MASTERING THE SYNTAX-MORPHOLOGY INTERFACE IN EARLY CHILD L2 GERMAN[1]

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ABSTRACT: In this paper we discuss the data from two cross-sectional studies investigating the acquisition of German sentence structure in early L2 children (eL2) (N=121) and tutored adult L2 learners (N=17). The task we used consisted of a picture story taken from a pilot version of a language test eliciting main and subordinate clauses. We examined the structural position and the morphological form of the finite verb. The participants of Study 1 were L2 children acquiring German as an early second language with an age of onset between 2;09-4;07. In Study 2 we looked at a small group of adult L2 learners in order to determine how they differ from our L2 children. Both groups were confronted with the same task and performed equally well with regard to the target-like production of main and subordinate clauses. Even within the group of eL2 children with less than one year of exposure to German nearly 50% produced target-like V2 main clauses and hardly erred with respect to the morphological form of the verb. Qualitative analyses revealed that whereas the eL2 children consistently marked the verb for finiteness, L2 adults produced a few typical error patterns such as non-finite verb forms in finite posi-

tions and errors involving verb placement in main clauses. Our data corroborate previous findings from case studies which indicated that with respect to basic syntactic and morphological properties of German – early child L2 is more like L1 acquisition than like adult L2 acquisition.

Introduction

Can a person who is exposed to a new language as an adult be just as successful in acquiring this language as a person who is exposed to the same language from birth? The answer seems to be yes and no. Studies directed at this question have compared the performance of various types of language learners on many different tasks (cf. Hawkins, 2001; White, 2003 for an overview of L2 research). More recently, the attention has turned to the investigation of early second language acquisition (i.e. age of onset of acquisition is around 3 years) partially due to concerns with lacking linguistic competence of children from migrant backgrounds (cf. Prenzel et al., 2007).

Although it has been claimed that differences in the outcome of early child L2 acquisition and adult L2 acquisition can be explained by one or a succession of critical or sensitive periods (Lenneberg, 1967; Birdsong, 1999; Hyltenstam & Abrahamsson, 2003), upon a closer look the picture appears to be far more complex. In fact, in addition to the factors *age of onset of acquisition* (AoA) and *length of exposure* (LoE) to the target language, findings from various studies indicate that L1 influence, processing/computational limitations in the L2, learner motivation, intensity of exposure to the target language as well as learning environment all play a significant role in the acquisition process (cf. Hopp, 2007 for an overview). Furthermore, a number of studies focusing on adult L2 learners show that a certain type of second language learner may be quite successful in acquiring one area of the target grammar and less successful with respect to another. This has led to the hypothesis that some levels of language, e.g. phonology, syntax, morphology, semantics, pragmatics, as well as the interfaces between subsystems are more prone to error and fossilization than others, i.e. certain error patterns may remain robust, regardless of length of exposure (e.g. Sorace, 2003; Sorace and Filiaci, 2006). To contribute to this discussion we chose an area of German grammar which is known to be quite problematic for adults acquiring German as a second language: the syntax-morphology interface of German clauses.

From a cross-linguistic perspective, the acquisition of German sentence structure appears to be quite a challenging task due to the asymmetric distri-

bution of the finite verb in main and subordinate clauses. It has been noted that adult L2 learners of German have great difficulties with regard to both verb placement and the correct realisation of finiteness/agreement inflection (Clahsen et al., 1983; Klein, 2000; Klein and Perdue, 1997). As for child L2 learners and the question of whether child L2 acquisition is more like adult L2 acquisition or more like L1 acquisition, existing studies reach different conclusions (cf. Schwartz, 2004; Meisel, 2009). Recent case studies conducted with children exposed to German as an early second language, i.e. with an age of onset between 3-4;07, suggest that the acquisition of both verb placement and agreement morphology follows very much the pattern familiar from children acquiring German as their first language and from simultaneous bilinguals (Rothweiler, 2006; Thoma and Tracy, 2006; Tracy and Thoma, 2009). Regardless of their L1, and often in spite of non-optimal conditions of exposure, fast L2 learners need less than a year (some as little as six months) of exposure for converging on the target. This suggests that at least with respect to the correlation between finiteness/agreement inflection and V2 effects, they outperform adult L2 learners.

In the two cross-sectional studies presented here we systematically examine the structural position and the morphological form of the finite verb. Our Study 1 with 121 L2 children aged 3-7 supports the above claim concerning the parallelism between the acquisition of German as a first and as an early second language for the emergence of the functional projections TP/CP (main clauses) and CP (subordinate clauses). Although the adult data from Study 2 is less conclusive, we tentatively claim that the adult L2 learners differ from the child L2 learners in at least some areas of German syntax/morphology, since they produce structures that we do not find in the child data.

Our contribution is organised as follows. Section 1 identifies the two basic challenges any learner faces in his/her attempts at coming to grips with German clause structure. Section 2 outlines the developmental path of typically developing L1 children. Section 3 reviews some studies which investigated the syntax-morphology interface in L2 adults and in early L2 children. Section 4 presents the design and the results of our two experimental studies. Section 5 sums up our findings and identifies open questions.

1. The syntax-morphology interface challenge in German

Learners of German face at least two basic challenges: they have to discover the language-specific distribution of verbs (syntactic challenge) and they have to figure out when and how to correctly mark the verb (morphological challenge). In the following section we briefly describe some basic facts of German word order and indicate interaction with morphology.

German is a Verbend plus V2 (verb second) language. In main clauses the finite verb surfaces in second position (C°/V2) and can be preceded by

(almost) any kind of XP constituent (e.g. subjects, topicalized objects, adverbials etc.). In yes/no questions, irrealis and imperative clauses the preverbal position (the 'Vorfeld') may remain empty. In the terminology of the informal topological model of German clauses, this verbal position is also called the 'left sentence bracket' (cf. Höhle, 1986; Duden, 2006). Non-finite parts of the verbal complex, such as verbal particles, infinitives or participles always occur in final position, the 'right sentence bracket'. As already mentioned above, German clauses exhibit an interesting asymmetry: in subordinate or complement clauses the C° position (left sentence bracket) is occupied by the complementizer so that the finite verb can only move to T° and therefore surfaces in final position (VE). See Figure 1 for illustration.

Main clause						
(1)	mama	will$_{3sg}$		die tür	aufmachen	
	mum	*wants$_{3sg}$*		*the door*	*open-make*	
(2)	jetzt	macht$_{3sg}$	mama	die tür	auf	
	now	*makes$_{3sg}$*	*mum*	*the door*	*open*	
Subordinate clause						
(3)		wenn	mama	die tür		aufmacht$_{3sg}$
		if	*mum*	*the door*		*open--makes$_{3sg}$*
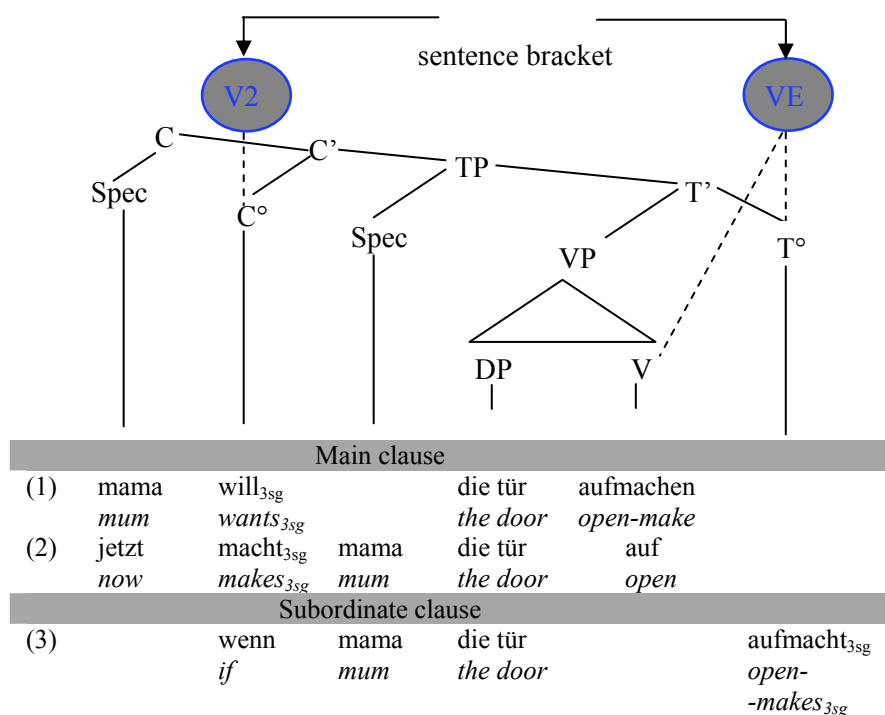
Figure 1: German clause structure[2], cf. Radford (2009:322f) for movement operations.

Of course, the input learners receive is not as straightforward as shown in this illustration, since there is superficial structural variation which may

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[2] We here ignore the theoretically relevant question of how this topological model can be mapped onto hierarchical phrase structure. We are aware that there are a number of proposals depending on how many structural layers one assumes, but this discussion is beyond the scope of this paper (cf. Haider, 1993; Grewendorf, 1995; for acquisition Tracy, 2000).

well distract from the canonical word order described above. These structural ambiguities affect both the left and the right periphery of clauses. At the left, connecting particles such as *und/oder* (*and/or*), *aber* (but), *denn* (*since*) or *weil*[3] (*since*) adjoin to the clause, 'pushing' the verb into what looks like the third position (cf. Tracy and Thoma, 2009), cf. (4).

(4) denn er will   nicht nach hause gehen
     since he wants not   to   home go
     'since he doesn't want to go home'

The right sentence bracket might also be obscured by the fact that some clauses (relative clauses, cf. (5)) and other constituents (cf. (6)) can be ex-braciated into the postverbal field.

(5) ich habe den jungen t_i gesehen, [den   er   mir beschrieben hat]$_i$.
     I   have the boy t_i seen,   [which he   me described   has]$_i$.
     'I saw the boy which he described to me'

(6) ich habe den   jungen t_i gesehen [am Montag]$_i$.
     I   have the   boy t_i seen   [on Monday]$_i$.
     'I saw the boy on Monday'

These adjunctions at the left and at the right sentence bracket might have an effect on the acquisition of V2 for learners of German, since their input regarding the superficial position of the verb is ambiguous. Interestingly, while children acquiring German as their L1 are only marginally affected by this ambiguity (Tracy, 1991) as well as L2 children with an early onset of acquisition (Rothweiler, 2006; Tracy and Thoma, 2009), it seems to create more problems for adult L2 learners (Meisel,1997).

2. L1 development with respect to German clause structure

Studies on German as a first language (L1) have shown a quite robust pattern of development in the acquisition of both the syntactic structure and the morphology of German clauses (Clahsen, 1982; Meisel, 1992; Schulz, 2007; Tracy, 2002; Weissenborn, 2000). Children are very good at identifying the right sentential bracket and proceed to the left, filling in functional projections one by one[4]. From the very beginning of the production of two-word utterances around the age of 18-20 months, the right sentence bracket (VE) is filled with non-finite parts of the verbal complex (e.g. *mama auf-*

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[3] In these cases *weil* is not employed as a complementizer but as a connecting particle.

[4] There is some disagreement as far as the gradual nature of this process is concerned. Some learners may well develop Verbend and V2 in parallel.

machen, mum open-make_{inf}, ball weg, ball away, teddy auch schlafen, teddy also sleep_{inf}). In this phase, children also typically produce holistic structures (e.g. *wose ball,* from *wo is(t) ball, 'Where's ball'?*, cf. Kaltenbacher 1990; Tracy, 1991) and formulae (e.g. *das is hoch, this is up*) which already 'mimic' V2 clauses and can certainly be considered precursors, however, they are only partially productive (cf. Tracy, 2000). At the age of two to two--and-a-half, children begin to produce V2 main clauses with the finite verb in second position (cf. example (1), (2)), i.e. they raise the verb into C° position. The next developmental step consists in the acquisition of VE subordinate clauses where the finite verb only moves to T° (i.e. the VE position) since the left sentence bracket (C°) is already filled with a complementizer (cf. example (3)). L1 German children master this level of German clause structure at the age of 2-3.

Of course, this is a highly simplified view of the acquisition process, disregarding several transitional phenomena as well as inter- and intra--individual variation. For example, children may well go through a phase known as the stage of "optional infinitive", characterized by the coexistence of both non-finite verbs in VE (root infinitives) and finite verbs in V2 (Wexler, 1994; Haznedar and Schwartz, 1997). Children might also produce precursor subordinate clauses with missing complementizers or placeholders, such as *[nnn] der junge ball will, [nnn] the boy ball wants*. In this case the child has already acquired the structural position of complementizers but has problems spelling out the lexical complementizer (Fritzenschaft et al., 1990; Rothweiler, 1993). Even non-targetlike structures with the finite verb in third position have been reported for monolingual children acquiring German (cf. Tracy, 1991), however, they remain marginal (e.g. *dann der geht heim, then he goes home*).

3. Previous research: L2 acquisition

Adult L2 acquisition differs substantially from L1 acquisition (cf. Hawkins, 2001; White, 2003). Although adult L2 learners have been reported to go through a series of stages in the acquisition process (Clahsen et al., 1983; Klein, 2000; Klein and Perdue, 1997), this process is characterized by a great extent of variation. Additionally, it is questionable whether L2 learners can ever reach native-like competence and some researchers claim that the majority of L2 learners does not (e.g. Meisel, 2009). Adult learners of German, for instance, are likely to exhibit persistent problems with specific aspects of German syntax and morphology. They frequently produce structures with a non-targetlike word order, such as main clauses featuring the (finite) verb in third position whenever an adverbial is preposed (cf. (7)). Another problematic area is the target-like realisation of finite verbs. L2 adults are reported to often produce non-finite verbs in V2 (cf. (8)) or CPs with non-finite verbs in

VE position (cf. (9)). These deviant patterns hardly ever occur in typical, i.e. unimpaired children's L1 data.

(7) *dann er   hat$_{3sg}$ in restaurant gegessen
     then he   has$_{3sg}$ in restaurant eaten
     'then he had a meal in a restaurant' (from Klein and Dimroth, 2003:39)

(8) ich *studieren$_{inf}$ in Porto
     I   study$_{inf}$ in Porto
     'I'm studying in Porto'   (from Prévost and White, 1999:210)

(9) weil   ich hier   nicht *wohnen$_{inf}$
     because   I   here   not   live$_{inf}$
     'because I do not live here'   (from Prévost and White, 1999:213)

But what about children whose (basic) L1 grammar is already in place at the point in time when they start to acquire German as a second language, for instance at the age of 3-4? Do they follow the same course of development and exhibit the same endstate as adult L2 learners, or are they comparable to L1 learners? This question concerning the status of child L2 acquisition has fascinated researchers and instigated a large number of studies (e.g. Punt, 1998; Schwartz, 2003; Meisel, 2008a, 2009; Unsworth, 2004; Prévost and White, 2000; Dimroth and Haberzettl, 2008). To date there is no clear--cut answer to this question, and it seems that child L2 acquisition shares some features with adult L2 acquisition and some with L1 acquisition (e.g. Meisel, 2009:30). Findings differ depending on the structures investigated, the language pair involved and the type of learner group under scrutiny. Some studies with a focus on inflectional morphology, for instance, conclude that child L2 acquisition is more like L1 acquisition (e.g. Punt, 1998; Schwartz, 2003). Punt (1998) finds that in the acquisition of adjectival inflection of children and adults with L2 Dutch, L2 children (age of onset around the age of 4) commit the same errors as L1 children. Adult L2 learners make these errors too. However, they also produce errors that are not attested in either child learner group.

Other researchers claim that child L2 acquisition is more like adult L2 acquisition in at least parts of inflectional morphology as well as in specific syntactic domains. Meisel (2008) reports data showing that the acquisition of finiteness in German children acquiring French as L2 (age of onset ranging between 2;08 and 4) is more like adult L2 since they had problems with clitic usage and inflectional morphemes. These errors have not been attested in monolingual and bilingual first language learners but in adult L2 learners (Meisel, 2008a:69). For syntax, Unsworth (2004) found child L2 acquisition to be more like adult L2 acquisition. She investigated direct-object scrambling in English children acquiring Dutch as L2 (age of onset: 4-7 years) and

found that L2 children go through the same stages as adult learners and that this trajectory differs from that of L1 Dutch children.

Since our focus is the syntax-morphology interface in children acquiring German as an early L2 (i.e. age of onset around 3-4), the case studies by Rothweiler (2006), Thoma and Tracy (2006) and Tracy and Thoma (2009) are of interest. In their longitudinal case studies the authors found the parallel emergence of V2 main clauses and correct subject-verb agreement after 6-15 months of exposure. As soon as verbs appeared in V2 position (i.e. C°), they were also marked for finiteness/agreement. After 8 to 15 months of exposure, these children even started producing subordinate clauses with the finite verb in VE position. On the basis of these studies one can conclude that for crucial areas of German grammar – verb placement (V2) and verbal inflectional morphology (SVA) – early L2 acquisition quantitatively and qualitatively seems to follow L1 acquisition and differs from adult L2 acquisition.

4. The current study: the interface challenge for eL2 children and L2 adults

4.1. Study 1: Sentence production in eL2 children

Research Question

Longitudinal case studies based on large corpora of spontaneous speech samples collected from small groups of children (8 in Thoma and Tracy 2006, 3 in Rothweiler 2006) showed a convergence of V2 and SVA. This raises the methodological question if it is possible to replicate these findings in a cross-sectional quantitative design.

Experimental design

We relied on the method of elicited production based on pilot versions of a story book which is part of the language test LiSe-DaZ[5] – a diagnostic tool specifically designed for assessing language development in children with an immigrant background (Schulz and Tracy, in prep.; Schulz et al., 2008; Wenzel et al., 2009). One by one, pictures were presented to the child, and the experimenter asked questions or provided the beginning of sentences which were very likely to elicit a particular kind of verbal reaction by the child. The stimuli were constructed in order to elicit specific structures, so that every child had the opportunity to produce eight main clauses (V2), including two *wh*-questions as well as six subordinate clauses (VE). It was assumed that if a child had acquired German main and/or subordinate clause structure, he or she will produce structures of that kind when given the appropriate occasion. Additionally, in order to test many children, this method

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[5] While the complete LiSe-DaZ test consists of a comprehension and a production module, we only consider a subset of the production part here.

is preferable to other strategies because children are used to this kind of activity. Hence, in contrast with spontaneous production data, the range of answers was relatively predictable and could therefore be compared more easily.

Examples (10) and (11) illustrate the kind of stimuli that were presented to the participants. Underneath each stimulus, example responses are listed to show the amount of variation in the children's reactions. Responses to the prompt 'main clause' ranged from single word utterances (10a) to V2 clauses displaying minor difficulties with the realization of the main verb (10b) but also quite elaborate and targetlike V2 main clauses (10c).

(10) Example prompt – main clause: Was passiert jetzt gleich?

'What's going to happen now?'

Figure 2

Example responses:

(a) taputt   (TrkOG; 3;04, 4 months of exposure)
     broken

(b) die *nehmt$_{3sg}$ des   (TrkZX, 5;07, 29 months of exposure)
     she *takes$_{3sg}$ that
     'she is going to take it'

(c) jetzt fliegt$_{3sg}$ der hund mit den ballon (RusDK, 5;03, 27 months of
     now flies$_{3sg}$ the dog   with the ballon   exposure)
     'now the dog is flying away with the ballon'

The following responses to the example prompt 'subordinate clause' also illustrate the range of variation encountered: example (11a) is a rudimentary V2 clause with the copula *sein* (*be*), (11b) exhibits a targetlike V2 clause only lacking the definite article in front of the noun *mülleimer* (*garbage can*). Finally, example (11c) displays a correct VE structure.

(11) Example prompt – subordinate clause: Warum macht der Hund so ein trauriges Gesicht?
'Why does the dog pull such a sad face?'

Figure 3

Example responses:

(a) so   runter... des   is$_{3sg}$ runter
     this-way   down…this   is$_{3sg}$ down
     (TrkIK, 3;11, 11 months of exposure)
     'down like this…this is down'

(b) der   will$_{3sg}$ in mülleimer   sein
     he   wants$_{3sg}$ in garbage can be
     (ItnJR, 4;04, 17 months of exposure)
     'he wants to be in the garbage can'

(c) weil   der nix   zu essen hat$_{3sg}$
     because he nothing to eat   has$_{3sg}$
     (PqlSJ, 5;09, 29 months of exposure)
     'because he's got nothing to eat'

Participants

121 children acquiring German as their second language with different L1 backgrounds (e.g. Turkish, Russian, Italian, Polish, etc.) were tested individually in either their kindergarten or in primary school. Their age at the time of testing ranged from 3;01 to 7;10. Age of onset of acquisition ranged from 2;09 to 4;07 (mean = 38 months, SD = 4 months), i.e. the majority of children we examined were systematically exposed to German from roughly 3 years onward, upon entering kindergarten. Depending on the age at time of testing, the length of exposure to German ranged from 3 to 59 months.

Scoring

In a first step, all responses were systematically coded with respect to word classes employed and analyzed with respect to the topological model of German clause structure illustrated before. It was determined whether the relevant phrase structural positions were overtly filled. Fragmentary utterances like *hund (dog)* or *spielen (play)* were classified as "single words".

Sequences containing more than one word, such as *ballon nehmen (ballon take)* were classified as "two-word utterances". Formulaic and repetitive structures such as *da is hoch (there is up)* or *də mach da (?he/that do there)* were categorized as "precursor structures". Although the V2 position seemed to be filled in these utterances, there was no evidence of variation concerning the verb. Most often the copula *sein* (*be*) was used, as well as the light verb *machen* (*make*). The prefield and middlefield were occupied by highly frequent combinations of underspecified articles (*də*) and nouns or by demonstratives and deictic particles, such as *da*. Apart from the V2 precursor structures, we had to abstract away from any other transitional phenomena due to the cross-sectional design of the study. Structures with a verb in V2, e.g. *der hund hat die ball genehmt (the dog has the ball taken)* were classified as "V2 main clause" structures, and utterances with a complementizer in C° and a verb in VE position were categorized as "VE subordinate clause" structures (e.g. *wenn der hund nicht wegrennt (if the dog not away-runs)*). Utterances that could not be assigned to one of the above categories, i.e. self-interruptions, experimental errors or unanalysable responses were collected in a category called "other".

In a second step, morphological aspects were taken into consideration. To assess children's mastery of subject-verb-agreement in German and to determine the degree to which they had mastered the interface between syntax and morphology, all structures that were classified as a V2 main clause or as a VE subordinate clause in the first analysis were re-examined more closely. The verb was coded as morphologically either targetlike or non-targetlike. Non-targetlike forms were assigned to four subgroups: one with both tense and agreement features present but where morphological detail (form) is incorrect, as in overgeneralisations (**willt* instead of *will*) or a missing umlaut (**lauft* instead of *läuft*). In the second subgroup of non-targetlike verb forms, the verb inflects for tense but agreement between subject and verb is deviant (*die kinder spielst$_{3sg}$* instead of *die kinder spielen$_{3pl}$*). In the last two groups of deviant verb forms tense and agreement features are either missing (i.e. we have what look like stem forms, such as *der spiel$_{stem?}$ mit hund*)[6], or the verb is an infinitive (*du gehen$_{inf}$ da*). The following table exemplifies these different categories.

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[6] In colloquial German it is possible to leave out the –e in 1st person singular verb forms (*ich spiel(e) mit dem hund, I play with the dog*). Thus, this verb form can not unambiguously be defined as a stem form. It is also possible that the child produces an inflected form but that subject verb agreement is incorrect.

targetlike	non-targetlike			
V +tense +agr	V +tense +agr -form	V +tense -agr	V ?tense ?agr	V -tense -agr
der hund fängt$_{3sg}$ den ball the dog catches$_{3sg}$ the ball	der *willt$_{3sg}$ den ball he wants$_{3sg}$ the ball der *lauft$_{3sg}$ weg he walks$_{3sg}$ away	die kinder *spielst$_{2sg}$ frisbee the children$_{3sg}$ play$_{2sg}$ frisbee	der *spiel$_{stem?}$ mit hund he play$_{stem?}$ with dog	du *gehen$_{inf}$ da you go$_{inf}$ there

Table 1: Scoring categories subject-verb-agreement

Results

We decided that a specific structure was acquired whenever the child produced at least two utterances of the relevant structural category. It is important to note that children who, for example, were classed as "V2 main clause" children, i.e. they had acquired this particular structural format, also produced less advanced structures, e.g. belonging to the category "single words" or "two-word utterances". In some cases, these fragments could be counted as appropriate answers to the test prompt. Example (12) shows two responses to an item that are both perfectly acceptable in the given context and were coded accordingly. The item was designed to elicit a subordinate clause introduced by the complementizer *dass.*

(12)
Story: Auf einmal hören Lise und Ibo ein Bellen. Es kommt aus einer Mülltonne.
'Suddenly Lise and Ibo hear a barking noise. It's coming from a garbage can.'
Die Kinder überlegen, was in der Tonne ist.
'The children are asking themselves what/who may be making such a noise in the garbage can.'

Test prompt: Was glauben die?
'What do they think?'

Child response: dass da ein eichhörnchen ist BosSV (5;02, 26 months of
        exposure)
                that there a squirrel   is
    'that there is a squirrel inside'

Child response: ein hund   RusAL (5;01, 24 months of exposure)
                a   dog

In a pilot study with 74 German L1 children between the ages 3 – 7 who
received the same task as described above the children performed as ex-
pected. All L1 children who were tested at the age of 4 and older had already
reached the most advanced stage in the acquisition of German sentence
structure tested for. In the group of 3-year-olds a few children (29%) had not
yet acquired subordinate clause structures (they preferred to produce V2
main clauses); a very small percentage (12%) stuck to two-word utterances
during the elicitation task.

	single words	two-word utterances	V2 main clauses	VE subordinate clauses
3-year-olds (N=17)	12%	0%	29%	59%
4-year-olds (N=17)	0%	0%	0%	100%
5-year-olds (N=15)	0%	0%	0%	100%
6-year-olds (N=12)	0%	0%	0%	100%
7-year-olds (N=13)	0%	0%	0%	100%

Table 2: Evidence for most advanced structures – criterion "at least 2" – by age

The overall picture of our child L2 data is quite straightforward. The
percentage of children who reach the highest developmental step, i.e. who
produce at least two VE subordinate clauses, steadily increases with length
of exposure to the target language. In parallel, the percentage of eL2 children
only producing single or two-word utterances and precursor structures as
their most advanced structures becomes less.

It did not come as a surprise that many children tested after 26 months
of exposure or more 'only' produced V2 main clauses as their most ad-
vanced structure. After all, it is always possible and adequate to respond to a
question aimed at eliciting a VE structure with a V2 clause: *Warum macht
der Hund so ein trauriges Gesicht? der wollt da verstecken?* (GrkVS, 5;03,

26 months of exposure; '*Why does the dog pull such a sad face?' he wants there hide*).
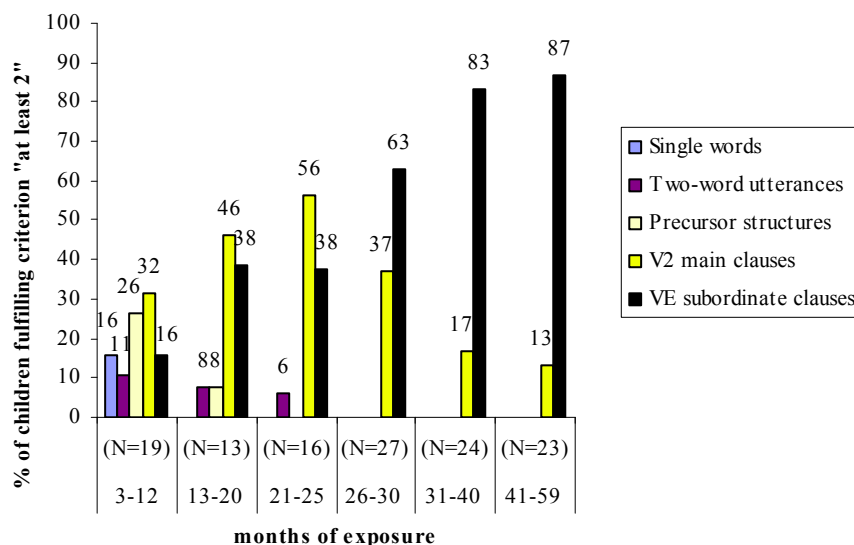

Figure 4: Evidence for most advanced structures – criterion "at least 2" – by length of exposure to German; "Other" structures < 2%, not displayed.

As we set out to compare our data to the case studies by Rothweiler (2006), Thoma and Tracy (2006), Tracy and Thoma (2009), we need to take a closer look at the group with only few months of exposure (3-12 months of exposure). In this group half of the children (32%+16%) had already acquired the structural format of main clauses; some even produced subordinate clauses (16%). This result goes well with the other case studies where the fast-learning children start to productively use V2 main clauses after 6-7 months of exposure and VE subordinate/embedded clauses after 8 months.

We were also not surprised to find eL2 children with 3-12 months of exposure who mainly produced precursor structures (26%). These children displayed very similar response patterns, mainly utterances in which the left sentence bracket was filled with the early and highly frequent verbs *sein* or *machen* but there was no evidence for variation. Thus these utterances were regarded as formulaic precursor structures. Below we have an excerpt from a child who predominantly produced V2 precursor structures.

(13)

Test prompt	**Child response** (TrkYB, 3;11, 12 months of exposure)
Und was macht Lise hier? der mach/ 'And what's Lise doing here?'	hab ihn so Zunge mach so he do$_{stem}$/ have him like this _ tongue do$_{stem}$ this 'he is doing/ holding him like this _ tongue is like this'
Guck mal, was passiert auf diesem Bild? 'Look, what's happening here?'	die mach so und die mach so she do$_{stem}$ this and she do$_{stem}$ this 'she is doing like this and she is doing like that'
Was will der denn? 'What does he want?'	ball ball
Was hat der Mann mit dem Baum gemacht? 'What did the man do to the tree?'	aber dƏ mach so but he/she do$_{stem}$ this 'but he is doing like this'

Additionally, we asked ourselves how reliable the classification of the learners according to the minimum criterion "at least 2" was. The representativeness of the classification with respect to V2 is illustrated in table 3 below. Children that were assigned to the category "V2 main clause" on average produced many more than two V2 structures.

Group (LoE in months)	Number of children assigned to category V2	Total number of V2 utterances	Mean	SD
3-12	6	48	8	3.75
13-20	6	39	6.5	4.76
21-25	9	64	7.12	3.22
26-30	10	80	8	2.16
31-40	4	28	7	0.82
41-59	3	28	9.34	3.21

Table 3: V2 utterances produced by children in the category "V2 main clause" by length of exposure

Placing the verb in the correct position is only part of the task of acquiring the syntax-morphology interface. Therefore, in an additional step we examined the morphological form of the verb. This analysis brought to light that our eL2 learners were very proficient regarding this crucial property of German clause structure. Whenever the children produced a V2 main or VE subordinate clause – apart from a few exceptions – they nearly always correctly marked the verb in V2 or VE position for tense and agreement. Although the group with the shortest length of exposure only produced very

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few V2 main clauses and VE subordinate clauses (71/266), with regard to SVA their performance was also at ceiling. 90% of the verbs in V2/VE position were correctly marked.

Group (LoE in months)	number of children	number of items	Target-like V +t +agr	non-targetlike			
				V +t +agr -form	V +t -agr	V ?t ?agr	V –t -agr
3-12	19	14	90% (64/71)	6% (4/71)	4% (3/71)	0% (0/71)	0% (0/71)
13-20	13	14	94% (92/98)	5% (5/98)	0% (0/98)	1% (1/98)	0% (0/98)
21-25	16	14	92% (121/132)	3% (4/132)	2% (3/132)	3% (4/132)	0% (0/132)
26-30	27	14	91% (243/268)	6% (15/268)	1% (3/268)	2% (6/268)	0% (0/268)
31-40	24	14	92% (211/229)	4% (10/229)	1% (3/229)	2% (5/229)	0% (0/229)
41-59	23	14	97% (265/273)	3% (7/273)	0,36% (1/273)	0% (0/273)	0% (0/273)

Table 4: SVA in V2 main and VE subordinate clauses by length of exposure
(Total no. of utterances: 1071)

The results show that the target-like marking of the finite verb does not pose a problem for young L2 learners. Although we observed some difficulties with the morphological form of verbs that required an umlaut (*fallt* instead of *fällt*)[7], there were no instances of non-finite forms in contexts requiring finite verbs. The percentages are also in line with the percentages of correctly inflected verbs produced by the children in previous case studies. Rothweiler (2006:103) reports that after 6-15 months of exposure the overall correctness of verb inflections produced by the three children under investigation ranges between 74-100%.

Looking at group 1 with only 3-12 months of exposure, our cross--sectional study replicated the findings from the longitudinal case studies (Rothweiler, 2006; Thoma and Tracy, 2009) showing that eL2 children acquire verb placement in V2 and VE structures and subject-verb-agreement simultaneously. In children assessed after more than one year of exposure (group 2-6), V2/VE and SVA also always occurred together. However, we

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[7] If a child failed to produce the umlaut, it could be regarded as a minor error as it is a form that is licensed by various German dialects.

cannot determine when exactly targetlike verb placement and verbal inflection emerged.

4.2. Study 2: Comparison of eL2 children and tutored adult L2 learners (N=17)

Research Question

The studies mentioned in section 3 found that L2 adults have protracted difficulties with the acquisition of exactly those areas of syntax and morphology that do not pose major problems to L2 children (Clahsen et al., 1983; Meisel, 1997; Klein and Perdue, 1997; Prévost and White, 1999). Using the same method and scoring procedures as in Study 1 with adult learners of German, we wanted to see whether we could observe differences in the performance of L2 children and adults with respect to the acquisition of V2/VE clauses and subject-verb-agreement.

Participants

We tested 17 tutored adult L2 learners acquiring German, aged between 18-40. These learners had a variety of L1s, and their length of exposure to German ranged between 4-12 months. In order to be able to compare the results, the adults were matched in terms of length of exposure to the group of children we focused on in Study 1 (L2 child data: group 1, LoE: 3-12 months). It is also important to note that our adult participants were highly motivated university students who took part in an intensive everyday university based German course and were exposed to naturalistic input outside the classroom as well.

Results

It is known that adults – who are cognitively more mature, whose L1 competence is already fully developed, and who can employ different learning strategies – start out with more complex structures than children and even use functional elements (such as articles or agreement markers) from early on, albeit inconsistently (see Meisel, 2007). This is what we also found in our data. Our adult learners produced complex structures from the very beginning, and none of the participants was at a stage where only two-word utterances or precursor structures were produced. All adults had acquired at least V2 main clause structure, and the majority of learners (11/17) even produced VE subordinate clauses. A closer look at the error patterns, however, reveals that the adults produced some instances of the well-known errors regarding word order, whereas the children did not. In the child data (group 1, LoE: 3-12 months), no instances of non-targetlike V3 structures were found (0/265), whereas in the adult data, 4% (9/238) of the utterances were of this kind.

(14) *vielleicht er   nimmt$_{3sg}$ die wurstluftballon
      * maybe   he takes$_{3sg}$ the sausage-ballon
      'maybe he'll take the sausage-ballon'

With regard to subject-verb-agreement, the overall picture was similar to our child data. In 91% of the utterances (only main and subordinate clause structures considered) the verb was correctly inflected. However, while the children tended to have problems with morphological details (i.e. they did not produce an umlaut when it was required) or agreement marking and did not produce infinitives or stem forms of verbs in finite contexts, adults did to a small extent. In 4% of the utterances the verb appeared to be in stem form, and in 2% of the utterances requiring a finite verb form, the verb was infinitival. In particular, subordinate clauses with a non-finite verb in VE position (15) (14%, i.e. 4/29) were produced.

Although in other adult L2 studies non-finite verbs in V2 are very common throughout early stages of acquisition (e.g. Prévost and White, 1999), we only found a single instance in our data (cf. 16).

(15) wenn du   nicht *wegrennen$_{inf}$
      if   you not   *away-run$_{inf}$
      'if you don't run away'

(16) der hund *probieren$_{inf}$ das luftballon zu essen
      the dog *try$_{inf}$ the ballon   to eat
      'the dog is trying to eat the ballon'

With respect to the question of how eL2 acquisition differs from adult L2 acquisition, we find that our sample of adult learners master the syntax--morphology interface very well. Nevertheless, we encountered errors typically reported to be problematic for this learner group and that were not attested in the child L2 data.

5. Summary and Conclusion

In Study 1 we examined young second language learners' ability to acquire German sentence structure by using a cross-sectional design. Our sample (N=121) were children of various immigrant languages who were first exposed to German upon entering kindergarten, usually around the age of three. Although the specific acquisition task investigated involves the interaction of at least two different grammatical modules, namely syntax and morphology, as well as their interface, our Study 1 indicates that when children are exposed to German as early as the age of 3-4, they stand a very good chance of being just as successful as monolingual German children in discovering canonical word order patterns (and the functional categories

required) and the correct morphological paradigms of German finite verbs. As soon as main and subordinate clauses became productive (i.e. children produced at least two instances of a certain structural format), verbs in finite contexts were almost always inflected correctly, and we found no instances of non-finite verbs in contexts calling for finite verbs. Our sample included children from various stages of acquisition; hence it was possible to reconstruct an acquisition path consisting of the successive spelling-out of phrasal layers along the lines suggested for monolingual German children. Overall, then, our cross-sectional Study 1 supports the claim that with respect to critical syntactic and morphological properties of German clauses, child L2 resembles L1 acquisition.

In Study 2 we investigated the question of how early L2 differs from adult L2 with respect to the acquisition of German clause structure. Although the adult L2 data revealed error patterns that were not documented in the child L2 data (e.g. deviant V3 structures), suggesting that different acquisition paths were being pursued, overall our group of adult L2 learners quite successfully mastered the syntax-morphology interface. However, since our adult L2 learners belonged to a very privileged group of highly motivated tutored L2 language learners, who were explicitly instructed in crucial features of German clauses, and who were also fully aware of the fact that they were being tested (even though they were not told what the test was about), we can only draw very tentative conclusions. We certainly cannot rule out that adults learning German as their L2 in a truly naturalistic setting would have exhibited a larger percentage of errors in the area of inflectional morphology and verb placement or displayed other acquisition problems. Moreover, our test items only called for relatively short responses (main clauses or a main plus subordinate clause), hence patterns that should be relatively easy to monitor in production. Future research should therefore be directed at a comparison between the performance of early L2 children with the performance of untutored adult L2 learners of German.

We operated within the limits of a diagnostic tool originally developed for assessing the linguistic competence of L2 children between the ages of 3--7, even though, fortunately, the story used for elicitation tends to appeal to adults as well. Due to the small set of individual data elicited (only 14 critical utterances per participant) and due to the fact that we assessed the participants at only one point in time, we were not able to take a closer look at inter-individual and intra-individual variation. Quite clearly, it would be desirable to extend the design to elicit, for instance, a wider range of V2 effects and phenomena affecting word order (scrambling, for instance). In spite of these limitations for the child-adult comparison of our study, our analysis of the child L2 data shows that speedy mastery of the syntax--morphology interface is possible, even under non-optimal input conditions.

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