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On German Verb Syntax under Age 2

by

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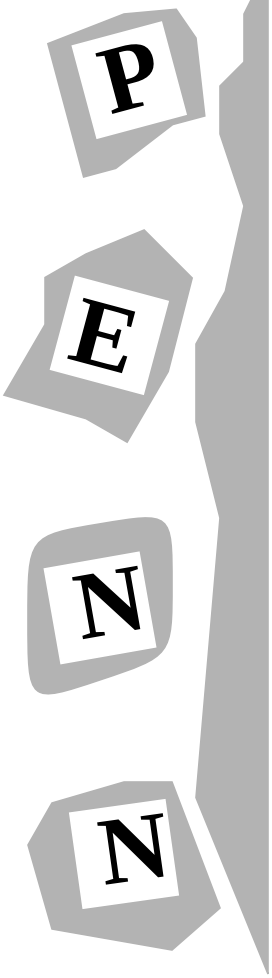

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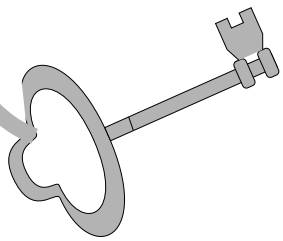

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On German Verb Syntax under Age 2

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1. Introduction

Clahsen (1991) and Clahsen & Penke (1992) have argued using data from the 2-year-old German children Mathias, Daniel, Julia and Simone that verb placement stabilizes only when the second person singular (2SG) suffix on main verbs has been acquired. In contrast, Poeppel & Wexler (1993) argue based on Andreas' data (age 2;1) that verb placement is already correct at the earliest stage of syntactic acquisition. In this paper, we present new evidence in support of early verb raising based on Katrin and Nicole who are several months younger than Andreas and have an impoverished inflectional paradigm lacking the 2SG affix. On the other hand, the lack of CP-related constructions suggest that Katrin and Nicole maximally project an IP in finite clauses, contrary to Poeppel & Wexler's proposal. Moreover, the preponderance of empty subjects in non-finite clauses suggests that such utterances reflect a bare VP-structure, following Roeper & Rohrbacher (1994).

The data discussed in this paper come from the Wagner corpus (Wagner 1985) in the CHILDES database (MacWhinney & Snow 1985; MacWhinney 1991). Katrin was 17 months old and Nicole 20 months old when the naturalistic production data was collected, during one recording session each.[1] We handcoded all sentences containing a verb, excluding direct imitations, immediate repetitions and unanalyzable utterances. Table 1 provides a breakdown of all the sentences included in our study. For ease of exposition, we have grouped Nicole's single auxiliary verb with the modals (Katrin produced no auxiliaries).

verb type	Katrin (age 1;5)	Nicole (age 1;8)
main verb alone	117 (75%)	164 (80%)
modal (+ main verb)	22 (14%)	4 (2%)
copula alone	17 (11%)	36 (18%)
TOTAL	156 (100%)	204 (100%)

Table 1. Katrin's and Nicole's sentences by verb type

2. Inflectional morphology in child Germanic
2.1. German

Table 2 provides sample paradigms for adult German regular main verbs, modals and the copula.

	SG	PL
main verb schreib-**en** 'to write'		
1st	schreib-**e/Ø**	schreib-**en**
2nd	schreib-**st**	schreib-**en**
3rd	schreib-**t**	schreib-**en**
modal könn-**en** '(to) can'		
1st	kann-**Ø**	könn-**en**
2nd	kann-**st**	könn-**en**
3rd	kann-**Ø**	könn-**en**
copula sein 'to be'		
1st	bin	sind
2nd	bist	seid
3rd	ist	sind

Table 2. Adult German verb paradigms

Unlike adults, Katrin and Nicole frequently produce matrix sentences containing just a non-finite main verb bearing the infinitival suffix *-en* and no finite verb.[2] Such a pattern has also been observed in other studies on child German, such as Clahsen & Penke (1992) and Poeppel & Wexler (1993).[3] Unlike the German children previously discussed in the literature, Katrin and Nicole produce non-finite declaratives very frequently, as shown in Table 3.

	finite main Vs	*non-finite main Vs*
Katrin	49 (42%)	68 (58%)
Nicole	52 (32%)	112 (68%)

Table 3. Finite vs. non-finite main verbs

The distribution of Katrin's and Nicole's suffixes according to verb type is provided in Table 4.

	main Vs				*modals*		*copula*	
	-n	**-t**	**-Ø**	**-V**[4]	**-Ø**	**-s(t)**	**ist**	**bist**
Katrin	68	39	10	0	14	8	16	1
Nicole	112	10	16	26	4	0	36	0

Table 4. Distribution of verb suffixes

Based on Katrin's and Nicole's production data, there is thus evidence for portions of the German finite singular paradigms; compare the child paradigms in Table 5 with the adult paradigms in Table 2.

	Katrin	Nicole
main verb - 'to write'		
1st	schreib-**Ø**	schreib-**Ø**
2nd	-	-
3rd	schreib-**t**	schreib-**t**
modal - '(to) can'		
1st	kann-**Ø**	kann-**Ø**
2nd	kann-**st**	-
3rd	kann-**Ø**	kann-**Ø**
copula - 'to be'		
1st	-	-
2nd	bist	-
3rd	ist	ist

Table 5. Katrin's and Nicole's finite singular affixes

Tables 3 and 4 indicate that like children acquiring Italian, another richly inflecting language, German children produce finite forms of main verbs in the earliest observed stage of their development. This state of affairs contrasts sharply with that found with English children, who acquire the 3rd person singular present tense marker *-s* notoriously late (Brown 1973). The latter fact could perhaps be attributed to the relatively low frequency of -s in the input data. It is interesting in this respect to consider the situation in Dutch and Swedish, languages where overt finite markers are as frequent as but less distinctive than their counterparts in German.

2.2 Dutch and Swedish

Compare the Dutch and Swedish paradigms in Table 6 with the German main verb paradigm in Table 2.

	Dutch		*Swedish*	
inf.	nem-**en** 'to take'		komm-**a** 'to come'	
	SG	PL	SG	PL
1st	nem-**Ø**	nem-**en**	komm-**er**	komm-**er**
2nd	nem-**t**	nem-**en**	komm-**er**	komm-**er**
3rd	nem-**t**	nem-**en**	komm-**er**	komm-**er**

Table 6. Dutch and Swedish main verb paradigms

Although Dutch has the same number of agreement markers as German, second person is never distinctively marked. In Swedish, the infinitival and the present tense bear overt suffixes, but person is never distinctively marked. While all of the languages mentioned above except English have strong agreement in terms of occurrence of finite markers, only German and Italian have strong agreement in terms of distinctive feature marking (cf. also Rohrbacher

1994a). Interestingly, Dutch and Swedish behave like English and unlike German and Italian when it comes to the acquisition of tense and agreement. As shown in Table 7, the Dutch child Peter produced no finite verbs at age 1;9, i.e. well after Katrin and Nicole produced them in substantial numbers (cf. Table 3). Our preliminary investigation of two Swedish children produced similar results which are summarized in Table 7.

	files	finite Vs	non-finite Vs
Peter	1-4 (age 1;9-1;10)	4 (3%)	137 (97%)
	5-8 (age 1;11)	20 (8%)	222 (92%)
	9-13 (age 2;0-2;2)	301 (66%)	155 (34%)
	14-16 (age 2;3-2;4)	669 (97%)	23 (3%)

Table 7. Finite vs. non-finite verbs in early Dutch
(adapted from Table 5a in Wijnen 1994)

	files	finite main Vs	non-finite main Vs
Anton	1-2 (age 1;11-2;0)	0 (0%)	27 (100%)
	3-8 (age 2;0-2;4)	1 (2%)	57 (98%)
Markus	4-6 (age 1;7-1;9)	0 (0%)	17 (100%)
	7-8 (age 1;9-1;10)	3 (7%)	41 (93%)

Table 8. Finite vs. non-finite main verbs in early Swedish
(data from CHILDES Database; cf. Strömqvist et.al. 1993).

An interesting generalization emerges. In languages like English, Dutch and Swedish, where first or second person are not distinctively marked, the earliest observed stage lacks finite main verbs. In languages like German and Italian, where all persons are distinctively marked, the earliest observed stage exhibits finite main verbs (which, however, may not yet mark all the relevant distinctions, cf. Table 5). This generalization correlates with the proposal in Rohrbacher (1994a) according to which in the first type of languages finite affixes are not instantiated until PF and hence are syntactically inactive, while in the second type of languages finite affixes are already listed in the lexicon and hence are syntactically active.

3. Verb placement

We are now in a position to consider whether verbal morphology correlates with syntactic position of the verb in Katrin's and Nicole's grammar. In adult German, non-finite main verbs occur at the end of a head-final VP, such as *aufstellen* in (1a), while finite main verbs raise to a left-headed functional projection, such as *stellt* in (1b). The following subsections will show that the same pattern is attested in Katrin's and Nicole's data.

(1) a. Du kannst [$_{VP}$ die Stühle im Garten aufstellen].
you can-2SG the chairs in-the garden up-set-INF
'You can set up the chairs in the garden'

b Sophie stellt$_i$ [$_{VP}$ die Stühle im Garten auf t_i].
Sophie set-3SG the chairs in-the garden up.
'Sophie sets up the chairs in the garden'

3.1. Finite verbs raise

We analyzed the verb as raised if it preceded one or more of the following: subject, non-sentential adverb, direct or indirect object, predicate adjective, locative phrase, or separable verb prefix. Examples with a raised main verb from Katrin's data are provided in (2), and from Nicole's data in (3).

(2) a. Datin tinkt auch.
Katrin drink-3SG too
'Katrin drinks, too'

b. Meckt jecker.
taste-3SG yummy
'It tastes yummy'

(3) a. Nekoll nimmt – eine – Am.
Nicole take-3SG an arm
'Nicole takes an arm (of the doll).'

b. Neme mit.
Take-V with.
'(someone) takes along.'

In examples such as those in (2-3) verb raising has clearly taken place, since the verb does not occupy the clause-final position. However, if nothing follows the verb, it is sometimes unclear whether the verb has raised or not. SV examples such as (4a) and one word utterances such as (4b) are of this type. Furthermore, since adult German is a V2 language in which any phrasal element can be topicalized, two-word utterances such as (4c) where the finite verb is clause-final and is preceded by e.g. an object are ambiguous between verb raising plus topicalization and V in situ.

(4) a. Bejowon jeijt. [Katrin 1;5]
telephone ring-3SG
'The telephone is ringing'

b. Heitet heitet heitet. [Katrin 1;5]
ride-3SG
'(Katrin) rides'

c. Wust, wust ham [Nicole 1;8]
sausage have-INF
'(I want to) have a sausage

On the other hand, if two phrases precede the finite verb, this could no longer be an instance of topicalization plus verb raising, and thus the verb would clearly be located in the VP. It is striking that we find no examples of finite verbs which clearly remain in the VP in Katrin's data, and very few such examples in Nicole's data, as shown in Tables 9 and 10. These tables also show that 60-65% of Katrin's and Nicole's finite main verbs are clearly raised, by the word order criterion described above. Recall that the ambiguous cases are also consistent with a verb raising analysis.

suffix	raised	not raised	ambiguous
-t	27 (69%)	0	12 (31%)
-Ø	5 (50%)	0	5 (50%)
TOTAL	32 (65%)	0	17 (35%)

Table 9. Position of Katrin's finite main verbs

suffix	raised	not raised	ambiguous
-t	5 (50%	1 (10%)	4 (40%)
-Ø	12 (75%)	1 (6%)	3 (19%)
-V	14 (54%)	2 (8%)	10 (38%)
TOTAL	31 (60%)	4 (8%)	17 (33%)

Table 10. Position of Nicole's finite main verbs

An even clearer picture emerges in the case of modals and the copula, which are always finite and according to the same word order criteria as used above are virtually always clearly raised (cf. Tables 11 and 12). Some relevant examples are provided in (5) from Katrin and in (6) from Nicole.

verb type	raised	not raised	ambiguous
modal alone	15 (100%)	0	0
modal w/ main V	7 (100%)	0	0
copula	14 (82%)	0	3 (18%)
TOTAL	36 (92%)	0	3 (8%)

Table 11. Position of Katrin's modals and the copula

verb type	raised	not raised	ambiguous
modal w/ main V	4 (100%)	0	0
copula	36 (100%)	0	0
TOTAL	40 (100%)	0	0

Table 12. Position of Nicole's modals and the copula

(5) a. Nein, wöst nit.
no want-2SG not
'No, you don't want'

b. Eine Puppa daw ich haben.
a doll may-1SG I have-INF
'I may have a doll'

(6) a. Kan Nikoll ham?
can-3SG Nicole have-INF
'Can Nicole have (something in the fridge)?'

b. Is ni put.
is-3SG not broken
'(It) is not broken'

The distribution of Katrin's and Nicole's finite main verbs, modals and the copula supports an analysis according to which finite verbs raise to a left-headed functional projection.[5] We will address the nature of this functional projection in section 4.

3.2. Non-finite verbs do not raise

Above we analyzed finite verbs as clearly raised if they preceded at least one element such as a subject, an object or a separable prefix. Using the same word order criterion, we find that unlike finite verb forms, the non-finite verb form marked with the suffix *-en* is almost never clearly raised and often clearly not raised, as shown in Table 13. Some clear non-raising examples are given in (7). However, there are many ambiguous cases due to the nature of a V2 language at the two-word stage. Recall that although VO clearly shows verb raising, OV could be either an instance of V-in-situ or verb raising plus topicalization.

	raised	not raised	ambiguous
Katrin	2 (3%)	6 (9%)	60 (88%)
Nicole	6 (5%)	24 (21%)	82 (73%)

Table 13. Position of Katrin's and Nicole's non-finite verbs
(to be revised)

(7) a. Auto hier wahren. [Katrin 1;5]
car here drive-INF ("fahren")

b. Kokoll Dil ham. [Nicole 1;8]
Nicole shield have-INF

Thanks to a suggestion by Ken Wexler, we were able to use the expected rate of topicalization to reduce the number of cases listed as ambiguous in Table 13. Among the latter, there are 19 examples in Katrin's data and 39 in Nicole's data in which a clause-final non-finite verb was preceded by exactly one topicalizable non-subject. Of these, we take 12 (Katrin) and 38 (Nicole) examples not to involve topicalization; they, too, are therefore clear cases of non-raised non-finite verbs. The rationale behind this conclusion is as follows.

The rate of topicalization in Katrin's and Nicole's finite declaratives containing a topicalizable non-subject is 35% (17 out of 48) and 7% (1 out of 14), respectively.[6] Under the conservative assumption that the proportion of topicalization in non-finite clauses is at most as high as it is in finite clauses, we expect that no more than 35% (9 instances) and 7% (4 instances) of all of Katrin's and Nicole's non-finite clauses containing a topicalizable non-subject exhibit actual topicalization. We find two clear examples of non-subject topicalization in unambiguous V-in-situ non-finite clauses for Katrin and three such examples for Nicole. Deducting these actual cases of topicalization from the expected cases, we predict that only 7 of Katrin's 19 examples and 1 of Nicole's 39 examples that are ambiguous with respect to verb movement actually involve topicalization, allowing (but not requiring) verb raising of the non-finite verb. Using this method, Table 13 can be revised as shown in Table 14. Table 14 provides clear evidence that as in adult German, non-finite verbs do not raise to a functional head in Katrin's or Nicole's speech.

	raised	not raised	ambiguous
Katrin	2 (3%)	18 (26%)	48 (71%)
Nicole	6 (5%)	62 (55%)	44 (39%)

Table 14. Position of Katrin's and Nicole's non-finite verbs (revised)

We have argued that there is a correlation between verb raising and inflectional morphology in the data of these two very young children. Since the vast majority of their non-finite forms are consistent with the non-raising analysis, whereas the vast majority of their finite forms are consistent with a raising analysis, we assume that these chidren's grammars generate raised finite forms and non-raised non-finite forms.

4. Finiteness and Clause Structure

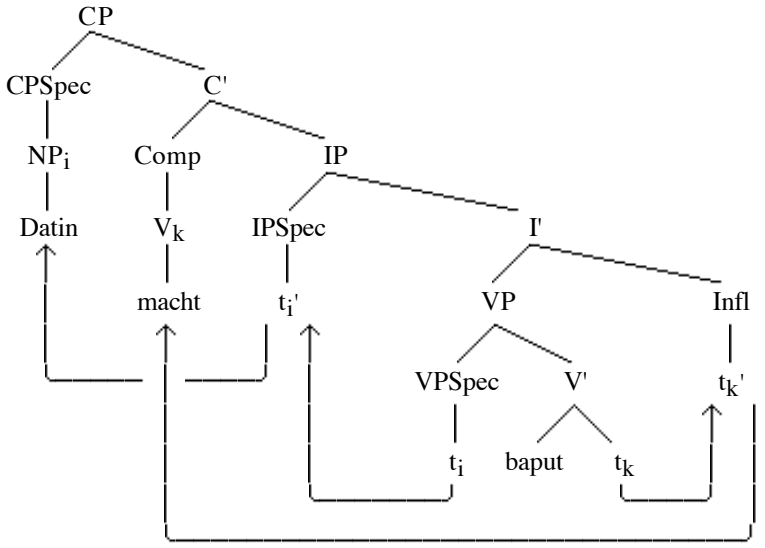
The consistent fronting of finite verbs in Katrin's and Nicole's data shows that at age 1;5 and 1;8, these children already make use of a left-headed functional projection above VP. The question now arises as to which functional projection

is involved in early verb raising. For sentences such as (8), one possibility is to follow Poeppel & Wexler (1993) in assuming that the verb moves to Comp as in the adult language (cf. (9) and den Besten (1983)). Another possibility is to follow Clahsen (1991) in assuming that unlike in the adult language, Comp is absent and that the verb moves only to clause-medial Infl (cf. (10)).

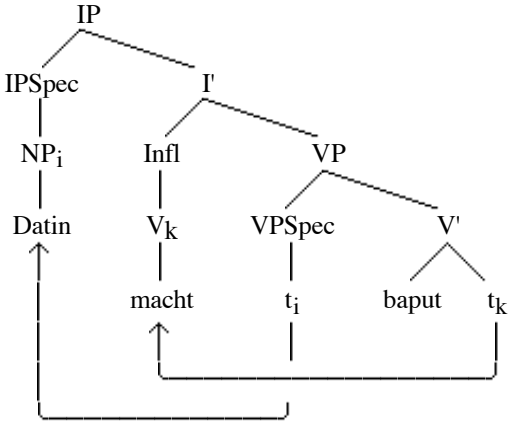
(8)

Datin	macht	baput.	[Katrin 1;5]
Katrin	make-3SG	broken ("kaputt")	

(9)



(10)



The fact that potential CP-related constructions (other than verb fronting) are exceedingly rare in Katrin's and Nicole's data leads us to believe that (10) instead

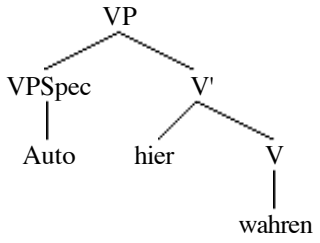
of (9) is the correct structure, i.e. that these children move finite verbs to clause-medial Infl and do not yet project the CP-level. First, neither child produces any embedded clauses whose overt complementizer would provide independent evidence for the head of CP. Second, neither child produces any wh-questions with main verbs which would provide independent evidence for the specifier of CP. Third, whereas topicalization of non-subjects (which under the standard analysis also depends on the availability of CPSpec as a landing site, but see fn. 6) occurs in about 40% of all adult Germanic matrix declaratives (cf. Gerritsen 1984), it is found in only 7% of Nicole's finite clauses and there are only three cases of object topicalization in Katrin's finite clauses. If CP were available for verb fronting, it is mysterious as to why this projection would not also be available for subordination, wh-movement and topicalization. We conclude that CP is in fact absent from Katrin's and Nicole's grammar and that finite verb fronting reflects movement to a clause-medial Infl.

Given that the adult German IP is usually assumed to be right-headed as shown in the tree in (9), we are now faced with the following two questions: (a) Why is IP left-headed in early child German? and (b) How does the child attain the adult pattern? As far as the first question is concerned, the absence of CP -- argued for on the basis of independent evidence in the previous paragraph -- forces the child to posit a left-headed IP in order to accommodate the V2-pattern that is salient in the input data. As far as the second question is concerned, we propose in the spirit of Roeper & Weissenborn (1990) that embedded clauses provide the crucial trigger for the switch in headedness. In particular, the child's recognition of finite verbs in a clause-final embedded position, combined with raising of finite verbs to Infl in the child's grammar, will motivate a reorganization of clause-structure along the suggested lines.[7]

The two questions raised in the preceding paragraph do not arise if adult German has a left-headed IP as proposed in Travis (1984), Zwart (1991), and much recent work following Kayne (1993). However, this approach would require extensive use of scrambling which -- if what we are going to propose below for non-finite clauses is correct -- would have to be allowed to apply within lexical projections, contrary to standard assumptions about scrambling.[8]

For the non-finite utterances such as those in (7) above which do not raise from their underlying position, we propose that they involve a bare VP projection that lacks both CP and IP, as shown in (11) for example (7a).

(11)



The availability of this structure accounts for the widespread occurence of non-finite matrix clauses (without verb raising and without modals or

auxiliaries) in early child German, in contrast to adult German where non-finite clauses are restricted to embedded contexts. Rizzi (1994a) proposes that both the full (finite) CP-tree in (9) and a reduced tree such as the (non-finite) VP-tree in (11) are available in early child language. However, the Dutch and Swedish data discussed in section 2.2 of this paper suggest that there is an early stage where only the (non-finite) VP tree is avaliable, as has been proposed for English by Radford (1988; 1994) and others within a maturational framework and by Vainikka (1994) within a trigger-based framework.[9] The early German data discussed here -- and perhaps data from the Optional Infinitive Stage (cf. Wexler 1994) in general -- thus reflect a more advanced, transitional stage where the VP-tree in (11) is still dominant but the IP-tree in (10) is already becoming available. In the following section, we will show how the distribution of empty subjects in Katrin's and Nicole's data can be elegantly captured using the structures just proposed.

5. Empty subjects and clause structure

Although adult German is a non-pro drop language, both Katrin and Nicole frequently omit the subject, a phenomenon commonly observed with children acquiring non-pro-drop languages. Some relevant examples are listed in (12) and (13).

(12) a. Tift haben.
pen have-INF [Katrin 1;5]

b. Biet mit mir.
play-3SG with me [Katrin 1;5]

(13) a. Ein Wust ham.
a sausage have-INF [Nicole 1;8]

b. Baije hon -- wawa.
pen fetch-INF [Nicole 1;8]

Early null subjects in non-pro-drop languages have been attributed to a production bottleneck that severely limits utterance length (see Bloom 1990 and Valian 1991) or to a process which drops a clause initial topic (see Hyams 1994 and Rizzi 1994b). Neither the bottleneck theory nor the topic drop theory can explain why Nicole and Katrin omit the subject much more often in non-finite than in finite clauses, as shown in Table 15 and also previously reported in recent literature for older children. Similar results are reported for older children acquiring German, Flemish, Dutch and English in Poeppel & Wexler (1993), Kraemer (1993), Haegeman (1994), Wijnen (1994) and Sano & Hyams (1994).

	finite clauses	non-finite clauses
Katrin	56 (64%)	11 (16%)
Nicole	59 (64%)	41 (37%)

Table 15. Overt subjects and finiteness

Direct evidence against the Topic Drop analysis comes from the frequent omission of the subject in Adam's non-finite wh-questions, where topic drop is not an option (cf. Roeper & Rohrbacher 1994). The proportions of empty subjects in Adam's wh-questions are given in Table 16.[10] Note that in finite wh-questions, empty subjects are very rare. The contrast between an empty subject in a non-finite wh-question and an overt subject in a finite wh-question is illustrated by the minimal pair in (14).

files	finite clauses	non-finite clauses
1-11 (2;3-2;8)	1 (20%)	65 (83%)
12-15 (2;8-2;10)	3 (6%)	18 (51%)
16-18 (2;10-2;11)	2 (3%)	15 (16%)

Table 16. Missing subjects in Adam's wh-questions
(adapted from Roeper & Rohrbacher 1994)

(14) a. Where go? [Adam 2;8, file 11 line 913]

b. Where dis goes [Adam 2;8, file 11 line 914]

As alternatives to the bottleneck and topic drop theories, it has been proposed that early null subjects should be identified as PRO (Sano & Hyams 1994) or *pro* (Roeper & Rohrbacher 1994 and much work in the wake of Hyams 1986). The PRO analysis maintains that subjectless non-finite matrix clauses are fullfledged CPs which lack AgrS-features. As a consequence, the verb does not have to move to AgrS at LF and AgrSPSpec remains ungoverned, thus constituting a possible site for PRO. The *pro* analysis of Roeper & Rohrbacher (1994) maintains that subjectless non-finite matrix clauses are bare VPs in which the specifier position constitutes a possible site for *pro* (see below). While both theories are compatible with the data presented in Tables 15 and 16, only the *pro* analysis is compatible with the reduced structure for non-finite root clauses proposed in the previous section. In the remainder of this section, we therefore concentrate on the *pro* analysis.

The theory of child pro-drop developed in Roeper & Rohrbacher (1994) in connection with Adam's data is modelled on the theory of adult pro-drop of Speas (1994). Speas follows Rohrbacher (1994a) in assuming that languages with overt agreement fall into the two classes in (15a,b) and adds to these a third class for languages without overt agreement fall (cf. (15c)).

(15) a. Languages with strong overt agreement have an AgrS-node that is filled at D- and S-structure.

b. Languages with weak overt agreement have an AgrS-node that is empty at D- and S-structure.

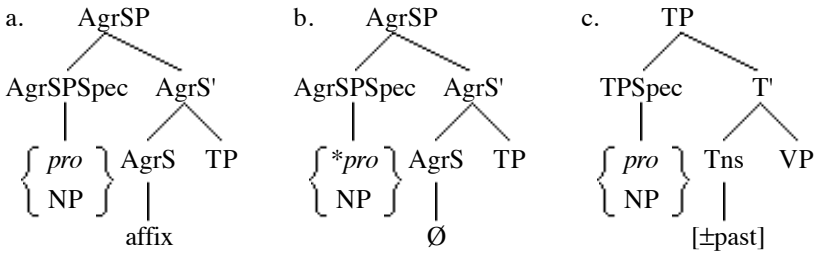
c. Languages without overt agreement do not have an AgrS-node.

In addition, Speas proposes a Principle of Economy of Projection amounting to a prohibition against vacuous projections which we have reformulated in (16).

(16) Project XP only if its head X as independent semantic or phonetic content at D-structure or its specifier XPSpec has such content at S-structure.

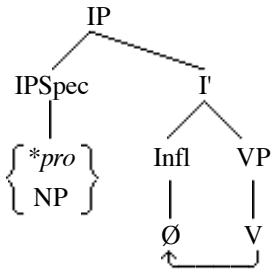
It follows that small *pro* is possible in languages like Italian with strong agreement where AgrS is filled (cf. (17a)). Conversely, small *pro* is impossible in languages like English with weak agreement where AgrS is empty (cf. (17b)). In languages like Japanese with no agreement where AgrS is missing, the highest inflectional projection is TP whose head has independent semantic content in the form of tense features which will satisfy the Principle of Economy of Projection. Accordingly, small *pro* is possible in these languages (cf. (17c)).

(17)



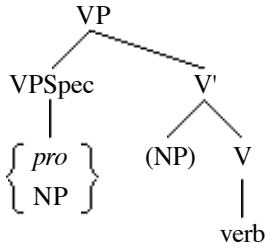
Katrin's and Nicole's finite clauses have weak agreement according to the criteria laid out in section 2.2 because (main) verbs are never distinctively marked for second person (cf. table 5).[11] Therefore, Infl is phonetically empty at D-structure. Furthermore, there is no tense distinction evident in Katrin's and Nicole's data and it is therefore reasonable to assume that Infl is also semantically empty. We arrive at the structure in (18) which corresponds most closely to that in (17b) where AgrSPSpec/IPSpec must be filled by an element with independent semantic or phonetic content, i.e. an overt subject.[12]

(18)



We proposed in section 4 that Katrin's and Nicole's *non-finite* verb forms reflect a bare VP structure. The situation is thus similar to the Japanese one (cf. (17c)) in that VP satisfies the Principle of Economy of Projection via the semantic and phonetic content contributed by the verb, and VPSpec can be occupied by an element without independent semantic or phonetic content such as *pro*, as shown in (19).

(19)



Licensed in accordance with the theory of Economy of Projection, *pro* in Katrin's and Nicole's speech is identified via a discourse mechanism which is generally available for grammars without agreement (as in e.g. adult Japanese). Overt NPs in VPSpec are assigned structural oblique Case by V as has been argued by Vainikka (1994) for child English (see also Vainikka 1993 for a similar analysis of adult Finnish). Thus both empty and overt subjects at this stage reflect options available in UG for adult languages. Note that according to this approach, there is no *pro*-drop parameter. Instead, the agreement morphology and clause structure of a grammar together with the Principle of Economy of Projection determine whether small *pro* is licensed or not.

6. Conclusion

We have shown that these two children who are around a year and a half of age and whose verbal paradigms are highly impoverished nevertheless exhibit a clear distinction between finite and non-finite utterances in terms of verb placement and the distribution of empty subjects. These facts suggest that while the children already have an inflectional projection in finite clauses, their non-finite clauses lack such a projection at this stage.

Notes

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1. Although Nicole was three months older that Katrin, her grammar appears to be less advanced in that she produced fewer modals (cf. Table 1), more non-finite main verbs (cf. Table 3) and no instances of the 2SG suffix *-st* (cf. Tables 4 & 5).

2. Although modals and the copula have non-finite forms in adult German, they only occur in finite forms in Katrin's and Nicole's data.

3. For a general discussion of non-finite root clauses in early child languages, see Wexler (1994).

4. **-V** represents an affix that is transcribed variably as *-a*, *-e* or *-i* in Nicole's data. Due to its distribution, we will consistently treat this affix as a finite marker.

5. Based on anecdotalevidence for clause-final finite verbs in multi-word utterances, Deprez (1994) argues that finite verb raising to the left is optional rather than obligatory in early child German. But as shown in Tables 9 and 10, the percentage of clearly non-raised finite main verbs is too low to warrant this conclusion. In all likelyhood, the few relevant examples are production errors and finite verb raising is obligatory in children's grammar of German.

6. Except for three cases of object topicalization, Katrin's 17 cases of non-subject 'topicalization' involve adverbs and locative phrases, i.e. adjuncts which may or may not involve movement to CPSpec. Thus the figures in the text reflect the maximal rather than the actual amount of topicalization.

7. This scenario is supported by the finding in Rothweiler (1990) of an early stage in the development of embedded clauses without an overt complementizer (i.e. without a CP) but with finite verbs in the sentence-final position (i.e. with a right-headed IP), contra the proposal in Clahsen (1991) according to which CP and a right-headed inflectional projection crucially emerge at the same point in development.

8. For a discussion of the problems that a SInflVO analysis of German encounters with respect to the adult data, see Rohrbacher (1994b).

9. See also Platzack's (1990) analysis of child Swedish and Wijnen's (1994) analysis of child Dutch, both of which posit an early stage without functional projections.

10. The calculations in Table 16 are based on non-subject questions containing either an overt pronominal subject or a missing subject, but not a full NP subject.

11. Since only strong but not weak AgrS gives rise to verb raising to this position (cf. Rohrbacher 1994a), we are assuming that Katrin's and Nicole's verb raising to Infl is motivated by whatever motivates verb raising to Comp in the adult grammar.

12. We assume that the residue of missing subjects in Katrin's and Nicole's finite clauses (cf. Table 15) is due to topic drop, a process that is independently attested in adult German and that is distinct from *pro*-drop.

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