Finiteness and V2 in second language acquisition: Longitudinal evidence from two late learners of German

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1. Introduction

During my studies at the Department of Linguistics in Vienna in the 1990s, Martin Prinzhorn introduced me to generative linguistics and created a stimulating environment by inviting international researchers such as Hagit Borer, Irene Heim, Henk van Riemsdijk and Edwin Williams to teach courses at the university. As a graduate student, I gave a tutorial on his lecture *Einführung in die spezielle Grammatiktheorie*, which was essentially an introductory course to generative syntax. His idea was to introduce one specific grammar theory properly, to enable students to really work with it. He expected students to be able to familiarize themselves with other theories of grammar on the basis of his introduction. And he was right: my Viennese education enabled me to bring together the results of studies from generative, functional and usage-based theories of L2 acquisition in my thesis on the age factor in the acquisition of verb placement in German (Czinglar 2014). Martin was always interested in the architecture of functional categories and how it can be used to describe morphosyntactic phenomena in different languages and varieties, including learner varieties. In this squib, I reanalyze some of Czinglar’s (2014) data to investigate the detailed developmental sequence of the acquisition of finiteness and V2 in two late, but nevertheless fast, L2 learners of German. I will argue that their development can be explained by the functional architecture provided by universal grammar (UG).

2. The L2 acquisition of finiteness and V2 in German

In German main clauses, there are two verb positions: The finite verb (in bold face) is always in V2 position (C° in generative accounts of clause structure) and the infinite verb at the end of the clause (V° in a right-headed VP) as in (1a). If the clause-initial

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constituent (in SpecCP) is not the subject, the order of the subject and the finite verb is inverted to preserve the V2 property as in (1b). These properties of German are not evident in clauses like (1c), which superficially display a simple SVO order and are very common in spoken and written German (Hinrichs & Kübler 2006). There is an asymmetry between main and embedded clauses in German, as the finite verb appears in the clause-final position in embedded clauses, as in (1d) below.

(1)  
a. Martin hat gestern Rotwein getrunken.  
     Martin has yesterday red wine drunk  
b. Gestern hat Martin Rotwein getrunken.  
     yesterday has Martin red wine drunk  
c. Martin trinkt Rotwein.  
     Martin drinks red wine  
d. dass Martin Rotwein getrunken hat.  
     that Martin red wine drunk has

Due to these properties, German is analyzed as a SOV language with the V2 property in the main clause (Koster 1975): Every clause in German is represented by a left-headed CP, under which some right-headed Split-IP projections (Pollock 1989) and a right-headed VP projection are embedded (Ludwig et al. 2012, Vainikka & Young-Scholten 2011).

The following developmental sequence has been established for late L2 acquisition, i.e. for learners who start to acquire German at the age of about five years or more (Clahsen et al. 1983, Haberzettl 2005, Meisel 2013, Vainikka & Young-Scholten 2011):

(2) Developmental sequence for verb placement in German, based on Meisel (2013)  

Phase I: SVO order (Adv-SVO)  
Phase II: Verb bracket with infinite verbs in clause-final position (OV/XV)  
Phase III: V2 with subject-verb inversion (a) in wh-questions, (b) with fronted objects (topicalization), (c) with fronted adverbials  
Phase IV: Finite verbs in clause-final position in embedded clauses

Both in L1 and untutored L2 acquisition, learners start out using nonfinite verbal forms (mostly infinitives, sometimes stems and participles) instead of finite verb forms (Dimroth et al. 2003, Rothweiler 2006, Tracy & Thoma 2009). In L1 and early L2 acquisition there is a strong correlation between the morphological marking of finiteness and word order: Infinite verbs stay in VP, whereas finite verbs raise out of VP. In late L2 acquisition, functional morphology and verb placement are typically not as tightly connected.

The first step of the acquisition of verb placement involves the OV order of lexical verbs (Phase II), which can only be seen in periphrastic verb constructions: the finite functional verb (e.g. an auxiliary or a modal) and an infinite lexical verb as in (1b) form the verb bracket in German, which embraces not only objects, but also inverted subjects, negation and other VP adverbials (XV). In contrast to lexical verbs, functional verbs are
separate instantiations of semantic and morphological finiteness, which helps especially late L2 learners to acquire finiteness (Dimroth et al. 2003). Functional and lexical verbs also behave differently with respect to subject-verb agreement (SVA) and verb placement (Parodi 2000, Schimke 2009): adult L2 learners use functional verbs almost always in the finite form, more likely with correct SVA and in a raised position to the left of negation, whereas lexical verbs also appear in the nonfinite form and with preverbal negation.

Haberzettl (2005) argues convincingly that not the verb raising out of VP, but the inversion of subject and verb is the relevant milestone for the acquisition of V2 in German (Phase III). Usually, late L2 learners acquire verb raising some months before they acquire inversion (Haberzettl 2005). Late L2 learners acquire inversion in three steps: first, inversion in wh-questions, then inversion with topicalized objects, and as a last step, inversion with adverbs/adverbials in declarative main clauses (Clahsen et al. 1983, Diehl et al. 2000). Jordens (2006) argues that the acquisition of auxiliaries plays a key role in the acquisition of inversion in Dutch, as learners use the structure X heb/heeft ‘X have/has’ as a mechanism for topicalization. Hence, Dimroth (2009) argues that functional verbs, and especially auxiliaries, have a bootstrapping function in the acquisition of inversion.

In embedded clauses, late L2 learners usually start out using SVO orders in German and it takes them a long time to acquire Phase IV – the clause-final position of the finite verb (Müller 1998). Many untutored adult learners do not acquire Phase IV or even Phase III at all (Clahsen et al. 1983, Klein & Dimroth 2009).

In this squib, I will tackle the following research questions: do both late L2 learners investigated go through the developmental sequence in (2) and if so, how fast? What is the relationship between morphological finiteness (subject-verb agreement), verb raising over negation and V2 in these successful and fast learners? Do functional verbs bootstrap the acquisition of inversion and V2? And how does the morphosyntactic development map onto the functional projections provided by UG?

3. Corpus and methodology

The longitudinal data discussed in this paper are part of the corpus DaZ-AF (Czinglar 2014, Dimroth 2008, Pagonis 2009). The DaZ-AF corpus documents the spontaneous speech of two half-sisters, Nastja and Dasha, during their first 18 months in Germany. The two sisters grew up together in a highly educated family in St. Petersburg and moved to Cologne together with their mother, when Nastja was 8;7 (NAS/8) and Dasha was 14;2 years old (DAS/14). Neither of the two sisters spoke German (apart from what they had learned in a 8-hour crash course in German as a Foreign Language), but the older sister already spoke English. In Cologne, they had attended a regular German school according to their respective ages: NAS/8 an elementary school and DAS/14 a gymnasium. They continued to speak their L1 Russian as their family language. Nastja and Dasha were recorded weekly, often on the same day, during separate recording sessions in spontaneous interaction with a native German speaker.

Of the 65 (DAS/14) and 63 (NAS/8) recordings in the DaZ-AF-corpus, 21 recordings per learner were analyzed spanning the whole period of observation. As both learners used only a few verbs apart from the copula, and the development of the first verb forms
is documented in Dimroth 2008, no recording was taken from the first month of exposure (ME). Three to four recordings were selected from ME 02 to 05 and one recording from ME 06 to ME 17, based on their comparability (same day of recording, same interlocutor, no other tasks, no other speakers present).

The whole DaZ-AF-corpus was transcribed in the CHAT-format as defined in CHILDES (MacWhinney 2000). All transcriptions used for this study were triple-checked with the recordings (once by the author). Utterances which were unintelligible, incomplete with respect to the verb or not spontaneously produced were excluded. Additionally, about 25% of all utterances were discarded as potential prefabricated chunks, i.e. combinations of a finite verb and X appearing in the same form at least 30 times in the whole corpus, such as ich weiß nicht ‘I don’t know’, weißt du ‘(do) you know?’, es gibt/gibt es ‘there is (existential)’, da ist ‘there is (locative)’, das ist ‘this is’ and ich glaube/glaube ich ‘I think’.

Main verbs were coded as auxiliaries or modal verbs in periphrastic constructions with infinite verbs as in (3c), as copula (sein ‘be’ and werden ‘become’) and as lexical verbs, e.g. in (3a,b). Semi-lexical verbs are mostly modals without infinitives and possessive haben ‘have’. For this squib, the form of the main verb was additionally coded following Ludwig et al. (2012): Nonfinite forms are coded as [-t], e.g. root infinitives as in (3a), and forms with a nonagreeing ending, as in (3b), are coded as [-agr], with a nonexisting form [-f], e.g. overgeneralizations in (3c).

(3)  a. ich lesen den nicht immer. [-t, -agr, +f]  
   I read-INF this-ACC not always  
   ‘I do not always read this.’  
   (ME 09, NAS-31.cha)

   b. dann alle menschen sagt [er ist schlecht] [+t, -agr, +f]  
   then all people-PL say-3S [he is bad]  
   ‘Then all the people say he is bad.’  
   (ME 06, DAS-23.cha)

   c. das kann ich nicht eh@fp verstehen. [+t, +agr, -f]  
   that can-3S*I not filled.pause understand  
   ‘That I can/could not understand.’  
   (ME 06, DAS-23.cha)

To evaluate whether a form or structure is acquired, a correctness ratio was calculated based on the correct realization in obligatory contexts on the basis of Brown (1973), i.e. 90% correctness in at least five obligatory contexts. For this study, only declarative main clauses containing a verb form were analyzed (declarative contexts). All main clauses were coded with respect to the position of the main verb: V1, V2-SVO, V2-INV and V3. For the acquisition of the V2 property, only inversion contexts were consulted, i.e. clauses that (should) display inversion, hence V2-INV and V3. As the clausal architecture of copular clauses is often assumed to be different from other verbs, e.g. the lexical phrase is a NP not a VP (Williams 1980), and they also behave differently with respect to finiteness in L1 acquisition (Czinglar et al. 2006), copulas are excluded from all V2-related calculations. So are the V2-clauses that are embedded under bridge verbs (like sagen ‘say’ or denken ‘think’). Hence, the clause er ist schlecht ‘he is bad’ in (3b) was excluded from calculating the V2-inversion ratio for both reasons. Embedded clauses
were also coded for the position of the finite verb, but copular clauses were included in the count (Czinglar 2014).

4. Results

Both learners acquire finite verb morphology and SVA in main clauses very fast. Surprisingly, they do not use many root infinitives; most of their verbs are finite from the start. From ME 02 onwards, Nastja produces only 18/3094 (0.58%) and Dasha only 25/2276 (1.1%) finite verbs in V2 contexts, e.g. the root infinitive in (3a). Dimroth (2008) shows that they largely acquire the present tense paradigm in the first two months of exposure (ME), both in the same order: first, the endings for 1st and 3rd person singular -e and -t, then 2nd person singular -st, and then 1st person plural -en. Only the productive use of the 1st person plural suffix -en starts one month (NAS/8) and two months (DAS/14) later.

Most of their main verbs agree correctly with the subject: In ME 02 already, 86.08% (NAS/8) to 92.13% (DAS/14) of the main verbs in declarative V2 contexts show correct SVA, although the form itself might not always be target-like, as in (3c). A few agreement errors like (3b) persist, but Nastja reaches over 95% correctness in ME 03 and almost 100% in ME 05, and Dasha does so in ME 05 and ME 11 respectively. In total, the error rate for SVA is very low: 1.87% of 3094 (NAS/8) and 4.75% of 2276 (DAS/14) main verbs in declarative contexts. The table in (4) shows that the results for “light” verbs (Parodi 2000) are mixed, but functional verbs (i.e. auxiliaries and modal verbs with infinitives) exhibit the lowest error rates:

<table>
<thead>
<tr>
<th>% SVA error rate</th>
<th>AUX+INF</th>
<th>modal+INF</th>
<th>semi-lexical</th>
<th>copula</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAS/8</td>
<td>0.00% (495)</td>
<td>0.00% (311)</td>
<td>0.61% (489)</td>
<td>3.95% (760)</td>
</tr>
<tr>
<td>DAS/14</td>
<td>2.05% (293)</td>
<td>3.92% (332)</td>
<td>7.08% (438)</td>
<td>3.45% (550)</td>
</tr>
</tbody>
</table>

Both learners use SVO (Phase I) from the start and acquire the verb bracket and OV/XV order with infinite verbs in the VP (Phase II) after four months of exposure. In total, DAS/14 uses the verb bracket with a head-final VP in 531 of 570 (93.16%) and NAS/8 in 820 of 865 obligatory contexts (94.79%). Dimroth (2008) shows that both learners acquire postverbal negation very fast, although in their L1 Russian negation precedes the finite verb: Nastja produces only four instances of preverbal negation with lexical verbs and starts to place the finite verb before the negation from ME 02 onwards. Dasha does not use preverbal negation at all: she starts to use postverbal negation in ME 04 and begins to use it productively in ME 05 (Dimroth 2008).

The first two steps of Phase III a–b are acquired equally fast: only 10% of all utterances are *wh*-questions, but they almost all show correct verb placement (including
inversion). In ME 05, both learners have already acquired inversion with topicalized objects, such as the accusative pronoun *das* ‘that’ in (3c), but also other pronouns, NPs and even clausal complements. In total, Nastja uses inversion with topicalized objects in 93.16% of 190 obligatory contexts, and Dasha resorts to V3 only in 2/143 cases.

The last step of acquiring finiteness, i.e. subject-verb inversion with fronted adverbials (adverbs, adverbial PPs, NPs and clauses) in declarative contexts is more demanding for both learners: Nastja’s overall correctness rate is 81.58% of 532 obligatory contexts and Dasha’s is 54.65% of 419 cases. They both use inversion as in (5a,c) and V3 as in (5b,d) in free variation with the same adverbs or adverbials with similar meaning.

(5)  
\[a. \text{und dann } \text{kommt die Dascha.} \quad \text{(ME 03, NAS-10.cha)}\]  
\[b. \text{und dann du machst apfelsaft.} \quad \text{(ME 05, NAS-17.cha)}\]  
\[c. \text{so jetzt kannst du deine wohnung beschreiben.} \quad \text{(ME 03, DAS-09.cha)}\]  
\[d. \text{jetz ich kann spielen.} \quad \text{(ME 02, DAS-06.cha)}\]

(6)  
*V2-Inversion with fronted adverbials according to verb type*

While Nastja acquires inversion with fronted adverbs in nine months, Dasha reaches over 90% correctness only once (in ME 16) and one month later the correctness rate drops down to 64% again. Hence, Dasha does not fully acquire inversion during the 18 months of observation. The figure in (6) shows that both learners start to front adverbials in ME 03 and produce inversion with lexical verbs. In ME 04, they begin to use more auxiliaries and modal verbs with infinitives in V2 contexts, i.e. in declarative main clauses in
general. At the same time, inversion with fronted adverbs (Adv-INV) increases, especially with functional verbs. From ME 06 onwards the inversion rate becomes higher for auxiliaries and modals than for lexical verbs. Interestingly, Dasha’s use of inversion with fronted adverbs decreases sharply in ME 05, when she starts to use a lot of object topicalizations, almost all with correct inversion. After ME 05 her inversion rate for fronted adverbials goes up again, with a stronger tendency for auxiliaries and modals. Adv-INV with functional verbs reaches over 90% correctness in ME 14 and 16, before it drops again.

The acquisition of verb placement in embedded clauses (Phase IV) takes as long as acquiring Adv-INV (Phase IIIc) for both learners: they start out with nontarget-like SVO orders in embedded clauses. In ME 03 they begin to use finite verbs in clause-final position, but it takes Nastja until ME 09 to reach 90% correctness, and Dasha’s correctness rate peaks in ME 16 (84.38%) and drops again in ME 17 (60.61%).

5. Discussion and Conclusion

The results show that both learners acquire verb placement according to the developmental sequence specified in (2). They both start with Phase I and acquire Phase II very quickly, in four to five months of exposure: unlike the much slower adult L2 learners documented in the literature, they almost never use root infinitives or place the finite verb before negation and produce few agreement errors. In line with the results of Parodi (2000), there are fewer agreement errors for auxiliaries and modal verbs than for lexical verbs. But upon closer inspection, the error pattern is not just driven by being a “light” vs. a lexical verb: DAS/14 shows the highest error rate for semi-lexical verbs, mostly because she has difficulties with the inflectional paradigm of modal verbs in the beginning, and they simply appear first in bare form and only later with infinitives. Also, both learners show relatively high error rates with the copula, which are mainly due to postverbal subjects and complex coordinated subject NPs.

The development from Phase I to II can be associated with two changes in the phrasal architecture: first, although they start with the phrase structure of an SVO-language like English, they switch to a head-final VP after four months of exposure. Second, only one month later, they both master verb raising to a head-initial functional phrase (assuming a Split-IP e.g. AgrP): being base generated in a functional head like Agr°, auxiliaries and modal verbs with infinitives are in an agreement relation with the subject in SpecAgrP, which explains their low agreement error rate. These functional verbs draw the learner’s attention to the function of Agr° and facilitate the raising of finite lexical verbs, which also explains their placement before negation.

During the first five months of exposure, both learners also acquire Phases IIIa and IIIb: they produce V2 structures involving subject-verb inversion, whenever a wh-phrase or an object (originating in VP) is fronted to the beginning of the clause. Questions necessarily entail a CP-structure and both learners also use the CP-projection for topicalized objects from the start. Dasha’s development is particularly interesting in this respect: she starts to productively front adverbials in ME 03 with an inversion rate of over 36% (N=25), which goes up in ME 04 to 49% (N=37), but drops dramatically to 14% (N=64) in ME 05, when she starts to use a lot of object topicalizations (N=29), 97% of which is with inversion. It seems that Dasha’s interlanguage grammar in ME 05
hypothesizes a CP structure in declaratives only for fronted objects, while fronted adverbials are adjoined to the Split-IP-structure (e.g. TP), as they would be in an SVO-language. After ME 05, Dasha’s inversion rate for adverbials starts to go up again.

Whereas the acquisition of Phases II–IIIb is fast for both learners, they clearly differ in rate for Phases IIIc and IV. While subject-verb agreement and verb raising are already in place for both learners in ME 05, there are big differences between the two learners regarding the acquisition of V2 inversion. The younger learner, Nastja, acquires V2 with inversion after nine months of exposure (in ME 09), while Dasha’s correctness rate reaches 95% only in ME 16 and then drops under 90% again. While inflectional morphology plays a key role for verb raising, it does not for V2 with inversion. Rather, the acquisition of inversion seems to be driven by the acquisition and use of functional verbs, as suggested by Jordens (2006) and Dimroth (2009): inversion rates with auxiliaries and modal verbs are constantly higher than with (semi-)lexical verbs for both learners.

The last phase (IV) of the developmental sequence in (2) is acquired by both learners exactly at the same time as Phase IIIc: in ME 09 for Nastja, and in ME 16 for Dasha, although her highest correctness rate for the clause-final positioning of the finite verb in embedded clauses is only 84.38%, and not 90%, during the period of observation. This is not a coincidence: only when the full acquisition of verb placement in embedded clauses forces the two learners to switch to a head-final Split-IP (e.g. AgrP and TP), they are forced to project a CP for every main clause to ensure the V2 position of the finite verb.

The tight relation between Phase IIIc and IV has not been observed in the literature on adult learners, as the L2 grammar of adults either fossilizes before they acquire these properties, or adults proceed so slowly that longitudinal studies rarely capture these late developments. This shows how important it is to investigate late learners in extensive longitudinal studies. Studies involving the most natural kind of data (spontaneous speech) and methodologically sound calculations of correctness ratios in obligatory contexts deliver important results for theory building in L2 acquisition.

References


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