions as adverbs like *darum* 'therefore' and *danach* 'afterwards'.

Of course there are many questions that remain open. For example, how do children like Ivar and Benny who have to unlearn certain aspects of their supposed grammatical structure for German represent German sentence structure at the point of development where they have learned the correct word order for subordinate clauses?

Furthermore, Meisel (1995) points out that the assumption that children may choose the wrong value of a parameter has far-reaching consequences for parameter theory in general and that it is necessary to reconsider the definition of parameters.

Finally, we may conclude that Ivar's grammar of German is a superset of adult German (cf. the structure in [26]), or, in other words, he has chosen the value of a parameter that gives too large a language. This leads to an empirical problem given the child's exposure to positive data only. The subset principle (Wexler and Manzini 1987) states that the learner, as a first choice, must select the narrowest possible language consistent with the experiential data. On the basis of the child data discussed here the validity of the subset principle as a principle of learnability has to be reconsidered.

### 3.3. Summary

I have attempted to convey an impression of UG theory as a sophisticated tool for describing and investigating the language of small children. The main goal was to show that small children's grammatical systems are constrained by UG. I traced the language development of one bilingual boy. In outlining the major developmental phases, I argued that his grammar of German resembles that of adult Yiddish. In this sense, child grammar allows sentence structures that are ungrammatical and disallows sentence structures that are grammatical with respect to the target language. Finally, one of the reasons for the construction of deviant grammars was discussed, namely parameter missetting.

As more and more children acquiring different languages are studied, new questions arise, and the close inspection of the corpora makes answering old questions possible. Of course, each answer breeds new

questions, which require fine-grained analyses. In the present paper I have attempted to answer some old questions, thereby raising many new ones. A full discussion of these questions falls outside the scope of this paper. Nevertheless, I hope that I have succeeded in conveying a sense of how much research remains to be done and of where language acquisition research might be going.

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### Notes

1. This paper is the revised talk version of my contribution at the "Workshop zu strukturellen und prozeduralen Aspekten der Verbstellung" (Graduiertenkolleg Kognitionswissenschaften der Universität Hamburg) in 1992. I thank the audience for useful discussion of the material in this paper, especially Jürgen M. Meisel and Achim Stenzel. I also thank two anonymous reviewers for their insightful comments. Finally, special thanks to Eva Sobotta for proofreading the final version. I alone am responsible for any errors of fact or interpretation. Correspondence address: Romanisches Seminar, Universität Hamburg, von-Melle-Park 6, D-20146 Hamburg, Germany.
2. V2 refers to the linear position of the finite verb if not specified otherwise.
3. In other words, the head of CP is licensed by being filled either with a complementizer or with the finite verb.
4. But cf. Haider (1993) and the literature cited therein for arguments against a head-final INFL position in German.
5. Koopman (1984) argues that [+AGR] and/or [+Tense] force verb movement universally, thereby obtaining a configuration where nominative Case can be assigned. In other words, INFL must be lexical in order to be able to assign Case.
6. Rizzi (1991) argues that the definition of A-position is dependent on the presence of Spec-head agreement. Under this view, those specifiers that agree with their head are A-positions.
7. The presence of patterns such as COMP-XP-V<sub>fin</sub>-S<sub>obj</sub> has led linguists like Müller and Sternefeld (1993) to the conclusion that topicalization is movement into a topic phrase, a projection divorced from the CP system. The major motivation for this analysis comes from data that clearly show that topicalization differs from both scrambling and, more importantly, wh-movement. One problem of this approach is that topicalization is not a feature that projects a syntax but a function (cf. Carroll 1981) and is additionally invisible for LF (in contrast to operator movement, as argued by Carroll 1981 and Reis and Rosengren 1988). Also, under the view that topicalization projects in syntax, the question arises of why languages other than Yiddish, Icelandic, and German cannot raise the finite verb into the head of a topic phrase, resulting in V2 patterns. In other words, the question of why there are non-V2 languages like French and English, where topicalization gives rise to V3 patterns (Baltin 1982; Carroll 1981), is unresolved; *aujourd'hui Marie est contente, today Mary is fine*.

Diesing (1990) discusses a 2CP analysis of patterns such as COMP-XP-V<sub>fin</sub>-S<sub>obj</sub>. She advances the following argument against it: extraction from an embedded CP should

be ruled out under the 2CP analysis, due to a violation of subadjacency. However, embedded clauses with topicalization are not islands in Yiddish (cf. Diesing 1990: 44):

- (i) Vemen hot er nit gevolt az ot di bikher zoln mir gebn?  
who<sub>DA</sub> has he not wanted that PRT the books should we give?

Compare the following examples from German, which are both grammatical:

- (ii) auf wen glaubst du daß Peter es abgesehen hat?  
at whom think you that Peter it aimed has?  
(iii) auf wen glaubst du daß es Peter abgesehen hat?  
at whom think you that it Peter aimed has?

8. Note that, although I will adopt the refinement of the A' system as outlined in Reis and Rosengren (1988), I will not assume their nonuniform analysis of German sentence structure (cf. [8]).
9. Both nonfinite verb forms like *kommen* 'to come' and stem forms like *komm* 'come' are used clause-finally during this early developmental stage.
10. Years/months/days.
11. In the DUFDE project, bilingual German/French children are studied longitudinally. They are videotaped from the age of approximately 1;0-1;6 up to the age of at least five years. They find social circumstances favoring simultaneous and also balanced bilingualism. The parents, one being French, the other German-speaking, use the one-person, one-language strategy (Rojat 1913). The families' social background is middle-class. The children are videotaped every two weeks. Two interviewers, one French-speaking, one German-speaking, visit the child at home and play with her/him for approximately half an hour in each language. While the French assistant is playing and speaking with the child, the German assistant operates the video equipment, and vice versa; one person is therefore not involved in the interaction, which makes it clear for the child what language to speak, or at least what language is expected of her/him. The project was financed by a grant from the Deutsche Forschungsgemeinschaft given to Jürgen M. Meisel. For further details see Schlyter (1990a).
12. Since the bilingual children in the DUFDE project grow up in a situation that favors balanced bilingualism (cf. Grosjean 1982), I think it is legitimate to use their data in an analysis of first-language acquisition to the same extent as the utterances produced by monolingual children.
13. The first phase extends from about 2;0 until 3;0 (Gu until 3;2; Hi until 3;0; Be until 3;1; Ca 2;1-3;1; Iv 2;3-2;1; Pa 2;2-2;9; Gi until 2;6; Li until 3;2).
14. See Müller and Penner (1994).
15. See section 3.1.1.1. for further discussion of this issue.
16. For an extensive discussion of both positions cf. de Villiers (1992).
17. Some examples for the usage of the dummy place holders mentioned in the text are given in (i)-(iii):
- (i) ich will 'n eimer mitnehmen in garten ə ich schippen kann (Gü;2;10).  
I want a bucket with-take in garden DPL I shovel can  
(ii) das is ein pilz mm im walde ist (Gü;3;2/3;3).  
this is a mushroom DPL in the forest is  
(iii) die müssen doch wieder rauskommen da nicht mehr nachts (Gü;3;1).  
they must really again out-come there no longer night is
- Dummy place holders start to be used in subordinate clauses at approximately age 2;0.
18. But see Roeper and de Villiers (1992) for a different view.

19. The conventions used in the transcripts and in the examples are the following:

[...] = phonetic transcription  
(...) = words that cannot be interpreted unambiguously  
, = pause  
(= ...) = interpretation in terms of target language

20. The only example where an object is placed in the first position of a V2 construction in Ivar is

(i) der trei ich je[s]. (= streichel) (2;9,18;Iv).  
it pet I now  
'I pet IT now.'

If however, from the context it is not clear whether *der* really functions as the object of the clause: Ivar moves an animal next to his face. Note that he uses the nominative pronoun *ich* also in contexts where nonnominative forms are required: e.g. *ich sagst du* 'me tell you'. If the example in (i) is not an instance of object topicalization, then the generalization holds that the first position of V2 constructions is never occupied by an object. The only constituents allowed in this position (apart from subjects) seem to be adjuncts or elements like adjectives and locative or temporal adverbials.

21. Interestingly enough, V2 constructions like those in (10) and (11) and V1 constructions like those in (12) are completely absent in the French corpora (cf. also Weissenborn 1990). Since adult French has V2 constructions in root wh-questions (subject-clitic inversion), this finding is not trivial. In Müller (1993) I have argued that in French, nominative Case is assigned or checked in one position only, which is the position immediately preceding the finite verb, i.e. Spec,IP.
22. Meisel and Müller (1992) take distributional properties of finite verbs as evidence in favor of the verbal functional category AGR: all finite verbs that show up in AGR also appear in INFL (V2 position), but not vice versa; modal auxiliaries are excluded from head-final AGR. In Müller (1994) I suggest that the category labelled AGR in Meisel and Müller (1992) contains only a subset of the agreement features, namely NUMBER. The descriptive generalization is that only 3rd person singular and 3rd person plural forms are allowed in head-final AGR. Since the category AGR is not central to the present paper, I will not pursue the matter here (cf. Meisel 1994 for new questions and promising ideas on this issue).
23. Meisel and Müller (1992) use the category label TENSE for the syntactic position that minimally contains the finiteness specification. Since the children do not seem to have discovered the PAST feature yet (cf. Meisel 1985; Schlyter 1990b), this terminology is misleading.
24. This hierarchy of functional projections is incompatible with Haverkort and Weissenborn's (1991) analysis of clitic placement in French positive imperatives. Much evidence was, however, adduced to motivate the TENSE-over-AGR order. For example, the selectional interdependency between complementizers and tense (*that* selects [+tense], *for* selects [-tense]) in adult grammar suggests that INFL (or TENSE) dominates AGR and not vice versa (Zubizarreta 1992).
25. In terms of child grammar this means that topicalization is possible in the absence of a CP.
26. The question of why Ivar adjoins material to IP in German is discussed in Müller (1993: 150-153).



27. Verb-final patterns in main clauses represent 4% of all finite multiword sentences in the data from Ivar and Pascal during this first developmental phase. Caroline uses this pattern only twice.
28. Constructions like those in (22) also occur in French. However, the finite verb is never placed clause-finally. For instance, *va ferme un peu* (2;9,8;lv) 'will<sub>[3prst]</sub> closes<sub>[3prst]</sub> a bit', *on va sorti sorti sa tête* (2;11,21;lv) 'one will<sub>[3prst]</sub> takes-out<sub>[3prst]</sub> his head'.
29. Caroline and Pascal use the correct verb-final order in German subordinate clauses as soon as they employ targetlike complementizers, i.e. at 3;1 and 2;9 respectively. In Müller (1994) I assume, following Clahsen (1990), that these children restructure or "enrich" the former INFL node, i.e. no independent COMP node is projected, and their grammar can be said to contain a "rich COMP node" (where INFL is instantiated). This amounts to saying that they have acquired the correct sentence structure for German (cf. the structure in [3]).
30. See McCloskey (1991) for Irish.
31. The hypothesis that prepositions are precursors for complementizers has also been explored for monolingual English children. Nishigauchi and Roeper (1987) find that *for* is the first lexical item the children use in order to introduce clauses.
32. Ivar uses *denn* with verb-final patterns at a later developmental stage; *in die gleiche klasse, denn björn auch fünf* is (5;2,6) 'in the same class since Björn also five (years old) is', ... and *das hat mir nich wehgetan (denn) ich auch noch geschlafen hab* (5;2,28) 'and it has not hurt since I also still slept have'.

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