

Christine Dimroth, Peter Jordens (Editors)

Functional Categories in Learner Language

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37

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# Studies on Language Acquisition

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*Editor*

Peter Jordens

Mouton de Gruyter  
Berlin · New York

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*edited by*

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## Preface

*Christine Dimroth and Peter Jordens*

Language acquisition is a developmental process. Research on spontaneous processes of both children learning their mother tongue and adults learning a second language has shown that particular stages of acquisition can be discriminated. Initially, learner utterances can be accounted for in terms of a language system that is relatively simple. In studies on second language acquisition this learner system is called the Basic Variety (Klein and Perdue 1997). Utterance structure of the Basic Variety is determined by a grammar which consists of lexical structures that are constrained, for example, by semantic principles such as "The NP-referent with highest control comes first" and a pragmatic principle such as "Focus expression last". At some point in acquisition this lexical-semantic system is given up in favour of a target-like system with morpho-syntactic features to express the functional properties of finiteness, topicality, the determiner system, etc. Insights into *how* this process evolves may also provide an answer to the question of *why* it takes place. Within this functional perspective on language acquisition research focuses on questions such as the following.

1. What is the driving force behind the process that causes learners to give up a simple lexical-semantic system in favour of a morpho-syntactic functional category system?
2. What is the added value of morpho-syntactic properties of inflection, word-order variation, definiteness and agreement?
3. Why is it that in cases of specific language impairment it is mainly morpho-syntactic properties of the target language that are affected?

These were the leading questions of a workshop organized by the present editors within the framework of a conference on "System und Variation" which was held by the Deutsche Gesellschaft für Sprachwissenschaft (DGfS) from 28 February to 2 March 2007 in Siegen (Germany). The workshop was entitled "Functional elements. Variation in learner systems". This volume contains an edited selection of the papers presented.

Our dear friend and colleague Clive Perdue, who also participated in our workshop, was among the first who saw the relevance of studying

learner language in its own right. Over the years we benefitted a lot from his suggestions and ideas. Clive died in 2008.

In "Convergence on finite V2 clauses in L1, bilingual L1 and early L2 acquisition" *Rosemarie Tracy* and *Dieter Thoma* discuss the results of a longitudinal case study with children from migrant families who are acquiring Turkish, Russian, and Arabic as their L1 and who were first exposed to German as their second language between the ages of 3 to 4;5. They show that the way in which finiteness features and correlating word-order phenomena emerge in the youngest children in this group, closely resembles the developmental pattern familiar from the acquisition of German as L1. The children rapidly develop target-like finite clauses and a whole range of V2 effects. Furthermore, it was found that none of the children showed evidence of L1 interference. Hence, early L2 acquisition occurs independently of the specific properties of the L1 and thus it differs significantly from adult L2 acquisition. Finally, it is argued that the acquisition process may benefit from intervention programs that are geared particularly to the acquisition and use of lexical verbs both in verb-final and in verb-second position.

In his paper "The acquisition of functional categories in child L1 and adult L2 Dutch" *Peter Jordens* argues that both in child L1 and in adult L2 Dutch, learner varieties develop from a lexical system to a functional system. At the lexical stage, functional categories are absent. Utterance structure is determined by the lexical projection of a predicate-argument structure. Furthermore, topicalization cannot be expressed with the functional means of the target system. However, it can be expressed with the structure of an agentive lexical projection as in *disse hoeniet meeneme* (this-one have-to-not withtake) which has the object in initial position and the agent implicit in the head. At the relevant stage, the agent can also be expressed with a clitic as in *doettie omdraaie*. Reanalysis of the clitic as a pronoun establishes an external argument position for the agent. With an external argument position for the agent and a functional position for the topic, the learner grammar has two specifier positions. The external argument position is projected by the lexical category Pred, the topic position by the functional category F. As a carrier of finiteness F also provides a position for non-root modals, auxiliary verbs and later in the acquisition process also for the lexical verb. As a functional position, Spec-F is available for contextual embedding. That is, it is both a position for topicalization and a position for the expression of *wh*- and *yes/no*-questions.

The paper by *Steffi Winkler* deals with "The acquisition of syntactic finiteness in German L1. A structure-building approach and its cross-

linguistic implications". The study is carried out against the background of recent functional approaches to the development of finiteness in children learning their mother tongue and in adults acquiring a second language (Dimroth et al. 2003; Jordens 2002, 2006, 2008; Jordens and Dimroth 2006). These studies suggest a uniform acquisition path for learners of Germanic languages and propose a stage-model for the development of the finiteness category. Based on the analysis of two child corpora Winkler proposes a developmental path for the category of finiteness in German child language, providing a functional as well as a formal interpretation of the relevant corpus data. She formulates her findings in terms of a structure-building approach. That is, the emergence of the syntactic properties of finiteness can be described as a stepwise process that is accompanied by the establishment of the target-like functional category system. For this process, five successive stages can be identified. Finally, she shows that the proposed syntactic approach can also account for structural variation concerning the investigated phenomenon within the learner system.

In "Stepping stones and stumbling blocks. Why negation accelerates and additive particles delay the acquisition of finiteness in German", *Christine Dimroth* discusses the crucial role of negative particles like *nein* (no) and *nicht* (not) and the additive particle *auch* (also) in the early development of child L1 and adult L2 German. These particles differ from the purely lexical expressions that learners initially use. They specify the relation between other pieces of information given in the utterance and the (non)-verbal context. In the majority of cases, utterances containing *auch* and utterances containing negation have different information structures, i.e. different parts of the information are affected by the particle's negative or additive meaning. Dimroth addresses the question of how these devices are integrated into elementary learner utterances, and what the consequences are for utterance organization.

In "Does finiteness mark assertion? A picture selection study with native speakers and adult learners of German" *Sarah Schimke* discusses the result of a comprehension experiment on the acquisition of finiteness. According to the functional analysis of finiteness as presented in Klein (1998), the finite verb form in a sentence is used to express the functional properties of assertion. Dimroth et al. (2003) have shown that in early second language acquisition finiteness does not yet play a role. Second language learners who acquire German in an immersion setting first form morphologically and syntactically infinite sentences such as *Peter einen Brief schreiben* (Peter a letter to-write). In the experiment Turkish learners of German were divided into two groups: a less advanced and a more ad-



vanced group. The results for the less advanced learners provide evidence in favour of the hypothesis put forward in Dimroth et al. The results for the more advanced group on the other hand show that while finiteness is used to express assertion, learners become uncertain how to interpret the infinite form.

The study by *Josje Verhagen* on "Light verbs and the acquisition of finiteness and negation in Dutch as a second language" focuses on the relevance of auxiliaries and agreement for the acquisition of verb raising. In earlier studies on L2 German it has been found that the acquisition of light verbs is crucial for the acquisition of finiteness and verb-raising. That is, post-verbal negation with lexical verbs (raising) only occurs after the acquisition of light verbs. For L1 Dutch (Jordens 2002) similar findings have been reported with respect to the acquisition of auxiliary verbs. Verhagen however, argues that it is the acquisition of subject-verb agreement that is most relevant. Experimental evidence from Moroccan and Turkish learners of Dutch shows that subject-verb agreement occurs with auxiliaries before it appears with lexical verbs. Furthermore, she shows that subject-verb agreement on lexical verbs is a prerequisite to the acquisition of verb-raising.

In "Finiteness in children with SLI: a functional approach" *Anke Jolink* presents longitudinal speech data of two Dutch SLI children and four normally developing children. The study describes the children's development of finiteness from both a functional and a formal perspective and discusses the extent to which SLI children's development differs from that of normally developing children. When taking a purely formal approach and looking at the morpho-syntactic marking of finiteness only, there are differences between normally developing children and SLI children. SLI children seem to acquire the assertion marking properties of finiteness, however they do not always succeed in applying the target-like grammatical means to express these properties.

The paper by *Natalia Gagarina* on "Functional and modal elements in child and adult Russian" deals with the role of morpho-syntactic complexity in the acquisition of inflectional verb morphology in Russian. It investigates the uses of analytical finite and non-finite constructions in early speech production of three monolingual children and their caregivers. In particular, it examines the acquisition of functional and modal elements in analytical constructions and relates the present results to previous findings that showed the fast acquisition of the synthetic finite verb forms in child Russian. The findings suggest a different timing in the acquisition of finite marking on lexical verbs within synthetic structures and on the auxiliary

and modal verbs within analytical structures. It is proposed that the acquisition of verb morphology within the domain of finite lexical verbs and of the functional and modal elements in child Russian relates to the combination of grammatical and cognitive factors, such as morphological transparency and uniformity of verb inflection on the one hand, and saliency of infinitives in analytical constructions on the other hand.

*Karen Ferret* and *Clive Perdue* build on the results from studies on the acquisition of L1 Dutch and German by Jordens (2002), Dimroth et al. (2003), Nederstigt (2004) and Gretsch and Perdue (2007). In their study "How much (morpho-)syntax is needed to express finiteness?" Dimroth et al.s' three stages are reanalysed as steps along the path to mastering the V2 phenomenon. On the basis of the syntactic analysis of V2 of Adger (2003) for adult German the authors propose that the functional head  $C^\circ$  contains two strong features – *Topic* and *Decl* – which both provoke the movement of constituents, respectively of an XP to initial position and of the finite verb to  $C^\circ$ . Feret and Perdue argue that the first two stages identified by Dimroth et al. reflect development towards V2: semantically, elements with the function of linking predicates to topics mark the illocutionary force of the utterance; syntactically, they occupy a structural position, preparing the acquisition of V2. Thus stage 2 sees the activation of the strong feature [Topic] on  $C^\circ$ , provoking movement of the topic constituent to [Spec,  $C''$ ]. The implications of this proposal are claimed to be (at least) twofold: (1) It leads to reassess two models proposed in generative work on acquisition: the Full Competence Hypothesis and the Minimal Tree Hypothesis; (2) It also leads to re-examine the acquisition of the finite verb's position from a cross-linguistic perspective, i.e. the acquisition of non-V2 languages such as English and French.

*Tanja Kupisch* and *Natascha Müller* show in their paper "Relating Italian articles and clitic object pronouns in bilingual children acquiring Italian and German" that the acquisition of object clitics and determiners in bilingual children acquiring Italian and German is interdependent. In particular, the point in acquisition when the children start to produce object clitics in Italian coincides with the moment in which they cease to omit determiners. The authors propose that there is a particular property of determiners that triggers the obligatory use of object clitics, namely the morphological distinction between indefinite and definite marked noun phrases, which signals whether the hearer's familiarity of the referent can be presupposed. It is shown that the triggering process is very robust and occurs across different learner types, balanced and unbalanced bilinguals.

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# Convergence on finite V2 clauses in L1, bilingual L1 and early L2 acquisition<sup>1</sup>

*Rosemarie Tracy and Dieter Thoma*

## 1. Introduction

We have all been remarkably good at acquiring our first language(s). In contrast, native-like competence and performance remain exceptional for languages acquired later in life. With age and quite possibly due to a variety of other factors, like motivation, learning environment, and intensity of exposure, chances dwindle that we approximate native speakers on all linguistic levels and in all types of behavioural tasks. Yet, some subsystems or interfaces between subsystems, e.g. phonology, morphology, syntax, and processing, are clearly more affected than others. The question of why this may be so and how this could be related to the way our brain matures and to how our ability to process language changes across the lifetime has fascinated the scientific community for at least fifty years (Penfield and Roberts 1959; Lenneberg 1967; Johnson and Newport 1989; Newport 1990; Long 2005; Hyltenstam 1992; Schwartz and Sprouse 1996; White and Genesee 1996; Birdsong 1999; Singleton 2005, to name but a few). While the precise role of maturational factors remains controversial, it is by now widely acknowledged that questions relating to critical or sensitive periods will most likely receive different answers for different subsystems (cf. Sorace 2003; Clahsen and Felser 2006; Indefrey 2006; Hopp 2007; Nitsch 2007).

This wider issue forms the overall backdrop for our own pursuit of the question dealt with in the present paper of how children acquiring German as their first language (L1), as one of two first languages (2L1) and as an early second language (L2) discover crucial properties of German clause structure. We therefore only take a cursory glance at differences between children and adults, and we limit our discussion to evidence from production data. Our main focus will be on L2 children who have been first exposed to German as a second language at the ages of three to five, ages when their L1 grammar is already well in place. Essentially, we will argue for the (null-) hypotheses that, at least for crucial areas of German gram-

mar, early L2 acquisition is just as robust as L1 acquisition, and that, in contrast with natural L2 learning in adults, young L2 children proceed along the milestones known from L1 German. In addition, we will show that young L2 learners can be remarkably fast in acquiring the L2.

We will start with the identification of relevant properties of German clause structure (Section 1) and with a short as well as (relatively) uncontroversial summary of how these properties are acquired by monolingual and bilingual L1 children (Sections 2 and 3). After briefly considering adult L2 acquisition, we present five longitudinal case studies with L2 children who first encountered German in kindergarten (Section 4). As should become clear from the developmental paths sketched in Section 4 and the discussion in Section 5, both qualitative and quantitative analyses indicate that just like L1 children, young L2 learners are very good at working out grammatical rules or schemata. Section 6 summarizes and concludes.

## 2. A brief look at the target: German clause structure

Like all its Germanic sisters apart from English, German is a V2 (verb second) language. In main clauses the finite verb surfaces in second position (cf. 1a), or in first position whenever the so-called preverbal field (indicated by XP, a symbol representing any phrasal constituent) remains unfilled, as, for instance, in *yes/no* questions. Non-finite parts of the verbal complex (particles, infinitives, participles) are restricted to final position (VE, verb end). In subordinate or complement clauses introduced by a complementizer, the VE position is the only one available for finite verbs, cf. (1b). Together, the positions of the finite verb in (1a) and of the complementizer in (1b) at the left sentential periphery and of the non-finite and of the finite verbs at the right periphery in both patterns form the so-called *sentence bracket* (“Satzklammer”, cf. Duden 2006), a metaphor we will rely on quite heavily in the discussion of our data.

- |     |     |      |          |       |                  |        |
|-----|-----|------|----------|-------|------------------|--------|
| (1) | (a) | (XP) | V2{+fin} | ..... | VE               | {-fin} |
|     | (b) |      | COMP     | ..... | VE               | {+fin} |
|     |     |      | ↑        | _____ | SENTENCE BRACKET | _____  |
|     |     |      | ↑        |       |                  | ↑      |

The sentences in (2) serve for illustration of these configurations. (2a)-(c) are main clauses, (2d) is a complement clause. Whenever necessary, we provide interlinear translations and glosses of German examples.

- (2) (a) *Der Mann hat die Tür aufgemacht.*  
 the man has the door open-made  
 ‘the man has opened the door.’
- (b) *Die Tür hat der Mann aufgemacht.*  
 the door has the man open-made  
 ‘the man has opened the door.’
- (c) *Hat der Mann die Tür aufgemacht?*  
 has the man the door open-made?  
 ‘has the man opened the door?’
- (d) ..., *dass der Mann die Tür aufgemacht hat.*  
 ..., that the man the door open-made has  
 ‘... that the man has opened the door.’  
 (also possible as an independent exclamation as in “(I can’t believe) that he opened the door!”)

The question of how to map the topological pattern of (1) onto a hierarchical phrase structure tree is far from trivial and has led to a number of proposals differing in the number and types of structural layers proposed (e.g. Weerman 1989; Haider 1993; Hoekstra 1993; Grewendorf 1995). Since nothing in the following discussion hinges on a particular descriptive model, though, we forgo this discussion and assume that learners will eventually have to reconstruct at least the following layers of phrase structure: VP (headed by verbs), Focus Particle Phrases (FPP, the home base of various particles, including negation), IP (projected by inflectional heads) and CP (headed by complementizers).<sup>2</sup> Furthermore, we assume that the child’s natural curriculum consists in the successive (re-)construction or spell-out of these phrasal layers and that each developmental step (or “milestone”) is triggered by the discovery of new lexical and/or functional heads.

While Schema (1) captures the canonical word order of German, superficial structural variation may well obscure these patterns. This affects, for instance, the left periphery of German main clauses, where connecting particles such as *und/oder* ('and/or'), *denn* ('since'), *sondern/aber* ('but') appear to push the verb out of its second position (*denn/aber er hat das Buch gelesen*, ‘since/but he has read the book’). This also includes *weil* in the sense of *denn* ('since'), which can be adjoined to main clauses (*weil er hat das Buch gelesen*, ‘since he has read the book’), while *weil* in the sense



of 'because' takes on the C-head position in subordinate VE clauses. So the learners' task is to figure out the canonical state of V2 word order despite seemingly contradictory evidence.

Structural ambiguities arise at the right-sentential periphery as well. The domain following both non-finite verbal elements in main clauses and finite verbs in subordinate/embedded clauses (the postverbal field, "Nachfeld"), is reserved for "exbraciated" relative clauses and other heavy constituents, cf. (3a)-(b).

- (3) (a) *Ich habe das Buch \_\_\_ gelesen, [ das er mir gegeben hat].*



I have the book \_\_\_ read which he me given has

'I have read the book which he gave me'

- (b) *Ich habe das Buch \_\_\_ gelesen [über die dramatische Bildungskrise in Deutschland].*

I have the book \_\_\_ read about the dramatic educational crisis in Germany

'I have read the book about ....'

However, in colloquial German, the post-verbal field offers itself to all sorts of adjuncts, which may then be hard to tell from (elliptical) afterthoughts, cf. (4a)-(c).

- (4) (a) *Ich hab das Buch gelesen am Freitag.*

I have the book read on Friday

'I have read the book on Friday.'

- (b) *Ich hab das Buch gelesen mit großem Vergnügen.*

I have the book read with great pleasure

'I have read the book with great pleasure.'

- (c) *Ich hab das Buch gelesen. Sogar mit Vergnügen.*

I have the book read. Even with pleasure

'I have read the book. Even with pleasure.'

In addition, some German dialects allow or even require verb-projection raising, which may make it hard for learners to identify the underlying canonical word order with the verb in final position, cf. (5).<sup>3</sup>

- (5) ...*dass sie ihn \_\_\_\_ hat [sehen wollen]*.  
 ... that she him \_\_\_\_ has seen want  
 ‘... that she wanted to see him’

In sum, then, learners of German have to cope not just with the asymmetry of main and subordinate/embedded clauses (V2 finite vs. VE finite) but, in addition, with the fuzziness created by adjunctions at both sentential peripheries. Nevertheless, L1 learners are only marginally affected by such variation in the input. Adults acquiring German as a second language, however, have a much harder time coming to grips with it (cf. Section 4 below). Hence, it will be interesting to see how very young L2 children resemble in this respect.

### 3. Right on target: German as a first language<sup>4</sup>

Children acquiring German as their first language are highly efficient at identifying the right sentential bracket, that is they produce constructions headed by verbal particles or other non-finite verb forms by the time they are 18–20 months old (cf. Mills 1985; Miller 1976; Clahsen 1988; Weissenborn 2000; Schulz 2007). By that age they have also picked up a useful repertoire of holistically stored expressions and partially productive formulas tied to specific lexical items, such as in precursors of (later) interrogatives (*wose X*, from *Wo is(t) X*, ‘Where’s X?’; cf. Kaltenbacher 1990; Tracy 1991). Many of these expressions already mimic simple V2 clauses.

According to Penner, Tracy and Wymann (1999) and Penner, Tracy and Weissenborn (2000) particles like *auch*, which already figure in children’s two-word combinations, can also be looked upon as heads projecting their own minimal subsystem (a Focus Particle Phrase, FFP). Once focus particles merge with VPs, VP-internal arguments may raise across the particle. The examples in (6) illustrate various options with and without an FFP on top of VP. The data selected for illustration in (6) and (7) are all from the Julia-corpus of Tracy (1991:154ff).

- (6) (a) [<sub>VP</sub> ... ]      *tür auf, bus fahrn, Julia treppen gehn.*  
 door open, bus ride, Julia stairs go  
 ‘Julia (wants to) walk (up) the stairs.’

- (b) [FPP ...] *da auch, auch rein, mama auch kette.*  
 there also, also in-there, mummy also  
 necklace  
 ‘Mummy (is) also (wearing) a necklace.’
- (c) [FPP *auch* [VP...]] *Tracy auch kinderzimmer gehn.*  
 Tracy also children’s room come  
 ‘Tracy (should) also come to the children’s room.’

Around the age of two to two-and-a-half, structural layers associated with agreement/finiteness features emerge, and, soon after, precursors of subordinate clauses with finite verbs in VE position, cf. (7a-c).

- (7) (a) [IP ...] *eichhörnchen auch noch mehr steht.*  
 squirrel also still more stands  
 ‘a squirrel is standing there also.’
- (b) [CP...] *ich bau ein turm mit ein Uhr.*  
 I build a tower with a clock
- (c) [CP...] *wenn die Julia futter reintut, dann fressen die vögel alles auf.*  
 if the Julia food in-puts, then eat the birds everything up  
 ‘if J. puts food in there (into the birdhouse), then the birds eat it all up.’

The examples in (8) provide an overview of this development. We refer to the emergence of specific patterns and features as “milestones”, ignoring the phase of single-words and formulaic expressions (Milestone I). Non-finite VPs and FFPs are grouped together under Milestone II, finite V2 clauses under Milestone III, and complementizer-introduced clauses are assigned to Milestone IV. We leave out translations and glosses since the table contains examples already discussed.

(8)

SENTENCE BRACKET				
	V2	MIDDLE FIELD	VE	Milestone
		<i>apfel</i>	<b>raus</b>	M II
		<i>mama auch apfel</i>		
		<i>mama auch apfel</i>	<b>essen</b>	M III
<i>ich</i>	<b>bau</b>	<i>eichhörnchen auch .... ein turm mit ein uhr</i>	<b>steht</b>	
<i>dann</i>	<b>fressen</b>	<i>die vögel alles</i>	<b>auf</b>	M III
	↓ <b>Complementizer</b>		↓	
	<b>wenn</b>	<i>die Julia futter</i>	<b>reintut</b>	M IV

This picture is, of course, highly simplified since it abstracts away from inter-individual variation, such as children’s differential preferences for precursor structures, and from intra-individual variation (cf. Hohenberger 2002). This schema also ignores intermediary steps related to the emergence of auxiliaries and modals (cf. Jordens 1990, 2002; Hoekstra and Jordens 1994) and scrambling within the middle field (Nederstigt 2003; cf. also Unsworth 2007 for different learner types dealing with scrambling in Dutch). Marginal patterns, for instance those with redundantly spelled-out items, as in (9) below, which look like slips of the tongue provide us with useful insights into the state-of-the-art of learner systems – such as the child’s awareness that the very same verb or thematic argument may surface in different positions – and inform us about on-line competition and monitoring failures.

- (9) (a) *wo is das andere is?*  
 where is the other-one is  
 ‘where’s the other one?’  
 (b) *das spiel ich’s auch.*  
 that play I-it also  
 ‘I’ll play this (game) as well.’

Like children acquiring other languages, L1 learners of German are not just highly systematic in what they overgenerate, as in (9), but also in what they omit or at least consider optional (such as subjects, tense, agreement or

other functional categories). Temporarily they may also entertain hypotheses about form-function mapping which deviate from the target. Some learners, for example, initially reserve finite VE formats for *wh*-questions (cf. Fritzenschaft et al. 1990; Penner 1994; Tracy 1994). After what was said above about the “fuzzy” edges of German clause structure, it comes as no surprise that even L1 learners occasionally produce main clauses with the verb in third, not second, position, with adverbials like *dann* ('then') adjoined to what already look like complete CPs (*dann da kommt Rauch raus*, then there comes smoke out, ‘then there’s smoke coming out (of the chimney)’). Note that simply replacing *dann* with *denn* would transform these patterns into perfectly grammatical sentences.

By the time typically developing L1 children are about three-and-a-half to four years old, most of these differences have evened out. This convergence onto the canonical patterns of German main and subordinate clauses can also be seen in recent cross-sectional investigations. Schulz, Tracy and Wenzel (2008) tested 75 German L1 children between the ages of three to seven, among them 17 three-year-olds and 17 four-year-olds. 60% of the three-year-olds had mastered simple finite V2 clauses, and children aged four and older performed at ceiling with respect to elicited subordinate clauses.

While this general developmental picture is relatively uncontroversial, there is less agreement as to when and how children’s early coexisting constructions might be linked by a set of derivational rules within a single grammar (cf. the articles in Meisel 1992). But couldn’t a (supposedly) monolingual child initially behave like a bilingual and at least temporarily entertain coexisting and incompatible grammars (cf. Tracy 2002, Gawlitzek-Maiwald and Tracy 2005 for this “multiple roots hypothesis”)? After all, we know that children simultaneously exposed to two or more languages are perfectly capable of constructing different grammars at a time, a point to which we turn in the next section.

#### **4. Dual targets: the simultaneous acquisition of two first languages<sup>5</sup>**

How good children are at detecting crucial and often quite abstract differences between structures and at NOT allowing grammars to converge can be learned from learners growing up with more than one first language. While many pioneers of childhood bilingualism research believed that children start out with a single, fused system (e.g. Leopold 1939-1949; Volterra and Taeschner 1978; cf. the overview in de Houwer 1990), there

is by now wide agreement in favour of early language differentiation, even though on the behavioural level children may go through intensive phases of mixing (cf. Nicoladis and Genesee 1996; Paradis and Genesee 1997; articles in Döpke 2000; Cenoz and Genesee 2001; overviews in De Houwer 2005; Tracy and Gawlitzek-Maiwald 2000; Meisel 2004, 2007; Müller, Kupisch, Schmitz and Cantone 2007; Genesee and Nicoladis 2007). Differentiation “in principle” also does not preclude cross-linguistic interactions provoked, for instance, by (near-)homonymy and structural “grey zones”<sup>6</sup> shared by the languages involved (cf. Hulk and Müller 2000; Döpke 2000; Müller et al. 2007). After all, this is what we would expect on the basis of what we know about co-activation known from adult bilinguals (Green 1998; Clyne 2003; Myers-Scotton 2006).

Early bilingual production data provide us with important insights into children’s linguistic competence because they show us what from the learner’s perspective looks equivalent, as in the following two illustrations involving complementizers.

- (10) Stani 3;0      *das darf man if man will.*  
                             that may one if one wants  
                             ‘one may if one wishes to.’
- (11) Adam 5;2 and his interlocutor pretend to be dinosaurs trying various kinds of food.  
 Adult:              *hey, dinosaur, have you ever tried this horrible yellow thing?*  
 Adam:              *mhm, I found that but I I see of it’s ... if...of...ob  
                             des schmeckt  
                             ..... ‘whether it tastes well.’*

Strong evidence for 2L1 children’s ability to cope with the parallel construction of different grammars comes from developmental asynchronies, i.e. cases where one language may be significantly faster than the other, even though both may be well within corresponding monolingual norms, or even faster (cf. Gawlitzek-Maiwald and Tracy 1996; Tracy 1996; Genesee and Nicoladis 2007; Müller et al. 2007). Despite the principal ability to develop separate linguistic systems, it remains an interesting question of whether this asynchrony could reach a degree where the acquisition of a “weaker” language looks more like L2 acquisition (e.g. Bernhardt and Schlyter 2004).

The way in which simultaneous bilinguals cope with analogous properties of their target grammars (for instance with the discovery of functional

categories, where both languages make them available) also provides us with insights concerning the relative transparency or complexity of specific linguistic options (a point already made by Slobin 1973), since specific coding devices that are, at least in principle, readily available in the input, do not necessarily emerge around the same time in both languages (cf. Gawlitzek-Maiwald and Tracy 1996; Müller et al. 2007<sup>2</sup>).

An interesting asynchrony can be found in the way children growing up with German and English master subject-verb-agreement/finiteness. As we have seen above in our discussion of L1, the German subject-verb agreement paradigm emerges more or less hand in hand with V2 (e.g. Clahsen 1988; Clahsen and Penke 1992). In general, it is fully productive by the time typically-developing children are about two-and-a-half-years to three years old, whereas monolinguals acquiring English as a first language are very sensitive to aspectual distinctions but require more time to discover the set of properties associated with subject-verb agreement and finiteness (cf. already Brown 1973; Fletcher 1981; Phillips 1995; Hoekstra and Hyams 1998).

A look at the evidence available to children may explain the contrast: In German, L1 children profit from a “strong”, i.e. relatively explicit, inflectional paradigm as well as from auxiliaries that are more salient than the proclitic and enclitic pronominals merging with them into phonological words (compare [ç’abn] in *ich hab(e) ihn geseh(e)n*, ‘I have seen him/it’). English, on the other hand, confronts children with both an impoverished inflectional inventory (for the present tense only the 3<sup>rd</sup> ps. sg. –s) and with cliticized, hence less salient modal and non-modal auxiliaries (cf. *I’ve found him, He’d tell me*), not to mention local ambiguities involving cliticized copula and auxiliary *be*, as in *He’s ....(ill?running late?found guilty?been beaten?)*.

This imbalance may well be behind the asynchrony in favour of German in 2L1 children exposed to both English and German from birth, even in bilingual children who are predominantly addressed in English by their parents. (12 a, b) lists utterances from a bilingual girl, Hannah, in interaction with a German-speaking interlocutor; (12 c, d) illustrates a conversation with her English-speaking mother the same day.

- (12) Hannah (2;2) to a German-speaking adult.  
 (a) *wer hat das gemacht?*  
 who has that made?  
 ‘who did this?’

- (b) *ich will was spielen.*  
 I want something play  
 ‘I want to play something.’  
 Hannah (2;2) to her English-speaking mother.
- (c) *Mama picking flowers inə garden*
- (d) *no cars on street*

Since Hannah received plenty of English input at home (cf. the discussion of the case study in Gawlitzek-Maiwald and Tracy 1996), this asynchrony comes as a surprise. In the case of Adam (13), on the other hand, in whose home environment German was more prominent, this discrepancy would be expected (see also Gawlitzek and Tracy 2005). Here, too, both recordings were obtained on the same day.

- (13) (a) Adam (3;7) to a German-speaking adult.  
*ich kann nicht alleine machen.*  
 I can not alone make  
 ‘I can’t do this on my own.’  
*das hat die Laura gemacht.*  
 that has the Laura made  
 ‘it was Laura who did this.’
- (b) Adam (3;7) to an English-speaking adult.  
*it go like that.*  
*that one called də Tom Engine book.*

There are considerable differences in the extent to which children mix their languages and in the ways in which they fill temporary gaps in one language by cross-linguistic borrowing or other forms of transfer (cf. Gawlitzek-Maiwald and Tracy 1996; Hulk and Müller 2000; Döpke 2000; Tracy and Gawlitzek-Maiwald 2000, 2005; Cenoz and Genesee 2001; Unsworth 2003; de Houwer 2005; Müller et al. 2007<sup>2</sup>; Genesee and Nicoladis 2007; Cantone 2007). Individual behaviour appears to depend on many factors, including parental style of dealing with the language choice of children (cf. Lanza 1997; Döpke 1992). As pointed out by Genesee and Nicoladis (2007: 325), bilingual first language acquisition “is impacted by all those factors that affect monolingual acquisition as well as bilingual-specific factors, such as different language combinations and differences in the amount, consistency, and contexts of language exposure.”

Finally, it has to be borne in mind that the ability to cope with more than one language from birth does not entail that individual learners will



willingly, let alone enthusiastically, speak both languages to whoever chooses to address them in one or the other language. Children's cooperativeness depends on their personal views on who has the right or the obligation to speak one language rather than the other. Whether children exposed to a bilingual setting from the start turn into adults who actively employ these languages throughout their lives is a totally different matter. As in L2 acquisition, which we turn to shortly, 2L1 children are highly sensitive to the prestige of linguistic varieties and their roles within social contexts.

## 5. Fast on target: German as an early second language<sup>7</sup>

### 5.1. Problem and research design

More often than not, adults have protracted problems with exactly those properties of German that are fairly robust in monolingual and bilingual first language acquisition: the position of the head within VP (where it differs from the L1), V2 effects, subject-verb agreement, and the asymmetry of verb placement in main and subordinate clauses (cf. Clahsen and Muysken 1989; Hawkins 2001; Dimroth 2002; Müller 1998; Müller et al. 2007<sup>2</sup>; Meisel 2007). The following examples illustrate some of these problems: a missing right sentential bracket in (14), a misplaced left bracket in (15), and lack of overt agreement in (16).

- (14) Non-finite verbs are not in VE:  
*\*ich habe gelernt französisch drei Jahr* (from: Müller 1998)  
 I have learnt French three years  
 'I studied French for three years.'
- (15) Lack of V2 when it is required:  
*\*dann er schläft noch* (from: Dimroth 2002)  
 then he sleeps still  
 'he's still asleep by then.'
- (16) Lack of overt agreement (and lack of VE):(own data)  
*\*ich müssen arbeiten Montag*  
 I must work Monday  
 'I've got to work Mondays.'

These data come from learners who were well past puberty when they were first exposed to German. The few case studies that are available for children exposed to German after entering elementary school show, at least temporarily, the same problems with verb placement and subject-verb agreement, even though chances of avoiding persistent fossilization appear better than for adults (cf. Wegener 1998; Siebert-Ott 2001; Haberzettl 2005; Dimroth 2007).

So what about early successive L2 acquisition, e.g. a scenario where German enters the scene around the time when children's L1 grammars already encompass quite complex clausal structures? Who do these children resemble: L1 learners? Adult L2 learners, who struggle with the sentential bracket and verbal inflexion? Or children with specific language impairment?<sup>8</sup> In the remaining sections we will argue that even under the condition of delayed and reduced access to relevant input, qualitative and quantitative analyses of the way in which young L2 learners tackle German clause structure support the null-hypothesis that there is no substantial qualitative difference between first and early second language acquisition for the specific set of grammatical features investigated.

Our claim is based on a longitudinal study with eight children speaking Arabic, Turkish or Russian as their first language. These languages differ significantly from German in morphological type, in word order, and in the availability of functional categories. Turkish and Russian, for instance, do not have articles; Arabic only has a definite article. The canonical word order of Turkish is SOV, VSO for Arabic. All these languages are well represented by large immigrant communities in Germany. In the following, we limit our discussion to five children with Arabic (one Tunisian Arabic-speaking girl, two brothers with Syrian Arabic as their L1) and Russian (two girls) as L1. Their ages at the beginning of our observation ranged from 3;0 to 4;7. Participants were recruited in different multilingual kindergartens in the Mannheim and Heidelberg area. In all these institutions, the majority of children came from non-German-speaking families and German served as the lingua franca. At the time, no special language training programs had been implemented within the kindergartens the children attended.

Our research design combined participant observation with some standardized data elicitation on segmental and suprasegmental phonology and vocabulary. We conducted bi-weekly recordings, with interlocutors visiting participants in their kindergarten and audio-recording conversations, each session lasting about 30-45 minutes. In addition, we recorded the children two to four times in their first languages and in their home environments.

All in all, we obtained 132 recordings that were transcribed (phonetically for the children's utterances) by native speakers. The transcripts were coded in a relational database and analyzed.

In all cases, the child's L1 also served as the family language. Our recordings of conversations in the L1, undertaken with the help of native speakers, produced no indication of delays or lack in proficiency, an impression supported in interviews conducted with the parents in the L1. All children were born in Germany, and no child had significant contact with German before entering kindergarten. No child had attended kindergarten for more than three months before their first encounter with our interviewers.

Table 1 provides an overview of the five children discussed here. The first letter in the alias corresponds to the L1, A for Arabic and R for Russian. None of these children produced more than one or two-word utterances in German when we recorded them for the first time. Their comprehension skills were probably more advanced, but we did not test them explicitly. Table 1 also provides the children's MLU in words as a mean value for the first three and the last three transcripts, respectively. Except for AMI, the MLU of all children increased over time. The development in AMI's MLU shows that the measure is not as reliable and informative as one might expect (for discussion, see Unsworth 2008). During the early stages, there were many within-utterance repetitions, which inflated the word count. Towards the end, AMI monitors his speech much more closely, which results in shorter utterances.

*Table 1.* Participants

Alias	First language	Age during observation (L2-recordings)	MLU (words)	
			Mean; first 3 L2-transcripts	Mean; last 3 L2-transcripts
AHA	Arabic, Tunisian	3;5 – 4;9	2.58	3.25
RAS	Russian	3;7 – 4;7	1.70	2.07
RNV	Russian	3;0 – 4;1	1.96	3.09
AII	Arabic, Syrian	4;7 – 5;8	2.50	3.98
AMI	Arabic, Syrian	3;3 – 4;4	3.01	2.19

Although the first two or three recording sessions were conducted by a native speaker of the child's L1, the children had no problem adjusting to the 'the rules of the game'. They knew that once the recording device was

turned on, it was German-speaking time. The fact that despite their relative cognitive maturity and – in most cases – their urge to communicate the children did not, on average, produce more than 2% of sentences that contained L1 borrowings demonstrates their cooperativeness and awareness of their interlocutors' limits. This also provides evidence of their high degree of online metalinguistic control. This finding confirms what we know about language choice and monitoring abilities in simultaneous bilinguals of the same age (Lanza 1997; Tracy and Gawlitzek-Maiwald 2000; Meisel 2004; Genesee and Nicoladis 2007; Müller et al. 2007).

The following sections sketch our participants' development of verb placement in German clauses. For this purpose we differentiate between all verbs in a sentence (V) and a subset of verbs placed in the left sentence bracket (V2). V2 is then further subcategorized into those verbs that are finite although the morphological marking chosen may be inappropriate from the perspective of the target (V2<sub>fin</sub>), e.g. in *du \*geht da rein*, 'you \*goes in there', and into a category of finite verbs in V2 whose inflection conforms to the target morphologically (V2<sub>fin+</sub>), which would be *du gehst da rein*, 'you go in there', in the above example. The quantitative units referred to are relative frequencies based on the number of sentences identified in a transcript, where 'sentences' is used as a label for units corresponding to single and coordinated main clauses as well as nominal projections that constitute a single utterance.

## 5.2. Case study with the Tunisian Arabic L1 child AHA

The girl AHA is the youngest of three children of a Tunisian family, Arabic being her first language and the family language. Her older brothers also speak Arabic to each other; her parents mention that they themselves occasionally speak French to each other as well. From the beginning of our study, AHA has been communicating very actively with project members, both in her first language and, once we began our L2-recordings, in German. In kindergarten, she often plays with her German-speaking peers. About six to seven months into our data collection (by that time AHA has reached milestone III), the parents mention that AHA addresses them more and more in German at home as well, even though they cannot understand her.

At 3;5, when we started recording her in her L2, AHA's productive knowledge of German was limited. About one month after she entered kindergarten, she primarily produced one-word utterances and precursors

of determiner phrases (see (17a)). In addition, there were non-finite constructions containing verbs in final position (17b), verbless projections with and without focus particles (17c), and formulaic expressions involving the copula (17d). Subscripts in the glosses indicate potential gender mismatches. All these elementary constructions are fully consistent with the early milestones (I and II) of monolingual German-speaking children.

- (17) (a) 3;5 *ja, nein, vogel, ein hund, ein maus.*  
 yes, no, bird, a dog, a<sub>MAS/NEUT</sub> mouse<sub>FEM</sub>
- (b) 3;5 *hier essen, nutella essen, ein vogel fliegen.*  
 here eat, Nutella eat<sub>[-fin]</sub>, a bird fly<sub>[-fin]</sub>
- (c) 3;5 *ich auch auto, du auch haus, mädchen oben baum.*  
 I too car, you too house, girl up tree
- (d) 3;5 *das is farbe, das is rot, is weg, is mein buch.*  
 this is color, this is red, is gone, is my book

Over the course of the following four to six months, finite V2 sentences emerge and milestone III is reached, see (18).

SENTENCE  
BRACKET

(18)

(a)	3;8		<b>hab</b>	<i>nich angst</i>	<b>habe</b>
			have	not fear	have
(b)	3;8	<i>diese elephant</i>	<b>geh</b>	<i>disko</i>	<b>geht</b>
		this <sub>[FEM]</sub> elephant <sub>[MAS]</sub>	go	disco	goes
(c)	4;0	<i>ich</i>	<b>hab</b>	<i>kein platz mehr</i>	
		I	have	no space more	
(d)	4;0	<i>keine platz mehr</i>	<b>hab</b>	<i>ich hier</i>	
		no <sub>[FEM]</sub> space <sub>[MAS]</sub> anymore	have	I here	
(e)	4;1	<i>die junge</i>	<b>will</b>	<i>prinzessin</i>	<b>holen</b>
		the <sub>[FEM]</sub> boy <sub>[MAS]</sub>	wants	princess	get

By 3;8 AHA ‘knows’ that German has two positions for finite verbs even though she is uncertain as to which one to choose. Her behaviour represents an indication of the competition which we also observe in monolinguals (cf. above). At age 4, seven months after her first word combinations, the basic structural format of main clauses has been mastered: AHA now fills both the right and the left sentential bracket appropriately, and the preverbal field can be occupied by constituents other than subjects, as in (18d).

The quantitative development of verb frequencies over time is visualized in Figure 1. It corroborates the qualitative characterization outlined above. The top line in the chart represents the proportion of sentences that contain verbs, V, and serves as a reference line – if there are no verbs, V2 could not reasonably be expected. At the same time, the number of verbs may occasionally drop drastically for quite trivial reasons, e.g. the case of the *Memory* game played at 45 months, which accounts for the trough in the curve. The line with the filled rectangular represents the proportion of all V2 structures. The line with the triangle shows the subset of V2 structures which contain any form of finite V2. So the difference between the line with the rectangular and the line with the triangle represents the proportion of non-finite verbs in V2 position. The line with the circle corresponds to the subset of V2 structures that are finite and where the finiteness marking is realized with target-like inflectional morphology. Accordingly, the difference between the line with the triangle and the line with the circle corresponds to the proportion of verbs in V2 that are morphologically marked for finiteness while the morphological form is not completely correct.

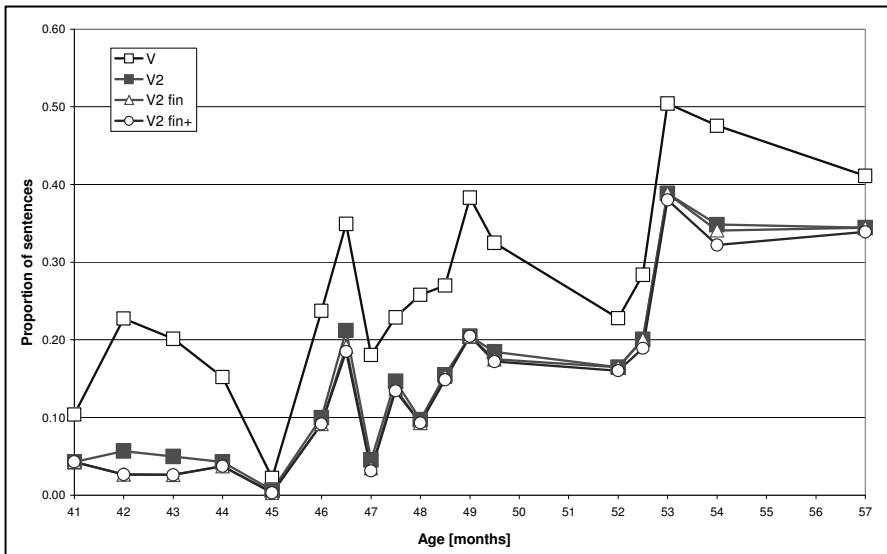


Figure 1. AHA: Development of finite verbs, based on 18 L2-transcripts; 6518 sentences

After a steep rise before 53 months, the development of AHA's V2 acquisition reaches a plateau. Then, after about one year of language contact, the proportion of V2 sentences amounts to between 30 and 40% of all sentences. This corresponds to what has been observed for monolingual and bilingual learners of German at the same age despite shorter exposure (cf. Fritzenschaft et al. 1990; Gawlitzek-Maiwald 1997). The almost congruent curves for V2 and V2fin demonstrate that after a slightly chaotic initial phase, verbs in V2 are almost always finite and, moreover, they generally appear in a target-like morphological form (V2fin+). Minor deviations towards the end of our longitudinal study can be attributed to overgeneralizations affecting the paradigms of irregular verbs, e.g. *der willt* ('he wants', rather than *der will*). Note that these deviations provide strong evidence for the emergence of subject-verb agreement and tense marking independently of individual lexical items or specific constructions.

The general difference between V and V2 is largely an effect of one-word or two-word utterances which defy classification in terms of the positions within the sentence bracket. In addition, there was a marginal proportion (1.8% of all V) of deviant structures such as (19a-d) below.

- (19) (a) 4;0 *nicht des geht.*  
           not this goes  
           'this doesn't work.'
- (b) 4;0 *dann dann ich will nicht schlafen.*  
           then then I do not want to sleep
- (c) 4;5 *dann ich muss hier was in mein hose wegmachen.*  
           then I must here something in my pants put away  
           'then I must hide s.th. inside my pants.'
- (d) 4;6 *weil die mensch hat hier brennt.*  
           because/since the human has here burned  
           'because the person burned here.'

The first and the last example are straightforward. (19a) can be interpreted along the lines proposed by Penner et al. (2000) who noted that in monolingual children, too, negation (and other) particles appear to block V2, even in finite clauses. (19d) corresponds to the *weil/denn*-V2 pattern mentioned in Section 1. Only the V3-clauses (19c, d) are ungrammatical. However, V3-constructions are marginal in AHA's data, amounting to barely a dozen tokens throughout. Most cases were limited to the temporal adverb *dann* ('then'), possibly due to its similarity with *denn* ('since'). Despite their low numbers, the fact that ungrammatical V3 structures are closely con-

nected with ambiguous forms reinforces what we stressed in Section 1 concerning ambiguities involving items at the left periphery of German clauses. They are similar to patterns identified by Dimroth (2002) in older learners and to marginal V3 clauses in L1 children (Tracy 1991). We will turn to non-subject initial main clauses in the discussion.

### 5.3. Case study with the Russian L1 child RNV

RNV's and her older sister's first and family language is Russian. Even though the parents graduated from university in Russia, they are currently both employed as factory workers due to insufficient knowledge of German. At age 3;0 RNV produced very few German words, but she was an outgoing child and quickly integrated into the playgroups of her kindergarten. During our first recordings, she did not speak much, but after three to four months she became very talkative. About half a year after joining kindergarten, she started to talk to her sister in German as well.

At 3;1, after about two months of regular German input, one-word utterances were dominant. Her first word combinations contained focus particles, (20a), and non-finite constructions with the verb taking up the right sentential bracket, (20b). Some patterns with either finite or non-finite verbs, (20c-d), and formulaic expressions (20e) can be considered precursors of V2.

- (20) (a) 3;1 *da auch des da.*  
 there also this there  
 'there's that too.'
- (b) 3;1 *ich sowas spielen.*  
 I like-this-something play<sub>[-fin]</sub>,  
 'I [want to] play something like this.'
- (c) 3;1 *ich räum<sub>[+fin]</sub> auf.*  
 I tidy up
- (d) 3;1 *ich essen so.*  
 I eat<sub>[-fin]</sub> that way
- (e) 3;1 *all-sen des.*  
 all-are that  
 'these are all.'

Initially, RNV's potential V2 candidates are dominated by holistic expressions which only "mimic" main clause patterns (*Ich will nicht*, 'I don't



want to’, *Ich weiß nicht*, ‘I don’t know’), but from 3;5 onwards, four months after her first recorded productions, the structural format of her German converges strongly toward finite V2 clauses. This convergence very quickly results in the complete construction of the sentential bracket and concomitant V2 effects, such as the placement of complements and adjuncts in preverbal position, as in (21). As the phonological variants of the 2<sup>nd</sup> ps. sg. forms of *have* in (21a) and (21c) show, she produces both standard and dialectal forms, i.e. she appears to be working out different inflectional paradigms of the verb in parallel. Although her L1, Russian, does not have determiners, RNV quickly discovers them in her German input, even though they are –as one would expect – formally deviant or emerge as reduced placeholders, see *də* in (21g).

(21)

		SENTENCE BRACKET				
(a)	3;5	<i>warum</i>	<b><i>hast</i></b>	<i>du des</i>		
		why	have	you that		
(b)	3;5	<i>ich</i>	<b><i>will</i></b>	<i>net nimmer</i>		
		I	want	not anymore		
(c)	3;7	<i>die stiefel</i>	<b><i>hascht</i></b>	<i>du</i>		<b><i>geangelt</i></b>
		the boots	have	you		fished
(d)	3;7	<i>ein blume</i>	<b><i>hat</i></b>	<i>ich</i>		<b><i>gemacht</i></b>
		a <sub>[NEU]</sub> flower <sub>[FEM]</sub>	has	I		made
(e)	3;7	<i>jetzt</i>	<b><i>geh</i></b>	<i>ich</i>	<i>in meine gruppe</i>	
		now	go	I	in my group	
(f)	3;7	<i>wenn</i>	<b><i>gehen</i></b>	<i>wir</i>	<i>in der gruppe</i>	
		when	go	we	in the group?	
(g)	3;7	<i>in də gruppe</i>	<b><i>hab</i></b>	<i>ich</i>		<b><i>gespiel</i></b>
		in the group	have	I		played

Convergence towards V2 after four months of production is clearly visible in the quantitative development displayed in Figure 2. In comparison with AHA, whose development progressed in a stepwise manner, RNV is a very continuous learner. The proportion of her V2 clauses rises consistently to a level of about 30% of her total sentences. Basically all verbs in V2 are marked for agreement/tense, and morphological markers are almost always target-like. The few instances of deviant verb placement were qualitatively and quantitatively equivalent to what we know from monolingual and bilingual acquisition.

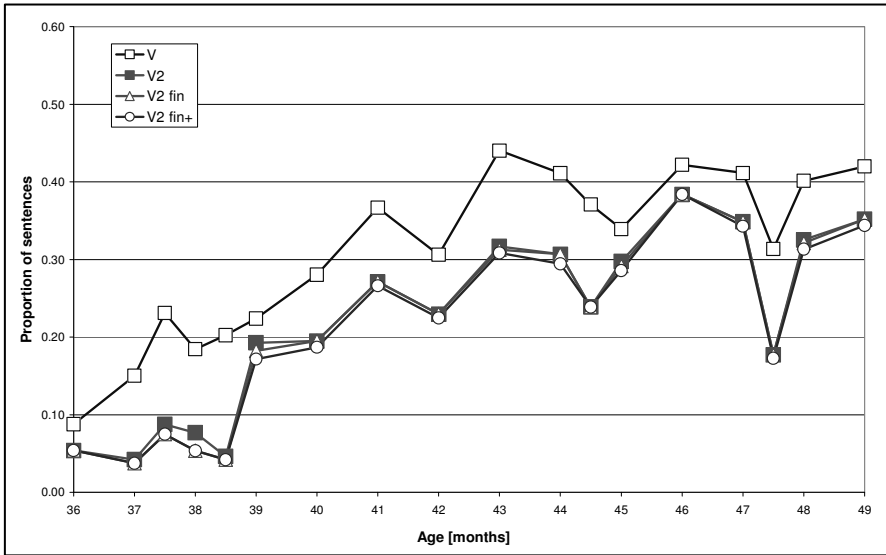


Figure 2. RNV: Development of finite verbs, based on 18 L2-transcripts; 3758 sentences

Another two months later, and altogether eight months after the onset of regular exposure to German, RNV also produces precursors of subordinate clauses, as illustrated in (22). Her use of left-periphery placeholders such as [va] ('what') for *dass* ('that') or *wenn* ('when/if') for *bis* ('until') is known from monolingual and bilingual L1 acquisition (e.g. Fritzenschaft et al. 1990; Müller and Penner 1996; Rothweiler 1993).

- (22) (a) 3;9            *ich will nicht [va] du hast gewinne.*  
 I want not what you have won  
 'I don't want you to win.'
- (b) 3;10            *ich will jetzt [va] du kommst.*  
 I want now what you come  
 'I want you to come.'
- (c) 3;9            *warte doch mal wenn ich hab fertig gemal.*  
 wait [particle] when I have finished drawing  
 'wait until I'm done drawing.'

We can see, then, that RNV starts to produce complex sentences in her L2 at an age when L1 learners of German struggle with very similar issues, such as the selection of appropriate complementizers from a fine-grained

set of functional items. We also see that her finite verbs are not always in sentence final position yet, which is rare but not undocumented in L1 learners of German (see Gawlitzek-Maiwald et al. 1992).

#### 5.4. Case study with the Russian L1 child RAS

RAS a girl whose family members, including a younger brother, only use Russian, provides us with a different picture. In contrast to both AHA and RNV, who are about half a year younger, she is extremely shy during the first recording sessions. In kindergarten, which she joined only a few weeks before we started our investigation, she generally prefers to play on her own.

Despite the age difference, RAS's initial L2 stages parallel those of the other girls. She differs, however, in holding on to verbless multi-word constructions, often in combinations with verbal particles and focus particle phrases for more than nine months, (23). If verbs appear, they are non-finite and occur in final position. Patterns which look like early V2 clauses, (24), could also be interpreted as holistic formulas involving the copula or the high frequency verb *machen* ('make').

- (23) (a) 3;7            *noch eine kaputt.*  
                           another one broken  
                           'another one (is) broken.'
- (b) 3;8            *und noch ein hund*  
                           and another dog
- (c) 3;9            *und des auch baby-schweinchen.*  
                           and that also baby piglet
- (d) 3;12          *nach unten vase*  
                           towards down vase  
                           'put the vase down.'
- (e) 4;1            *Celine auch heute geburtstag mama.*  
                           C. also today birthday mama  
                           'Celine's mom also has her birthday today.'
- (f) 4;2            *was drauf da.*  
                           what there-on there  
                           '(put) s.th. on there.'
- (g) 4;3            *weg deine hand.*  
                           away your hand  
                           'take your hand away.'

- (24) (a) 3;9 *ich mach's auch.*  
I do it too  
(b) 4;2 *so mach's du des.*  
this-way do you it  
'you'll do it this way.'

Only towards the end of the observational period and nine months after her first productive use of German altogether, RAS reaches a developmental stage equivalent to the stages the first two children attained after only about three to four months (25). Particular qualitative evidence for actual progress comes from RAS' 'experimental' variation in the placement of the adverbs *hier* and *dort* and even more so of the focus particle *auch* in.

SENTENCE BRACKET

(25)

(a)	4;4	<i>warum</i>	<i>steht</i>	<i>nicht?</i>	
		why	stands	not	
(b)	4;4	<i>die Martin</i>	<i>weint</i>		
		the M.	cries		
(c)	4;6	<i>hier</i>	<i>ist</i>		<i>trink</i>
		here	is		drink
(d)	4;6			<i>diese auch</i>	<i>passen</i>
				these also	fit
(e)	4;6	<i>die</i>	<i>passen</i>	<i>auch hier</i>	
		these	fit	also here	
(f)	4;6	<i>der</i>	<i>passt</i>	<i>hier</i>	
		he	fits	here	
(g)	4;6	<i>die</i>	<i>passt</i>	<i>dort</i>	
		she	fits	there	

RAS' significantly slower development toward the sentential bracket is obvious from the quantitative analysis displayed in Figure 3. For a long time the proportion of utterances with verbs remains low, although the discourse contexts in the observations were very similar to those of the other children. After nine months there is a sharp increase in the use of verbs and, subsequently, in the relative proportion of V2 clauses as compared to mainly non-finite verb end constructions. But even for this slow learner, V2 and explicit finiteness markers on the verb emerge in tandem.

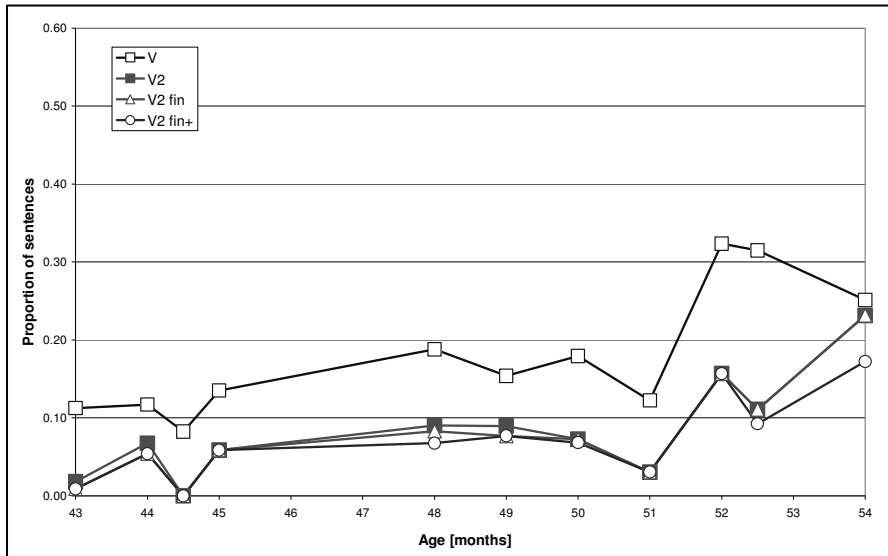


Figure 3. RAS: Development of finite verbs, based on 11 L2-transcripts; 1750 sentences

Two plausible explanations for RAS' relatively slow progress towards the target grammar offer themselves. First, she produces very few verbs, both in types and tokens. Her persistent use of verbless projections, such as Focus Particle Phrases, can be interpreted as a communicatively successful avoidance strategy. Second, as a very shy and introverted child RAS rarely interacts with other children and hardly ever initiates conversations or actively 'elicits' input or conversational responses from her environment.

### 5.5. Case study with the Arabic L1 children AII and AMI

The two brothers AII and AMI are 4;7 and 3;3 at the beginning of our study. Their parents came to Germany to study at university. The family language is Syrian Arabic, but the parents report that they watch both Arabic and German TV programs. Initially, the two boys only spoke Arabic to each other in kindergarten and only gradually, with increasing proficiency, replaced it by German. The recording circumstances differed from those of the other children in that we typically recorded them together – out of necessity since the children did not want to be separated. What seemed a disadvantage at first, however, turned into an advantage since it allowed us

to notice that the older boy initially even ‘forbid’ his younger brother to address him in German.

When we first met the older AII, he seemed to comprehend his German-speaking peers and teachers well even though he himself did not produce more than single words in German. After a few months, though, he became highly communicative in German and never used Arabic in his playgroup. At the end of the period investigated he also monitors the accuracy of his speech very closely, as becomes apparent in his frequent self-repairs.

AMI, his younger brother, rarely participated actively in German conversations initially but he tried to respond in German to questions by his peers and kindergarten teachers. After some early (unsuccessful) uses of Arabic towards speakers of German, he completely avoids it and prefers silence over code-switching.

The development of the two boys’ L2 syntax during the year of observation differs greatly. While they both restrict themselves to single-word utterances in the first recording, AII very quickly reaches a target-like level of competence for verb placement and finiteness. For AII the chart in Figure 4 shows a steep increase in the proportion of sentences with verbs and a strong dominance of V2 constructions. As with the other children, V2, finiteness and morphologically correctly realized finiteness emerge together. The remarkable speed in his reaching milestone III suggests that there might have been a considerable ‘silent period’ before AII starts producing German sentences appropriate for his age and his cognitive development at around age 5. The complexity of his thoughts is evident from what he tries to express in German, cf. (26).

- (26) (a) 5;5 *weil ich kann noch nicht weil ich noch drei jahre.*  
 because I can still not because I still three years  
 ‘because I can’t yet do it because (at the  
 time) I was only three years old.’
- (b) 5;6 *wir sollen ihn lernen aber nicht quatsch machen.*  
 we should it learn but not nonsense make  
 ‘we should learn it instead of making nonsense.’
- (c) 5;6 *ein kind das in die schule haben dich so was gebaut.*  
 a child that in the school have you such a thing build  
 ‘a child who built this for you in school.’

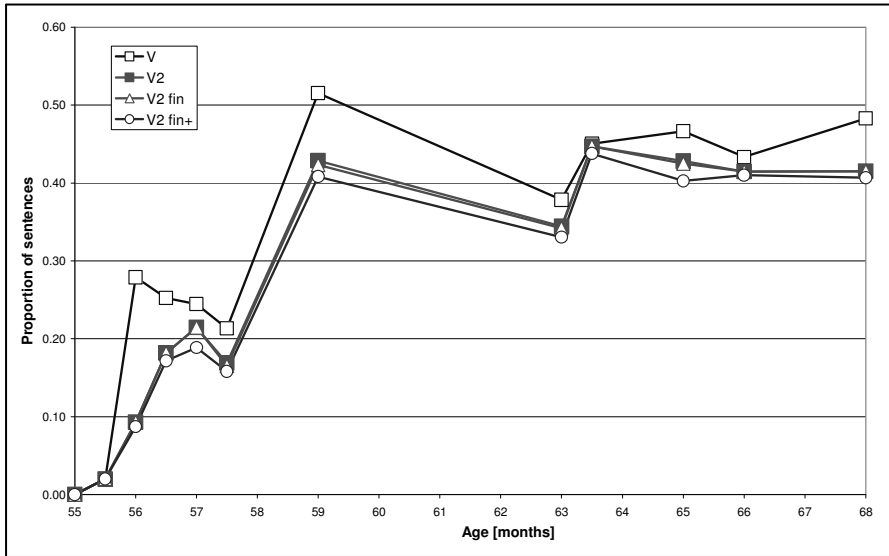


Figure 4. Development of finite verbs, 12 L2-transcripts; 3158 sentences

The quantitative development in the German of the younger brother AMI is illustrated in the chart in Figure 5. Note first that there are only five points of observations. The reason is that the boy rarely attended kindergarten and was often at home with his mother instead. AMI's development is – similar to what we observe with the Russian girl RAS – comparatively slow. During the first four recordings the proportion of sentences with verbs of all his sentences is unexpectedly low. In the last session and after an unobserved break of three months he displays a sudden increase in the proportion of verbs and an almost target-like placement of the constituents in the sentence bracket, exemplified by sentences (27a-c):

- (27) (a) 4;5 *jetzt mach ich ein des*  
 now I make a that  
 'now, I do that.'
- (b) 4;5 *die gucken ins fernseh.*  
 they look into-the television,  
 'they are watching TV.'

- (c) 4;5 der guckt ins fernseh.  
 he looks into-the television  
 'he's watching TV.'

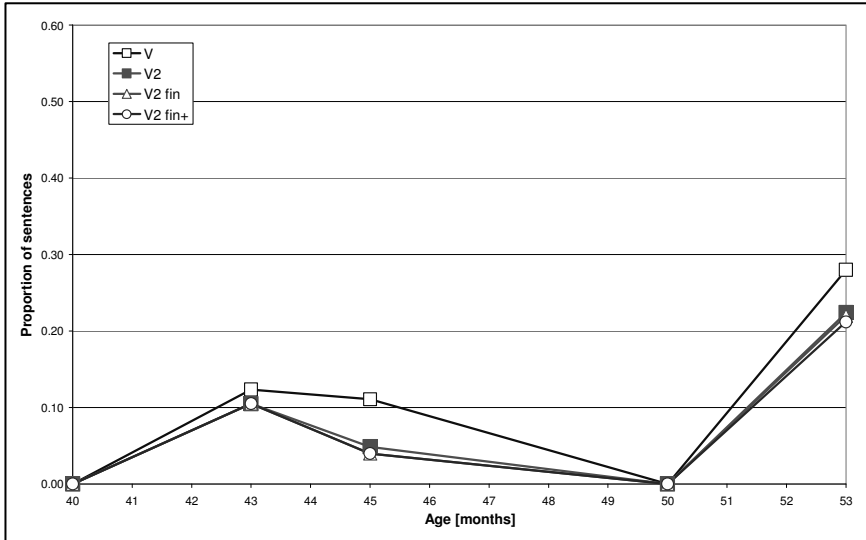


Figure 5. AMI: Development of finite verbs, 5 L2-transcripts, 879 sentences

## 6. Discussion

So far our analysis of clauses with verbs or focus particles for five children acquiring German as their second language yields three major findings: First, the syntactic structure of German main clauses with the finite verb in V2 can be acquired within six months though some learners may take a year or longer. Second, in contrast to adult L2 learners, the children very consistently mark the verb in V2 for finiteness. Third, choice from the finiteness/agreement paradigm is almost always consistent with the target morphology. These findings hold across very different first languages, in our case Russian and Arabic, and we observed the same development for a Turkish child (Thoma and Tracy 2006). This supports the hypothesis that, at least up to the age of 4;7, L2 acquisition proceeds very much like L1 German – if given the opportunity, i.e. relevant input is available. Confirmation for this null-hypothesis comes from the longitudinal study by



Rothweiler 2007 (cf. also Kroffke and Rothweiler 2006; Rothweiler and Kroffke 2006).

In the analyses reported here, the variable displaying the largest amount of inter-individual variation was the speed of acquisition of the sentence bracket. This might well be due to differences in children’s verb repertoires and in the communicative success of verb avoidance strategies. One measure of these strategies could be the relative frequency of verbless sentences with focus particles. In Figures 6 to 9 the line with the rectangular boxes represents the proportion of V2 sentences of all sentences at a given point in time. The line with the triangles represents verbless focus particle phrases, FPP. The line with the filled circles, XV2S, gives the proportion of non-subject initial main clauses. The comparison of the development of V2 and FPP across the Russian L1 fast and slow learners RNV and RAS and the Arabic L1 fast and slow learners AII and AMI indicates that, irrespective of the L1, FPP are almost as important as V2 for both learner types of both speeds at beginning stages. However, while the FPP curve levels off quickly for fast learners and approximates a negligible proportion as compared to V2 for fast learners, it remains as high as V2 or even higher for slow learners. Only when a stable convergence toward V2 sets in, the two curves fall apart for the slow learners as well.

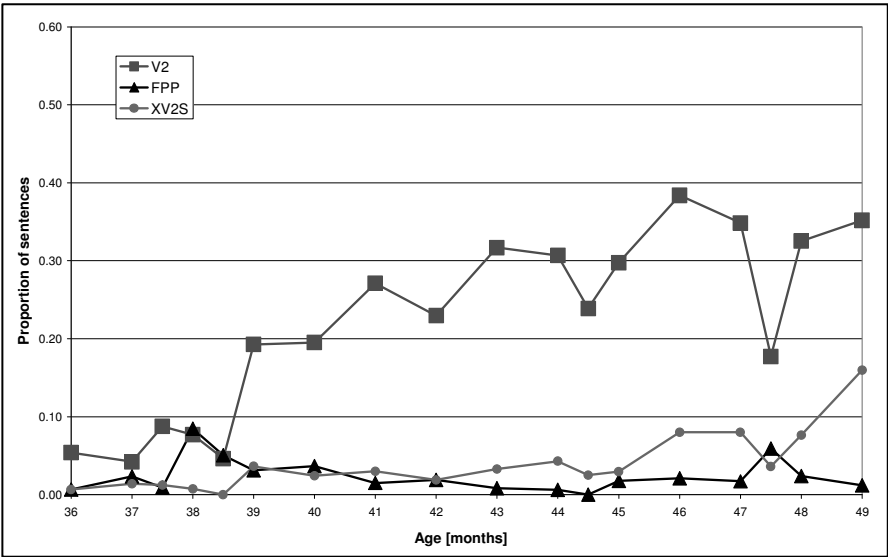


Figure 6. RNV: Reliability of V2 effects: FPP and XV2S

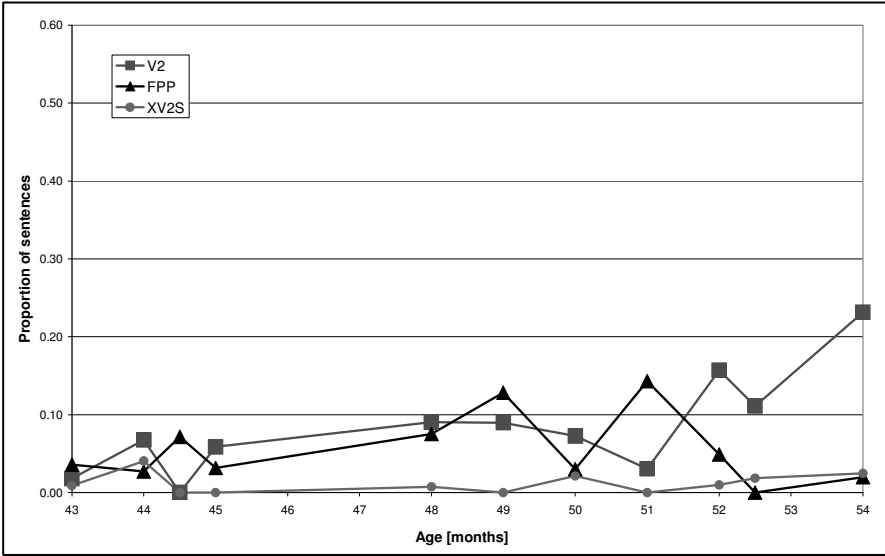


Figure 7. RAS: Reliability of V2 effects: FPP and XV2S

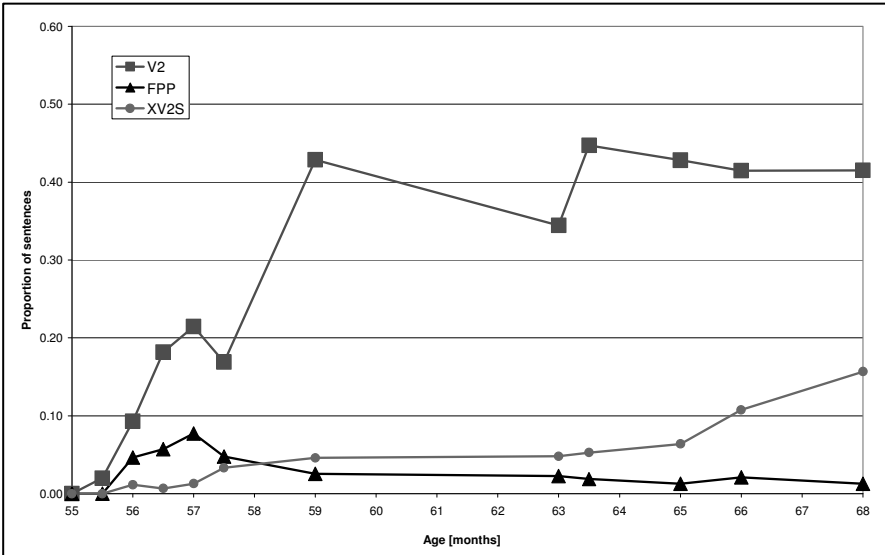


Figure 8. AII: Reliability of V2 effects: FPP and XV2S

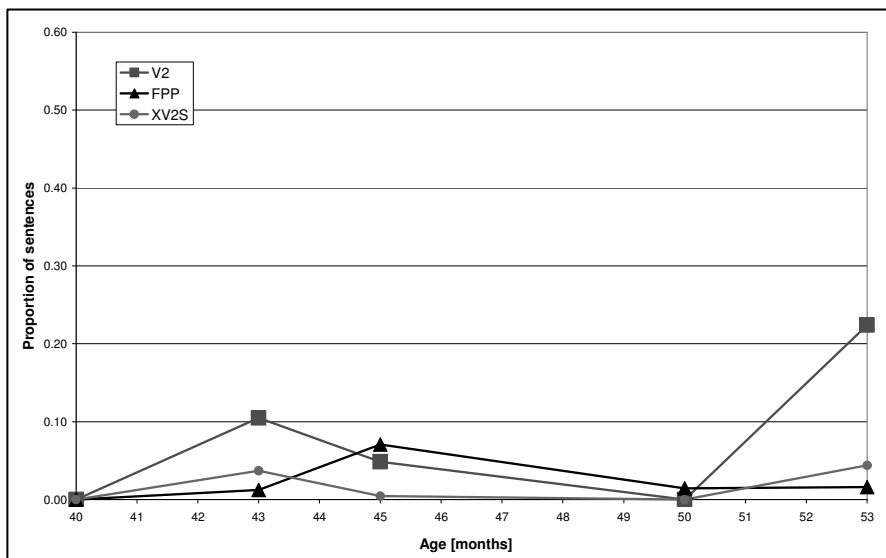


Figure 9. AMI: Reliability of V2 effects: FPP and XV2S

The line with the circles, XV2S, in Figures 6 to 9 represents the proportion of V2 sentences where a complement and/or an adjunct appears in preverbal position, while the verb in V2, which is marked for agreement, precedes its subject as in examples (18d) and (21a, c-g). These X-V2-S structures provide evidence against the possible objections that the observed V2 structures are mere products of imitation. If the same lexical items occur in preverbal and postverbal positions in different clauses, learners have reached a stage where they make full use of the distributional possibilities within the overall constraints of the sentence bracket. This structured productivity diminishes the probability that constructions interpreted as V2 clauses are reproductions of unanalysed chunks.

The grammatical and semantic properties of the verbs in V2 provide a similar argument with respect to the reliability of our findings. The relative portion of different verb classes in the children's individual lexicons may also account for some of the observed temporal variation in development and acquisition of the sentence bracket. Consider Figures 10 to 13. The top line represents the proportion of finite V2 sentences of all sentences in the charts for AII, AHA, RNV and RAS. The line with the filled triangles corresponds to the proportion of sentences with a finite lexical verb in V2, the line with the rectangular boxes to the proportion of copula in this position,

the line with the hollow triangles to the auxiliaries, and the line with the circles to the proportion of modals in V2.

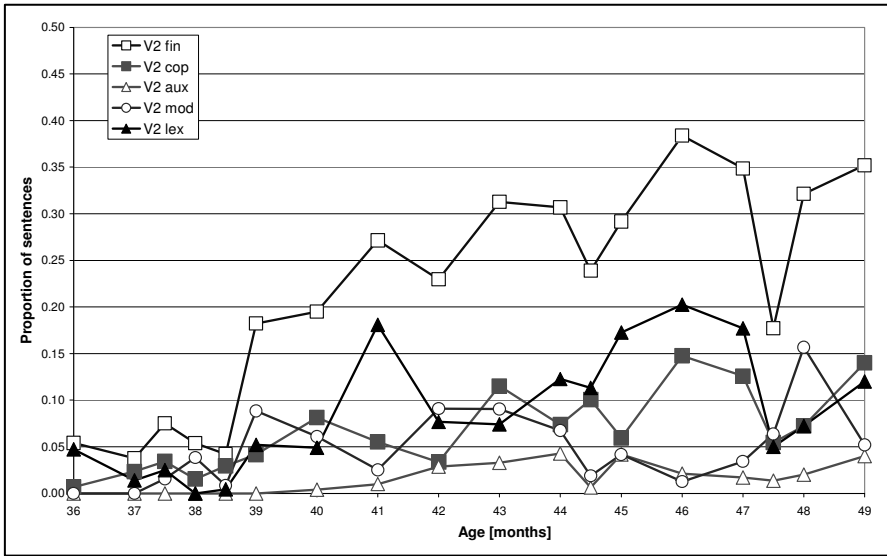


Figure 10. RNV: Comparative development of verb classes in V2

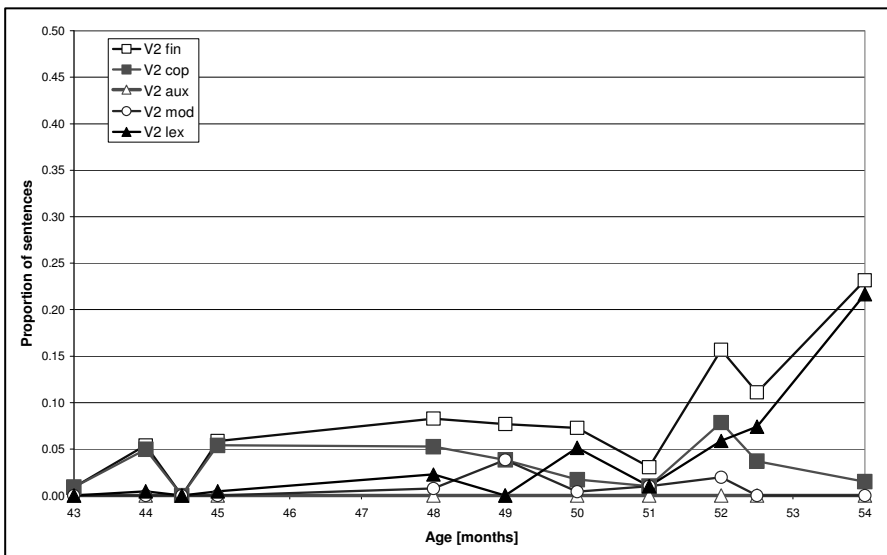


Figure 11. RAS: Comparative development of verb classes in V2

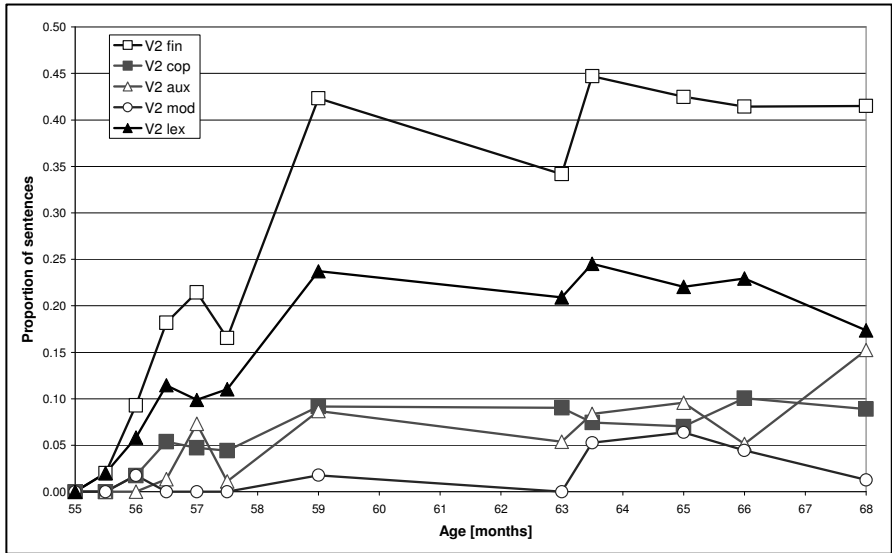


Figure 12. AII: Comparative development of verb classes in V2

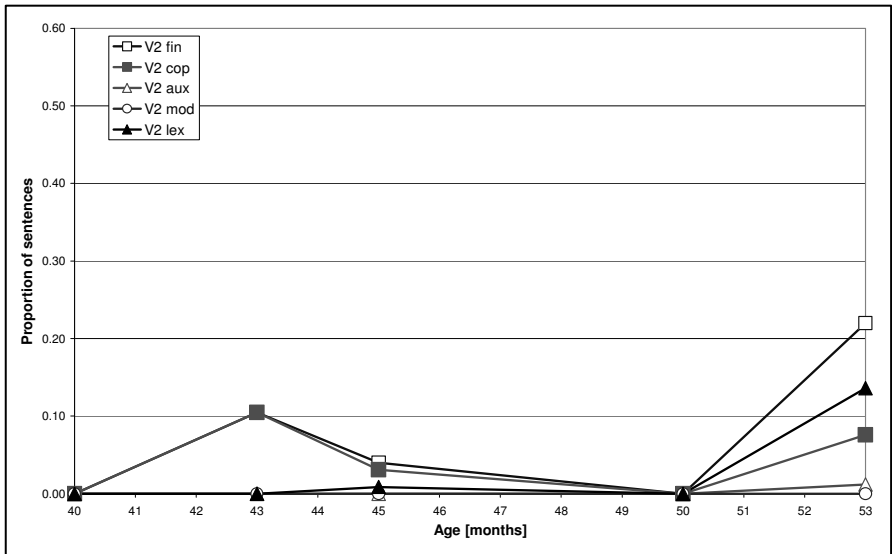


Figure 13. AMI: Comparative development of verb classes in V2

The development of the curves demonstrates that for all children lexical verbs are the driving force behind the acquisition of the sentence bracket.

The lexical V2 curve runs for large parts parallel to the total V2 curve. In particular for the slower child RAS the onset of the acquisition of the sentence bracket is strongly associated with the use of lexical verbs in V2. While copula in V2, and thus the most probable candidates for formulaic sequences, are as frequent as lexical verbs at early stages of the development, their proportion ceases to grow after a certain level has been reached. The subcategorization of the verbs reveals interesting additional individual effects. RNV, for example, has at some stages more modals in V2 than lexical verbs. This is essentially attributable to the extremely frequent use of forms of *wollen* (*I want to x* and *I don't want to x*). All, the oldest boy is the only one in whose speech auxiliaries play a noticeable role. In other words, he is the only one who makes extensive use of perfect forms where finite forms of *haben* or *sein* are placed in V2 and the non-finite lexical verb is in VE.

## 7. Summary and conclusion

In Germany every third child under the age of six comes from an immigrant family, and in many cities every second baby born does not acquire German as a first language. Eventually, these children will be faced with the challenge of acquiring German as a second language. In the ideal case, children will be given a chance to do so well ahead of the moment at which they enter school. Given this situation, it is highly unfortunate that in comparison with other acquisition types, the investigation of early L2 acquisition is still in its infancy (cf. Paradis 2007 for a recent general overview over L2 acquisition in childhood). From a linguistic point of view, data-intensive case studies and cross-sectional experiments are needed in order to gain a better understanding of both learner systems and of developmental dynamics under different input conditions.

To get back to the issues raised in the introductory section: What is the general contribution of our study to the classic question about the differences between L1 and L2 acquisition? Mainly, that *age* is too simplistic an answer to the big question about the causes of variation in learners' success in L2 acquisition as compared to very comparable levels of attainment in their native language. The problem with the age variable is that it moderates all other possible independent variables that affect language acquisition such as maturation, motivation, and maybe even the availability of input. For example, we have described a 2L1 learner who chose not to speak one of her languages (any more), and we have observed an older

early L2 learners who pushes her L2 in that she uses it even if her interlocutors cannot follow properly.

For the linguistic subsystems of word order and subject-verb agreement under investigation here, it appears safe to conclude that young bilinguals acquire both the sentential bracket – the backbone of German clauses – and finiteness (especially in main clauses) in a manner comparable to what we know from L1 learners, both in terms of qualitative steps and quantitative aspects. Moreover, once we take into account the longer exposure to relevant input in the L1 case, we can conclude that the (young) L2 learner actually outperforms the L1 child in terms of speed. Indeed, it was with respect to speed of acquisition or duration (in principle) of exposure that L2 children differed from each other as well. The fastest learners in our study reached V2 and accurate spell-out of verb inflections after only six months, with an age at onset ranging between three to five years. The two slower learners, on the other hand, even though their exposure also began between the ages three to four, needed at least ten to twelve months for the construction of simple clauses.<sup>9</sup>

For none of the children taking part in our study, L1 interference was an issue. What mattered, though, and appeared to “push” the identification and mastery of the sentential bracket was the availability of lexical verbs, i.e. verbs that could appear at the right or near the left sentential periphery. If asked to name a particularly important feature of learner grammars which could be linked to speed of acquisition, one could point to the richness or paucity of a learner’s repertoire of lexical verbs. One obvious task for intervention programs, then, would be a systematic enrichment of the input in the domain of verbs, and, moreover, good conversational and didactic strategies to make sure children get to hear the utterances containing these verbs in relevant contexts.

## Notes

1. We like to thank the reviewers for their helpful comments on an earlier draft of this paper.
2. We therefore ignore proposals of merging IP and CP to a single functional head above VP, of splitting IPs into various layers of Agreement, Tense and Aspect or VPs into different “shells”. For an attempt to explore the relevance of different theories for acquisition research see Fritzenschaft et al. (1990), Gawlitzek-Maiwald et al. (1992), Tracy (2002), various articles in Meisel (1992) and in Tracy (1994, 2002).

3. See the discussion in Penner (1994) with respect to ambiguities in Swiss German.
4. For a general overview see Grimm (2000), Schulz (2007).
5. The German-English bilingual children discussed in this section took part in a project based on two grants to the first author from the German Research Foundation (DFG) from 1989-1994.
6. A term employed by Clyne (2003) in his attempts at explaining what facilitates or provokes code-switching; cf. also Tracy (2001) for contact-phenomena in children and adults.
7. The data reported below are based on the project Second language acquisition in childhood, with special consideration of immigrant children, jointly headed by the first author and by E. Kaltenbacher (University of Heidelberg), made possible by a grant from the Ministry of Science, Research, and the Arts of Baden-Württemberg, which we gratefully acknowledge.
8. We do not deal with SLI here. For studies investigating SLI in L2 children cf. Kroffke and Rothweiler (2006), Rothweiler (2007).
9. A recent cross-sectional elicited production study conducted by Schulz, Tracy and Wenzel (2008) with 91 L2 children between the ages of 3-7 showed that about half of them needed two to two-and-a half years of L2 exposure to produce main as well as subordinate clauses.

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# The acquisition of functional categories in child L1 and adult L2 Dutch

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## 1. Introduction

Language acquisition is a developmental process which occurs in stage-wise progression. At the initial stage both in child first- (L1) and adult second-language (L2) acquisition learners make use of a relatively simple language system to communicate. In studies on L2 acquisition, this learner system is referred to as the Basic Variety (Klein and Perdue 1997). Later on, as the result of a process of language development interacting with target language input, this basic learner variety will normally be given up in favour of a more complex version. The endstate of the acquisition process is reached when an intermediate system is finally replaced by the system of the target language.

In order to be able to study processes of language development it seems necessary to establish the final goal of the acquisition process. Therefore, the basic properties of the target language system have to be identified. As far as its utterance structure is concerned, Dutch is considered to be an OV language, i.e. the order object-verb (OV) is assumed to represent its basic word order. On the basis of OV, word order may vary. Variation, however, is constrained. Principles underlying variation determine the actual form in which utterances occur. The acquisition of these principles is a prerequisite for learners in order to be able to produce utterances that are both structurally target-like and communicatively appropriate.

In the following, I will provide an overview of the main characteristics of utterance structure in Dutch. Firstly, I will present the arguments for why word order variation in Dutch is considered to be based on an underlying OV structure. Secondly, I will discuss an alternative proposal to account for variation in utterance structure which is based on the functional principles determining the formal properties of finiteness and verb-second.

Furthermore, I claim that both in child L1 and in adult L2 Dutch, learner varieties develop from a lexical system to a functional system. At the lexical stage, functional categories are absent. Utterance structure is

determined by the lexical projection of a predicate-argument structure. Furthermore, topicalization cannot be expressed with the functional means of the target system. However, it can be expressed with the structure of an agentive lexical projection as in *disse hoeniet meeneme* (this-one have-to-not withtake) which has the object in initial position and the agent implicit in the head. I will argue that topicalization at the lexical stage is the driving force which leads to the acquisition of a functional projection FP.

## 2. Utterance Structure

### 2.1. Basic word order

Utterances are used to communicate. Information that the speaker sees as relevant is shared with the addressee. However, this is not the only function of an utterance. Every utterance entails a pragmatic function. As is shown in (1) an utterance may function as a declarative (1a), a question (1b) or an imperative (1c).

- |        |  |                   |
|--------|--|-------------------|
| (1) a. | <i>Zij leest de krant.</i><br>she reads the newspaper                | declarative (SVO) |
| b.     | <i>Leest zij de krant?</i><br>reads she the newspaper?               | question (VSO)    |
| c.     | <i>Lees jij de krant eens!</i><br>read (you) the newspaper sometime! | imperative (VSO)  |

The examples in (1) also show that there is a relation between the interpretation of the utterance as a declarative, a question or an imperative and the position of the finite lexical verb (*leest*). While the declarative occurs with the order Subject-Verb-Object (SVO), the question and the imperative appear as Verb-Subject-Object (VSO).

Is there any reason to assume that one particular order may be representative of a basic or underlying word order, while other possible word orders should be considered as derived? In main clauses as shown in (1), the position of the finite lexical verb provides some information with respect to the pragmatic function of an utterance. It serves as a carrier of illocutionary force. In (2) this position is taken by the verb *gaat*, which is a finite auxiliary verb.

- (2) a. *Zij gaat de krant lezen.* declarative (S-AUX-OV)  
 she goes the newspaper read
- b. *Gaat zij de krant lezen?* question (AUX-SOV)  
 goes she the newspaper read?
- c. *Ga (jij) eens de krant lezen!* imperative (AUX-SOV)  
 go (you) sometime the newspaper read!

The examples in (2) show that utterances with an auxiliary in the position of the finite verb all have the OV order *de krant lezen* (the newspaper read) regardless of their functioning as a declarative (2a), a question (2b) or an imperative (2c). This phenomenon can be accounted for, by claiming that the pragmatic function of an utterance can be linked to positioning of the finite verb, while its basic word order OV is determined by the positioning of the non-finite verb.

Further evidence of a basic OV order comes from utterances with *particle verbs* as in (3).

- (3) a. *Zij leest de krant uit.* declarative (S-V-O-Prt)  
 she reads the newspaper through
- b. *Leest ze de krant uit?* question (V-S-O-Prt)  
 reads she the newspaper through?
- c. *Lees (jij) de krant eens uit!* imperative (V-S-O-Prt)  
 read (you) the newspaper sometime through!

With a particle verb such as *uitlezen* in (3), the finite verbal element *lees(t)* occurs either in verb-second (3a) or verb-initial position (3b,c). However, while the position of the finite element may vary, the particle as the non-finite verbal element always occurs in end position.

Thus, in Dutch basic word order is linked to the position of the non-finite verb. If the finite verb is an auxiliary verb, the non-finite lexical verb occurs in its basic OV position. If there is no auxiliary verb to occur in the position of the finite verb, the lexical verb must do.

Finally, evidence comes from utterances with an embedded clause structure. Word order in an embedded clause does not contribute to its pragmatic functioning. Hence, it must represent basic word order. In each of the examples given in (4) the lexical verb *lezen* is part of a particular embedded clause structure. These examples therefore appear with OV order.

- (4) a. *Ik denk [ dat zij de krant **leest** ].*  
 I think that she the newspaper read
- b. *Hij beweert [ de krant te **lezen** ].*  
 he claims the newspaper to read
- c. *[ De krant **lezen** ] is niet zijn grootste hobby.*  
 the newspaper to read is not his biggest hobby
- d. *Denk jij [ dat zij de krant **leest** ] ?*  
 think you that she the newspaper read?

In sum, basic word order in Dutch is OV. In main clauses, the finite verb carries the pragmatic function of the utterance such as the function of a declarative, a question, or an imperative. If the finite verb is an auxiliary verb, utterances appear with basic word order OV.

## 2.2. Word order variation

Variation with respect to the positioning of both verbal and nominal constituents in Dutch is intricately related to the functional properties of finiteness. The term 'finiteness' usually refers to the morpho-syntactic properties of a particular category of verb. A verb is called 'finite' if it has an inflected verb form showing the inflectional properties of person and tense. Lasser (1997: 77) refers to this as M-finiteness, i.e. morphological finiteness. Morphological finiteness is syntactically relevant in Dutch, i.e. it accounts for the syntactic properties of what is known as *verb-second* (V-2nd). V-2nd is a word order property of declaratives and *wh*-questions. An example of these word order properties is given in (5). In main clauses, as shown in (5), the inflected verb always occurs in second position, while the initial position may be taken by constituents such as an NP-subject (5b, d), an NP-object (5c) or a PP/adverbial (5a). The inflected verb can be either an auxiliary verb (5a, b, c) or a lexical verb (5d). If the inflected verb is an auxiliary verb the lexical verb occurs with non-finite morphology in final position.

- |        |                             |              |                      |                       |                               |
|--------|-----------------------------|--------------|----------------------|-----------------------|-------------------------------|
| (5) a. | <i>Aan het strand</i>       | <i>heeft</i> | <i>ze</i>            |                       | <i>een boek gelezen.</i>      |
|        | on the beach                | has          | she                  |                       | a book read                   |
| b.     | <i>Ze<sub>i</sub></i>       | <i>heeft</i> | <i>e<sub>i</sub></i> | <i>aan het strand</i> | <i>een boek gelezen.</i>      |
|        | she                         | has          |                      | on the beach          | a book read                   |
| c.     | <i>Dit boek<sub>i</sub></i> | <i>heeft</i> | <i>ze</i>            | <i>aan het strand</i> | <i>e<sub>i</sub> gelezen.</i> |
|        | this book                   | has          | she                  | on the beach          | read                          |

d.  $Z_{e_i}$                        $leest_j$   $e_i$     *aan het strand*                      *een boek*  $e_j$ .  
 she                              reads                      on the beach                      a book

A formal way to account for the options in (5) is given in Figure 1.

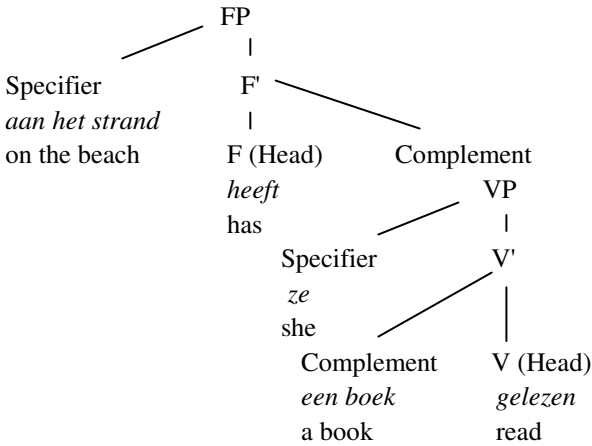


Figure 1. Main clause structure in Dutch

### 2.2.1. VP structure

VP is a *lexical* category which projects the lexical-semantic properties of predicate-argument structure. The properties of a lexical category i.e. both its *semantic structure* (e.g. agent - object - action) and its *internal ordering* (i.e. head-initial or head-final) are stored in the mental lexicon. The semantic structure is represented syntactically in terms of a predicate argument structure. For example, in (5) the predicate V' *boek lezen* (book read) consists of the verb V *lezen* (read) and the internal argument IA *boek* (book) as its complement. Furthermore, the predicate V' *boek lezen* (book read) *holds for* the external argument EA *zij* (she) as its specifier. Finally, word order properties determine the positioning of the IA with respect to the verb V and of the EA with respect to the predicate V'.

2.2.2. *FP structure*

FP is a *functional* category which projects the semantic properties of information structure. As the head of FP, the finite verb in F is used to express illocutionary force. The term illocutionary force refers to the intention with which an utterance is used. Finiteness is used to express that the utterance is an assertion, i.e. that a particular situation as described by the utterance is true for a particular time and place. This function of F can be demonstrated in a dialogue as in (6).

- (6) A: *Het lijkt of het huis beWOOND is.*  
 'It seems as though the house is inhabited.'  
 B: *Het huis IS bewoond.*  
 'The house IS inhabited.'

In the response by B the verb *is* is a copula and as such it is lexically relatively meaningless. Therefore, it is well suited to illustrate the functional meaning of the category F. As argued in Klein (1998), this functional meaning occurs most prominently in a context in which *is* is used with contrastive stress. As is shown in (6) the use of *is* with contrastive stress may evoke a contrast in meaning. In (6) the utterance of B is a natural response to A. It expresses a contrast with respect to the truth value, i.e. B asserts that a situation is indeed the case as opposed to what seems to be implied in what is said by A, i.e. that this situation is NOT the case. Hence, as is stated by Klein (1998: 225) "being the carrier of assertion is the main function of finiteness". Lasser (1997: 77) refers to this as S-finiteness, i.e. semantic finiteness. S-finiteness indicates "the invisible function that finiteness serves". It constitutes a property of the utterance as a whole.

Summarizing, finiteness is the formal feature used to express the illocutive function of assertion. Depending on the formal and structural properties of this assertion marker, the utterance is interpreted as a declarative, a question, or an imperative respectively. Finiteness establishes the truth value of an utterance with respect to a particular spatio-temporal context. The semantic content of an utterance is a predication which is the expression of a *hold-for* relation between the predicate and the EA. The predicate of a predication can be either modal or non-modal. In utterances with non-modal predicates the EA receives its theta role from the lexical verb. Modal predicates as in (7) are root modals, they are used with what is called 'deontic modality'. In root modals the EA receives its theta role from the modal.

- (7) a. *De minister wil duidelijkheid verkrijgen.*  
the minister wants clarity to obtain
- b. *Hij kan er geen antwoord op geven.*  
he can it no answer to give
- c. *We mogen achter de voordeur kijken.*  
we may behind the front door look
- d. *Je moet heel voorzichtig zijn.*  
you have-to very careful be

Thus, *wil* (want) in (7a) refers to the volition of *de minister* (the minister), *kan* (can) in (7b) refers to the ability of *hij* (he), *mag* (may) in (7c) refers to the permission of *we* (we), *moet* (have-to) in (7d) refers to the obligation of *je* (you).

Modal verbs can also be used as non-root modals, i.e. with what Barbiers (2002a; 2002: 58; 2006) calls 'indirectly deontic modality'. Examples are utterances as in (8).

- (8) a. *De boom kan niet meer omvallen.*  
the tree cannot anymore fall down
- b. *Dat mag niet meer gebeuren.*  
that may not anymore happen
- c. *Het ergste moet nog komen.*  
the worst has-to yet come

In (8) as opposed to (7), the theta role of the EA is projected by the lexical verb, not by the modal verb. The utterances in (8) are used to express that a particular event or situation is possible (8a), allowed (8b) or required (8c).

Modal verbs whether they are used as root modals (deontic) or as non-root modals (indirectly deontic) are the head of the utterance. They determine the semantic properties of an utterance as a whole. This explains why F, as shown in Figure 2, is the prime position for modal verbs such as *wil*, *kan*, *mag*, *moet* (or: *hoeft*). In absence of a modal predicate, F expresses the default function of assertion, i.e. the claim that the utterance is true. As the formal expression of the default, i.e. non-modal, function of assertion, the position of F is taken by a non-modal auxiliary verb, such as *doet* (does), *gaat* (goes), *heb/heeft* (have/has) or *ben/is* (am/is), or by the lexical verb as a carrier of the morphological properties of finiteness.



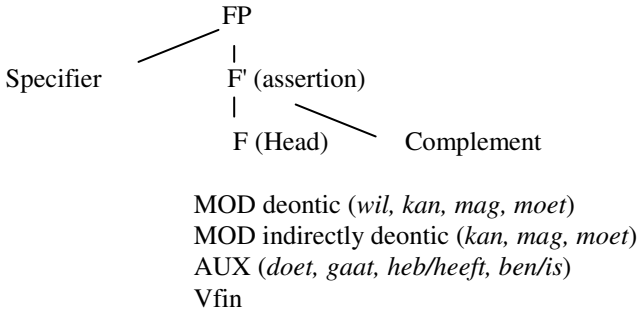


Figure 2. The semantic content of finiteness

With the expression of an assertion it is claimed that a particular situation is true with respect to a particular temporal and spatial dimension. That is, for an utterance to make sense it has to be made clear *when* the action, state or change of state occurred and *where*. Thus, claiming that a situation factually occurs, means that it has to be anchored in space and time (Klein 1994; 1998: 226).

In Dutch, the finite verb in F is not only used to express assertion but also serves to express temporal anchoring. This is illustrated with the dialogue in (9). In (9) the utterance of B is a natural response to A.

- (9) A: *Hij was een goede collega.*  
 'He was a good colleague.'  
 B: *Hij IS een goede collega.*  
 'He IS a good colleague.'

In a similar way as in (6) the verb *is* in the response by B is a copula and hence relatively meaningless. The use of *is* with contrastive stress in (9) evokes a different contrast in meaning as in (6). It expresses a contrast with respect to tense, i.e. B asserts that his claim holds for a time span including the speech time as opposed to the time span preceding it.

Identification of an event (i.e. an action, a state or a change of state) on the dimension of *time* is conceptualised in terms of the relation between the time at which the utterance occurs (TU) and what Klein (1994) refers to as the topic time (TT), i.e. a particular time span of a situation that the speaker makes a claim about. The interaction between the topic time and the time of utterance is expressed with the formal properties of tense (Klein 1994: 120ff.). Thus, tense provides the formal means to establish temporal anchoring with respect to the time of utterance. For example, if the time of

utterance co-occurs with the topic time, this is expressed on the finite verb with the use of present-tense morphology and if the time of utterance occurs after the topic time, this is expressed on the finite verb with the use of past morphology.

Given that utterances have to be anchored both with respect to time and space, an assertion not only holds for a particular topic time, but also for a particular spatial setting. Identification of an event on the dimension of *space* is conceptualised in terms of entities and/or locations that are part of the speakers frame of reference. It is represented by means of lexical expressions, i.e. with nominal, pronominal and/or adverbial elements.

Summarizing, it is the function of finiteness to express the illocutive function of assertion by both spatial and temporal anchoring of the utterance.

### 2.2.3. The domain of F

The function of finiteness is the expression of the illocutive function of an assertion. An assertion can be expressed positively or negatively. A negative assertion is expressed with finiteness and a negative scope particle such as *niet* (not), *geen* (not-a/no), *nog niet* (not yet), *nooit* (never), *nergens* (nowhere). Hence, there is a particular domain which I will call "the functional domain of finiteness", which is delimited by the position of the functional verb and the (negative) scope element. Nominal expressions within this particular domain establish spatial anchoring of an utterance by referring to entities and/or locations which the speaker assumes to be uniquely identifiable. This positional faculty explains the functional difference between (10a) and (10b), i.e. between the position of the definite NP *deze snoepjes* with respect to the negator *niet* in (10a) and the indefinite NP *snoepjes* with respect to the negator *geen* in (10b).

- (10) a. *Ik lust deze snoepjes niet.*  
 I like these candies not  
 b. *Ik lust geen snoepjes.*  
 I like no candies

The NP *deze snoepjes* in (10a) refers to an entity as uniquely identifiable. Hence, it occurs within the domain of finiteness i.e. to the left of the position of the sentence negator (*niet*). The NP *snoepjes* in (10b) refers to a

category of objects that are not uniquely identifiable. Hence, it occurs outside the domain of finiteness, i.e. to the right of *geen*.

At this point, it should be noted that entities that are assumed to be uniquely identifiable do not necessarily have to be represented as definite. See, for example (11a) and (11b).

- (11) a. *Er zit een dop niet op de fles.*  
 there is a cap not on the bottle  
 b. *Er zit geen (= niet een) dop op de fles.*  
 there is no cap on the bottle

In both (11a) and (11b) the NP *een dop* (a cap) is indefinite. However, in (11a) *een dop* is used with a meaning that is usually described as 'specific'. It refers to a particular object with the function of a cap. Hence, it is uniquely identifiable within the frame of reference of the speaker and can therefore establish spatial anchoring. In (11b) however, *een dop* is 'non-specific'. Its reference is *any* object with the function of a cap. Hence, it is not uniquely identifiable and therefore it can not establish spatial anchoring.

Similarly, definite NPs may also occur both within and outside the domain of finiteness. This is shown in (12a) and (12b).

- (12) a. *De politie heeft de weg nog niet vrijgegeven.*  
 the police has the road nog yet cleared  
 b. *De politie heeft nog niet de weg vrijgegeven.*  
 The police has not yet the road cleared

In both (12a) and (12b) the NP *de weg* is definite. In (12a) *de weg* is used to refer to an element that is uniquely identifiable. Within the frame of reference of the speaker it refers to a particular object. In (12b) however, *de weg* may not be used to refer to an object at all. It seems to function as part of a complex predicate phrase meaning 'open for traffic'.

Summarizing, as shown in (10), (11) and (12), the position of the constituent serving spatial anchoring is different from the one that does not. If it occurs within the functional domain of finiteness it has specific meaning, if it occurs to the right of this domain, its meaning is non-specific. The notion of the domain of finiteness as a domain of specific reference and, hence, spatial anchoring provides a functional account of a phenomenon that is commonly referred to as 'scrambling'.

Given that identification on the dimension of space is achieved with reference to the unique properties of entities and/or locations, spatial anchoring occurs lexically. Therefore, as opposed to temporal anchoring, spatial anchoring is not restricted to a set of linguistic elements that are mutually exclusive, i.e. it does not constitute a closed class category. It is precisely for this reason that in no language system spatial anchoring is achieved by means of inflection.

#### 2.2.4. *The function of Spec-F*

In order for an utterance to make sense, the addressee has to know about which situation a claim is made. This is illustrated in Klein (2008) with the example *It was snowing*. As an utterance this expression does not make sense unless the addressee knows the situation it applies to. In Klein (2008) this situation is termed the topic situation. The topic situation is a "spatio-temporal constellation about which ... the speaker wants to say something" (289), it is "the situation to which the speaker's assertion is confined" (290).

In the model as presented in Figure 1, the structure in F' accommodates a predication which in the default case serves as an assertion. That means that F' serves to express that the predication is claimed to be true for a particular topic situation. In order for the addressee to be able to interpret the utterance as an assertion, he has to be able to identify the topic situation. As indicated in Klein (2008) there are two possible ways for the addressee to find out what situation the utterance is about, i.e. either through "information sources different from what the sentence itself provides" or through part of "the descriptive context of the sentence" (293). Klein refers to these processes as "external and internal topic situation identification". External identification of the topic situation occurs through information that is present either in the situational context as in [ *Noise* ] *The refrigerator has turned on* or in a linguistic context as in *We arrived around 10. Mary opened the kitchen door. The light was on*. Internal identification of the topic situation takes place if the topic situation can be identified through an element that is part of the content of the utterance itself. For example, in *John left early* the "topic entity" *John* "may be marked in a special way as contributing to IDENTIFY the topic situation" (290).

In the following, a few examples may serve to illustrate how both internal and external identification of the topic situation are achieved. Consider, for example, a situation in which children are playing a ball game. At some

point a ball breaks through the window. In this situation a speaker, who notices something happening, may produce either of the following utterances.

- (13) a. *De bal vliegt door de RUIT.*  
 the ball goes through the WINDOW  
 b. *De BAL vliegt door de ruit.*  
 the BALL goes through the window  
 c. *Er vliegt een BAL door de ruit.*  
 there goes a BALL through the window

As pointed out, the examples in (13) may occur in a situation in which two people, speaker and addressee, are aware of the fact that there are children around playing a ball game. In (13a), i.e. *De bal vliegt door de RUIT* (the ball goes through the WINDOW) reference to the object breaking through the window is established with the NP *de bal*. It serves as an internal means with which the topic situation can be identified.

The example in (13b) may occur in a similar situation. All of a sudden there is the sound of breaking glass. In that situation the speaker may say *De BAL vliegt door de ruit* (the BALL goes through the window). The use of stress here indicates that the NP *de BAL* is used to carry focus information. Hence, in (13b) the utterance *itself* does not provide the information to identify the topic situation. The topic situation has to be identified externally, i.e. with the sound of the breaking glass and/or the children screaming.

The example in (13c) may occur in a situation in which the addressee must not necessarily be aware of what is going on. The speaker hearing the noise of breaking glass may say *Er vliegt een BAL door het ruit* (there goes a BALL through the window). This "seemingly 'topic-less' sentence" (Klein 2008: 290) functions as a presentational sentence. It establishes a topic situation itself. The differences between the examples in (13) are represented schematically in (14).

## (14) Topic situation: Children playing with a ball

Means to identify TS	Utterance SpecFIN + FIN'	
a. [ 'bal' ]	<i>De bal<sub>i</sub></i>	<i>vliegt e<sub>i</sub> door de RUIT.</i>
b. [ sound ]	<i>De BAL<sub>i</sub></i>	<i>vliegt e<sub>i</sub> door de ruit.</i>
c. [ (sound) ]	<i>Er</i>	<i>vliegt een BAL door de ruit.</i>

Whether a topic situation is established internally (14a) or externally (14b) and (14c) depends on the function of the expression in SpecF. The entity that is referred to explicitly in (14a), *de bal*, plays a role in the situational context. It is up to the speaker whether he makes use of this linguistic means to identify the topic situation or of a non-linguistic means, e.g. the sound in (14b) and (14c). In his decision to choose either an internal or an external means to identify a topic situation, the speaker takes into account the current knowledge state of the listener.

Internal identification of the topic situation is realized through elements that occur in SpecF. SpecF is, thus, the position for expressions representing the topic situation that the utterance applies to.

## (15) Topic situations

Topic situation	Utterance SpecF	F'
a. Event at some place	<i>Op het schip</i> on the ship	<i>is brand ontstaan.</i> has fire broken out
b. Event at some time	<i>Vorige week</i> last week	<i>zag alles er nog zonnig uit.</i> saw everything stilly sunny
c. Event with some entity	<i>Dit sieraad</i> this jewellery	<i>kan bijna niemand zich veroorloven.</i> can nearly nobody afford
d. Sudden event	<i>Opeens</i> all of a sudden	<i>vliegt een bal door het raam.</i> goes a ball through the window
e. Unexpected event	<i>Toch</i> yet	<i>is hij er weer in geslaagd.</i> has he again succeeded.
f. Causing event	<i>Daarom</i> therefore	<i>heb ik het maar niet gezegd.</i> have I this not said

As shown in (15a-c), the expressions in SpecF may refer to the place or the time of the topic situation or to an entity that plays a role in the topic situation. However, "the topic situation may also be characterized by many other types of information" (Klein 2008: 289). As shown in (15d-f), this happens with adverbial expressions, each in a different way. With *opeens* (15d) the topic situation is identified as an event that occurs all of a sudden, with *toch* in (15e) it is identified as opposed to what one would expect and with *daarom* in (15f) as the reason for why a particular situation takes place.

Summarizing, the content of an utterance is established by a predication. In the default case F' serves to accommodate the predication as an assertion. In order for an assertion to make sense it has to apply to a particular contextual situation, i.e. the topic situation. The topic situation can be represented internally, i.e. by the constituent in SpecF or externally, i.e. by information that is provided by a feature of the situational context itself. SpecF thus specifies the means by which an assertion is embedded in a particular situational context. As shown in (15a - f), any nominal, pronominal or adverbial constituent that refers to a property of the topic situation may serve as an internal means to establish the topic situation that the assertion applies to.

F with its complement VP constitutes F'. F' represents the illocutive function of assertion with which a predicate-argument structure is used. F is the position for a verbal element to carry the linguistic properties of finiteness. It is the function of finiteness to establish spatio-temporal anchoring of the predication. In F, morphological properties of tense account for temporal anchoring, while within what is defined as the functional domain of finiteness lexical elements may account for both temporal and spatial anchoring.

### 2.2.5. *FP and VP*

Summarizing, from a functional perspective utterance structure in Dutch integrates two projections of syntactic structure: a lexical projection VP and a functional projection FP. The lexical projection of VP entails a predicate-argument structure. It serves to express that a predicate (with or without an internal argument) holds for a particular external argument. The functional projection FP specifies a structure for the expression of the information-structuring properties of an utterance. With the elements in F and the domain of F the speaker expresses spatio-temporal anchoring of VP

and thereby the illocutive function of assertion. SpecF may establish its contextual embedding.

The relation between the lexical projection VP and the functional projection FP is such that VP serves as the complement within FP. The lexical projection thereby establishes the propositional content of an utterance, which is linked to a particular contextual situation by the information structural properties of its functional projection.

Although the projections of F and V serve different functions, the structural relations between their constituents is the same. As represented in Figure 3, they can be categorized as Head, Complement and Specifier.

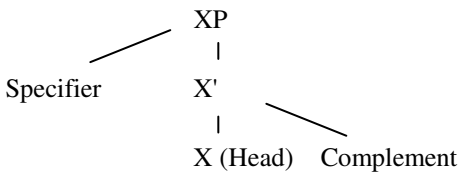


Figure 3. Hierarchical structure of the projections of F and V

Both F and V are the head constituent of the structure they project, i.e. they determine the semantic and syntactic properties of a particular projection. The head may require a particular element as its complement, and both head and complement entertain a *hold-for* relation with respect to the element which is termed Specifier.

Within a functional projection the head determines its illocutive function, within a lexical projection the head determines its semantic-syntactic function. The Complement is an attribute that is determined by the Head with which it forms an entity. In case of a functional projection it is a predication, in case of a lexical projection it is any constituent that the verb may need to form a predicate with. The Specifier is the constituent that the head-complement structure holds for. With a functional projection it is the element in SpecF, with a lexical projection it is the EA.

The structure of Figure 1, is represented below again. It shows the formal representation of the interaction between predicate-argument structure (lexical projection) and the linguistic expression of finiteness and verb-second (functional projection).



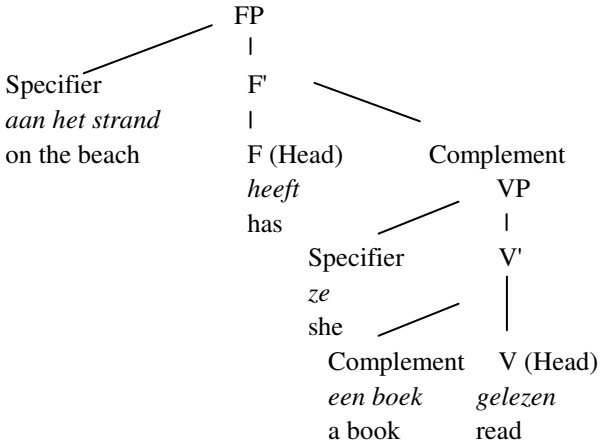


Figure 1. Main clause structure in Dutch

In Dutch, the structural positions within an utterance are fixed. However, a constituent of a lexical projection may occur in a position of the functional projection to carry some functional properties. Thus, as shown in (5d), here represented as (16d), the lexical verb may occur in the position of F, if there is no other element available for the expression of the illocutive function of assertion.

- |         |  |   |                                       |  |
|---------|--|---|---------------------------------------|--|
| (16) a. | <i>Aan het strand</i><br>on the beach    | <i>heeft ze</i><br>has she                      | <i>een boek</i><br>a book             | <i>gelezen.</i><br>read                  |
| b.      | <i>Ze<sub>i</sub></i><br>she             | <i>heeft e<sub>i</sub></i><br>has               | <i>aan het strand</i><br>on the beach | <i>een boek gelezen.</i><br>a book read  |
| c.      | <i>Dit boek<sub>i</sub></i><br>this book | <i>heeft ze</i><br>has she                      | <i>aan het strand</i><br>on the beach | <i>e<sub>i</sub> gelezen.</i><br>read    |
| d.      | <i>Ze<sub>i</sub></i><br>she             | <i>leest<sub>j</sub> e<sub>i</sub></i><br>reads | <i>aan het strand</i><br>on the beach | <i>een boek e<sub>j</sub>.</i><br>a book |

Hence, in absence of an auxiliary verb, variation with respect to the position of the lexical verb serves a functional purpose. Similarly, as shown in (16b, c, d) nominal constituents with argument function may occur in SpecF position. In this position, as is the case with the adverbial in (16a), these nominal constituents carry the function of contextual embedding.

The situation as identified by the constituent in SpecF not only serves as the topic situation of the utterance, it also determines spatio-temporal anchoring of the assertion as expressed in F'. With respect to the situational

embedding of an utterance therefore, SpecF and F' interact. For example, if an adverbial such as *gisteren* occurs in SpecF to identify the topic situation, it has to agree with the temporal anchoring of tense as it occurs in F. Hence, it may co-occur with the verb *kwam* (came) but not with *komt* (comes). Furthermore, an argument or an adverbial within the domain of F that is used to establish spatial anchoring may or may not occur in SpecF. If it does, as for example in (16b, c, d), its position in F' has to remain empty ( $e_i$ ). The relation between an NP in SpecF and its empty position in F' guarantees the interpretation of its syntactic function.

Summarizing, both the categories SpecF and F' account for the contextual embedding and spatio-temporal anchoring of an utterance. SpecF provides the position for constituents to identify the topic situation that the utterance applies to. The syntactic function of constituents in SpecF is determined by their (empty) position indicated with  $e$  in F'. F provides the position for verbal elements to express the illocutive function of an utterance. The verbal element in F simultaneously serves as the carrier of the morphological devices to express temporal anchoring. The domain of F which is constrained to the right by the positioning of scope particles is relevant for the spatial anchoring of an utterance. Constituents with argument function within the domain of F, thus, simultaneously serve both a semantic and an anchoring function. Scope particles are elements such as *niet* (not), *wel* (indeed), *weer* (again), *nog* (yet), *ook* (also) etc. A scope particle (ScP) has the syntactic status of an adjunct. The interaction between the predicate-argument structure in VP and the information-structural functions in FP is summarized in Figure 4.

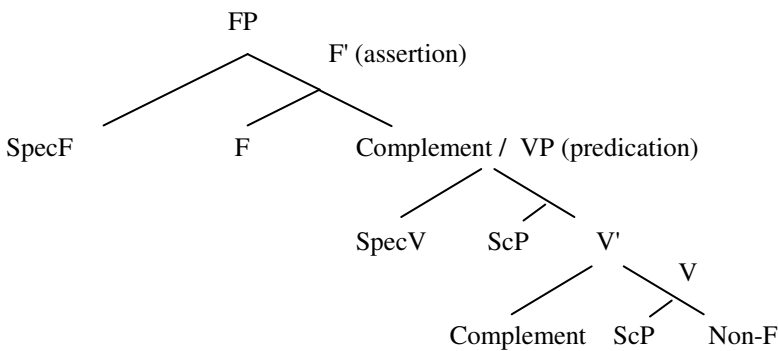


Figure 4. The interaction between the predicate-argument structure (VP) and the information-structural functions (FP)

The representation in Figure 4 serves as an abstract formal means to account for the possibilities of variation in utterance structure. Variation in utterance structure is constrained by the underlying grammatical system. An adequate description of this grammatical system serves to explain the fact that native speakers generally agree on the kind of language structures that are to be judged as either correct, such as in (16), or incorrect, such as in \*(17).

- |         |                             |                       |                          |                      |                      |                       |
|---------|-----------------------------|-----------------------|--------------------------|----------------------|----------------------|-----------------------|
| *(17)a. | <i>Dit boek<sub>j</sub></i> | <i>ze<sub>i</sub></i> | <i>heeft</i>             | <i>e<sub>i</sub></i> | <i>e<sub>j</sub></i> | <i>gelezen.</i>       |
|         | this book                   | she                   | has                      |                      |                      | read                  |
| b.      | <i>Aan het strand</i>       | <i>ze<sub>i</sub></i> | <i>heeft</i>             | <i>e<sub>i</sub></i> | <i>een boek</i>      | <i>gelezen.</i>       |
|         | on the beach                | she                   | has                      |                      | a book               | read                  |
| c.      | <i>Aan het strand</i>       |                       | <i>heeft</i>             | <i>een boek</i>      | <i>ze</i>            | <i>gelezen.</i>       |
|         | on the beach                |                       | has                      | a book               | she                  | read                  |
| d.      | <i>Aan het strand</i>       |                       | <i>lezen<sub>j</sub></i> | <i>ze (3P.Sg)</i>    | <i>een boek</i>      | <i>e<sub>j</sub>.</i> |
|         | on the beach                |                       | read                     | she                  | a book               |                       |

A purely structural representation of variation in word order does not provide an account of its functional properties. A functional interpretation based on the notion of finiteness however deals with variation in terms of information structure. That is, it addresses the question of what variation in utterance structure is good for. In the following, this question determines the point of view from which processes of language development both in child L1 and adult L2 learners of Dutch will be investigated.

The linguistic knowledge as represented in Figure 1 or Figure 4 seems rather complex. One may wonder how it is possible that language learners are able to derive this abstract knowledge system from the input they receive. One solution to account for this so-called learnability problem is to assume that relevant properties of linguistic structure are innate. However, I pursue a different approach. This means that I will focus on the acquisition of structural knowledge as a function of information structure. My claim is that at the initial stage of language acquisition, utterance structure is based on linguistic knowledge of predicate-argument structure as it is stored in the mental lexicon. At the relevant stage, this *lexical* knowledge is simultaneously used for the purpose of information structuring. However, this is unlike the target language. In the target language, information structure is expressed by means of *functional* elements. Therefore, I will argue that it is the principles of information structure that are the driving force causing learners to develop their lexical variety at the initial stages of

language acquisition into the functional variety of a fully-fledged target system.

The data of the present study originate from investigations on the acquisition of Dutch by children learning this language as their native language and adults learning it in an untutored second language learning environment. Both the L1 and L2 data come from longitudinal studies of utterances produced spontaneously. The L1 data originate from a corpus of diary data collected from two children of the present author: Jasmijn (J) (date of birth: 11.12.1984) and Andrea (A) (date of birth: 27.05.1993). In the examples below a reference such as, for example, 'J 1;9' means that the utterance occurred when Jasmijn was 1 year and 9 months of age. The L2 data stem from the European project "Second Language Acquisition by Adult Immigrants", funded by the European Science Foundation. In this project, data collection was organized in three cycles of 10 months each, which means that similar types of elicitation techniques (e.g. film retellings and picture descriptions) were repeated three times during the process of data collection (see Perdue 1993). In the present study, I will investigate data from L2 learners varying according to the level of their L2 proficiency and with either L1 Arabic (A) or with L1 Turkish (T). Data from the following learners have been analysed: Mahmut (Ma/T), Osman (Os/T), Abdullah (Ab/T), Ergün (Er/T), Fatima (Fa/A) und Mohamed (Mo/A). In the examples 'Ma/T 1.2' means that the utterance by Mahmut whose L1 is Turkish occurred at month 2 of cycle 1.

### 3. The lexical stage

In the following, I will argue that learner grammars are initially lexical.<sup>1</sup> That is, utterances are the expression of lexical projections with a structure as in Figure 3. Hence, functional properties of the linguistic system such as auxiliaries, inflection, word order variation and the determiner system are not part of the grammatical system of learners at the relevant stage, at least not productively. However, absence of F, i.e. the linguistic category in the target language to account for properties of S-finiteness, does not mean that learners are unable to express some of its functions. They can be expressed by lexical means.<sup>2</sup> At the relevant stage, this seems to be the case with the way in which lexical modal predicates are used. In examples as *ulle appel indoen* (J 1;10) (I-want apple in-do) and *Jaja mag dop opdoen* (A 2;0) (J may lid on-do) the modal predicates *ulle* (want) and *mag* (may) constitute the head of a lexical projection ModP. They assign an external theta role to

an agent, while they take a predicate referring to either a (causative) action or an agentive movement as their complement. Modal predicates at the lexical stage serve the expression of a volition, an ability, a permission or an obligation that holds for the agent. They carry the illocutive function of assertion. At the relevant stage, the agent often refers to the speaker. With the agent referring to the speaker, utterances with a modal predicate are then used to express the illocutive functions of a wish, a promise, a request, demand etc. The structure of lexical projections with Mod is given in Figure 5.

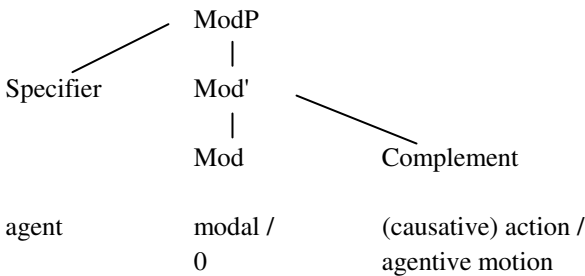


Figure 5. Lexical projection of modal predicates

Absence of modality is represented in Figure 5 as *0*. It refers to the default means to express the meaning of assertion. At the lexical stage, absence of modality as the expression of the default illocutive function of assertion can also be realised by the use of a (dummy) element such as *doet(ie)* (does-he), *gaat(ie)* (goes-he), *is*, *ben* (is, am).

In (18) and (19), examples of lexical projections of Mod are given for both child L1 and adult L2 learners of Dutch. They occur with complements referring to either a (causative) action or an agentive motion.

(18) L1 Dutch. Modal predicates with an agentive complement

(Causative) Action

*ulle appel intoen.* (J 1:10)

I-want apple in-do

*Mijnne nee omgooie.* (J 1:10)

M no overturn

*kanwel optille.* (J 1:10)

can-indeed up-carry

*mama kanniet kusje.* (J 1;11)

mommy cannot kiss

*doetie alles opete.* (J 1;11)

does-he all up-eat

*poes 0 bal pakke.* (J 1;11)

kitty ball grab

*Jaja mag dop opdoen.* (A 2;0)

J may lid on-do

*mag-ikke ijssie hebbe?* (A 2;1)

may-I icecream have?

*Jaja 0 deze hebbe.* (A2;0)

J this have

Agentive motion

*nee tafel klimme.* (J 1;10)

no table climb

*nee gas lope.* (J 1;10)

no grass walk

*ik doete opzitte.* (J 1;11)

I do on-sit

*nee bad zitte.* (A 2;1)

no bath sit

*mag-ikke ook bank zitte?* (A 2;1)

may-I too couch sit?

*mag-ikke paartje rijd?* (A 2;1)

may-I horse ride?

(19) L2 Dutch. Modal predicates with an agentive complement

(Causative) Action

*ik kanniet praten nederlands.* (Fa/A 1.8)

I cannot talk dutch

*nog drie maand ik moet trouwen.* (Ab/T 1.6)

still three months I must marry

*ik ben / moet werken.* (Ab/T 1.3)

I am / have to work

*vrouw moet keuken.* (Ma/T 1.7)

wife must kitchen

*hij is liegt.* (Ab/T 1.6)

he is lied

*daar mensen is niks doen.* (Ab/T 2.7)

there people is nothing do

#### Agentive motion

*ik altijd wil zit met Nabil.* (Fa/A 3.2))

I always will sit with N

*ik hoefniet ziektewet.* (Ma/T 2.7)

I have-to-not [ to go into] health insurance

For the expression of modality in structures as in Figure 5, it does not seem necessary for learners to have established the category 'modal verb' of the target language. The examples in (18) and (19) show evidence of non-target-like elements such as *nee, mag-ikke, kanwel, hoefniet*.

As pointed out, the complement of Mod in Figure 5 is an agentive predicate. At the relevant stage, the learner language may use any lexical entity referring to a (causative) action or an agentive motion as a complement of Mod. Examples with an NP, a PP, an adverbial or a particle as an agentive complement are given in (20) and (21).

#### (20) L1 Dutch. Modal predicates with a non-verbal agentive complement

*mama kanniet kusje.* (J 1;11)

mommy cannot kiss

*mag niet oppe dak.* (J 1;11)

may not on-the roof

*ik mag niet modewijzer.* (J 2;1)

I may not fashion-designer

*kannie bij, pakke.* (J 2;1)

cannot at-it, grab

*mag ikke Tita paard?* (A2;0)

may I T's horse?

*mag ikke dees?* (A 2;1)

may I this-one

*mag ikke bove toe?* (A 2;1)

may I upstairs

*kanniet bij.* (A2;1)

cannot at-it

*mag poppie aan?* (A2;2)

may doll on?

(21) L2 Dutch. Modal predicates with a non-verbal agentive complement.

*vrouw moet keuken.* (Ma/T 1.7)

wife must kitchen

*ik hoefniet ziekte wet.* (Ma/T 2.7)

I have-to-not [ go into ] health-insurance

*ik kanniet 13 uur werk.* (Ma/T 3.1)

I cannot 13 hours work.

The data in (20) and (21) are evidence that for a constituent to serve as a lexical predicate, the only criterion is its semantics.

At the relevant stage, Dutch children produce predicates such as *appel indoen* (apple in-do), *alles opete* (all up-eat) *bal pakken* (ball get) or *tafel klimme* (table climb), *paartje rijd* (horsie ride), *e(r) opzitte* (it on-sit) as complements of Mod. These predicates are lexical entries with a head and a complement. In Dutch children, they always occur target-like, i.e. with a head-final order. In adult L2 Dutch however, the structure of these predicates varies. Variation seems to be influenced by the L1. This explains why the ordering within the complement is head-initial as in *ik kanniet praten nederlands* (Fa/A 1.8) (I cannot talk dutch) and head-final as in *ik wil altijd zit met Nabil* (Fa/A 3.2) (I always will sit with N) and head-final as in *daar mensen is niks doen* (Ab/T 2.7) (there people is nothing do). Thus, while at the relevant stage, as shown in Figure 4, the syntactic structure of the utterance as a whole is head-initial, lexical entries serving as the complement of Mod can be internally ordered either as head-final or as head-initial.

The modal predicates in (18) - (21) are in fact lexicalisations of variation in control. As the complement of Mod, the agentive predicate entails the kind of action that is under control.

What about predicates referring to a state or a change of state? As non-agentive predicates state and change-of-state predicates cannot occur as the complement of Mod. This explains, why at the relevant stage they appear as the head of a lexical projection PredP with a theme or a benefactive as the EA. The utterance structure of non-agentive predicates is given in Figure 6.



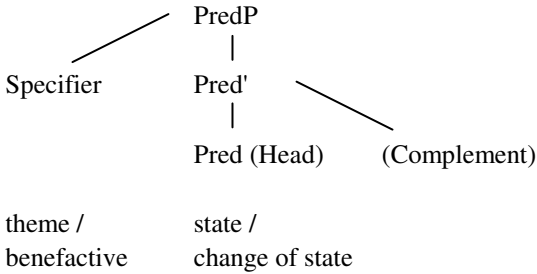


Figure 6. Lexical projection of state and change of state predicates

Examples of projections with state and change-of-state predicates are given in (22) and (23). Since state and change-of-state predicates cannot occur as the complement of Mod, they can only be used in utterances expressing the default illocutive function of assertion.

(22) L1 Dutch. Non-agentive predicates.

*poes ligt.* (J 1;11)  
 kitty lies  
*Mijnne valt.* (J 1;10)  
 M falls  
*poes komt niet.* (J 1;11)  
 kitty comes not  
*da zit.* (A 2;1)  
 there sits  
*J vindt vies, deze.* (A 2;1)  
 J finds yuk, this  
*J heeft au.* (A 2;1)  
 J has ow

(23) L2 Dutch. Non-agentive predicates.

*ik woon zwarte zee.* (Os/T 1.8)  
 I live black sea  
*jij blijft thuis.* (Os/T 2.3)  
 you stay home  
*hij vindt leuk.* (Os/T 2.5)  
 he finds nice

*gisteren ik slaap bij mijn oom.* (Os/T 2.1)

yesterday I sleep at my uncle

*dames 0 niet goeie chauffeur.* (Ma/T 2.9)

ladies not good driver

Comparing utterance structure as represented in Figure 5 and 6, it can be concluded that it is the expression of modality which determines the position of the lexical predicate. With a head position for Mod the predicate occurs in final position, with the impossibility of a Mod-head, the predicate occurs in head position. At the relevant stage, there is no evidence of morphological productivity. Verb morphology simply reflects the form in which the predicate occurs in the input. Therefore, inflection as it seems to occur in (22) and (23) is not a structural morphological feature. A similar observation has been made with respect to the L1 acquisition of German. In absence of evidence of productivity, verb forms showing features of agreement are interpreted as instances of "holistic learning" (Ingram and Thompson (1996: 111).

In the target language, as represented in Figure 1 or Figure 4, the position of SpecF allows both the IA and PPs or adverbials to occur in initial position. Its function is to establish embedding into the contextual situation. At the lexical stage however, this possibility does not exist. With lexical projections structured as in Figure 5 and 6, there is only one specifier position sentence initially which is taken by the EA. Thus, the IA, a PP or an adverbial cannot be used for context-situational embedding. Given these limitations, learners are facing a problem which is essentially a problem of information structure. Nevertheless, as will be shown below, learner grammars seem to be able to provide a solution for this with the lexical means at hand.

At the lexical stage, as pointed out, the EA occurs in initial specifier position, while adverbial elements cannot. Given that child utterances are mostly about the here and now, adverbial elements referring to place and time are rare. Hence, with children temporal and local embedding does not constitute a problem. L2-learners however, do make use of adverbial elements for contextual embedding. As long as the initial position of a lexical projection is taken by the EA, local and temporal embedding is achieved by placement of these elements in an XP position sentence-initially. Thus, L2 learners typically produce utterances with nontarget-like structures as in (24) and (25).

(24) (XP +) Specifier + Mod + Complement

*nog drie maand ik moet trouwen.* (Ab/T 1.6)  
still three months I have-to marry

(25) (XP +) Specifier + Pred + (Complement)

*dan auto bijna vallen.* (Ma/T 2.9)  
then car nearly fall  
*viertwintig juni mij man thuis.* (Fa/A 1.8)  
four-twenty june my husband home

Summarizing, at the lexical stage functional categories are absent, i.e. utterance structure has neither F nor SpecF and, therefore, learner grammar is relatively simple. The consequences for the grammatical system are summarized in (26).

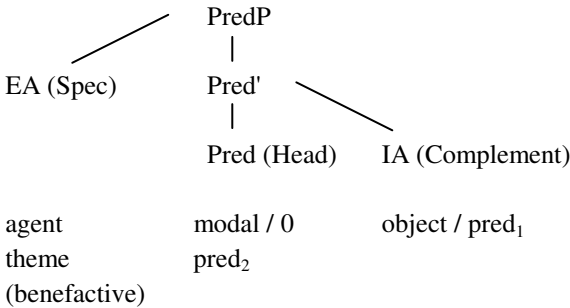
- (26) no F → no auxiliaries  
→ no inflection (no tense, no agreement)
- no SpecF → no topicalization (no IA, PP or adverbial in specifier position)  
→ no *wh*-questions  
→ no *yes/no*-questions

Furthermore, properties of S-finiteness are represented lexically. In learner grammars therefore, the illocutive function of assertion is expressed as in (27).

- (27) With *agentive predicates* the illocutive function of assertion is carried by a lexical modal predicate (Mod), a dummy element or an empty position.  
With *non-agentive predicates* the illocutive function of assertion is carried by the lexical predicate (Pred).

Utterances as in (18) to (23) are lexical structures which specify a hold for relation between a predicate (Pred') and an NP that may function either as an agent or a theme (or benefactive). They are instantiations of a predicate-argument structure. The constituent that the predicate holds for - no matter its semantic function - is attributed the function of the external argument (EA). Thus, given that learners produce the types of utterance as in Figure

5 and 6, they are in the position to infer that these types of utterance are instantiations of an underlying structural configuration as in Figure 7.



pred<sub>1</sub> = (causative) action, agentive motion

pred<sub>2</sub> = state, change of state

Figure 7. Projection of the lexical category PredP

The internal structure of the predicate is determined by its so-called *head* constituent. The head is the constituent which defines the syntactic category that a particular structure belongs to. Thus, Pred defines the structural properties of the PredP. As the head of Pred', Pred may require an IA as its *complement*. If Pred is a root modal it requires an object or a lexical predicate as its IA and an agent as its EA.

The representation in Figure 7 shows that in lexical structures in which an agent plays a role, the agent occurs in initial EA position. Only in lexical structures in which there is no role for an agent, a theme (or benefactive) occurs in initial EA argument position. The relevant observation can be accounted for with the semantic principle of "control asymmetry" as formulated in Klein and Perdue (1997). As argued in Klein and Perdue the position of an argument is determined by the degree of control that the referent of an NP has relative to the referents of other NPs. As a typical constraint of the Basic Variety, it is claimed that "The NP-referent with highest control comes first" (Klein and Perdue 1997: 315). Degree of control is reflected in the semantic-case role properties of arguments. It explains the distribution of verb-argument structure in Figure 7. That is, it explains the fact that a non-agentive argument may only occur in initial, specifier position if the agent is not available.

Utterances are used in situational contexts. For the expression of information that is contextually relevant, utterance structure has to establish

reference to some of its variables. Therefore, the target language has the option for NPs or adverbials to occur in initial, topic position. However, in order to be able to use the relevant type of utterance structure, learners should have established the linguistic knowledge system that entails the structural properties of a functional projection (FP). At the lexical stage, FP is claimed not to be part of learner grammar. However, learners do produce utterances with the IA or an adverbial in initial position, as in (28) and (29).

(28) L1 Dutch. Agentive predicate, topic and missing agent.

*dit nee afdoen.* (J 1;10)  
 this no off-do  
*die niet afpakke!* (J 1;11)  
 this cannot get  
*da kanwel opzitte.* (J 2;0)  
 there can-indeed onsit  
*da moet op drukke.* (J 2;1)  
 there must onpress  
*disse hoeniet meeneme.* (A 2;1)  
 this-one has-to-not with-take  
*die maa hier doen.* (A 2;1)  
 that-one just here do  
*da kanniet zitte.* (A 2;1)  
 there cannot sit  
*da kanniet pakke, visie.* (A 2;1)  
 that cannot get, tv  
*die maa hier doen.* (A 2;1)  
 that just here do  
*deze magniet teke.* (A 2;2)  
 this may-not draw

(29) L2 Dutch. Agentive predicate, topic and missing agent.

*eenduizend kanwel sparen per jaar.* (Ma/T 2.2)  
 one-thousand can save per year  
*dan magniet rijden.* (A 2.7)  
 then may-not drive  
*die magwel kopen.* (Os/T 2.5)  
 that may-indeed buy

*en dan 0 moet teruggeven.* (Os/T 2.3)

and then must back-give

*hier schoenen uitdoen moet.* (Os/T 1.8)

here shoes off-do must

The L1 data as in (28) can be found particularly in Jasmijn between (1;10) and (2;0) and in Andrea between (2;0) and (2;2). In the L2 data of Osman, the relevant structures are typically found between cycle (1.1) and (2.6). Although the examples in (28) and (29) are not target-like, they show that learners accommodate their utterances to the underlying constraints of the projection of lexical categories as represented in Figure 7. Furthermore, they observe the semantic principle of control asymmetry. It explains why in utterances in which the object or an adverbial occurs in initial position, the agent cannot be expressed. Given these structural constraints at the relevant stage of acquisition, this type of utterance structure is the only means to express contextual reference.

Utterances as in (28) and (29) also occur with an empty topic position. Examples in which the empty topic position is used to refer to an object topic are given in (30) and (31). As in (28) and (29) these utterances are typically found in Jasmijn between (1;10) and (2;0) and in Andrea between (2;0) and (2;2).

(30) Jasmijn: Agentive predicate, empty topic position and missing agent.

*kánnie dóen. ulle Peter doet.* (J 1;10)

0 can-not do. want P does

*ul opemake.* (J 1;10)

0 want openmake

*unne optille.* (J 1;10)

0 want up-lift

*kanwel optille.* (J 1;10)

0 can up-lift

*nee afdoen.* (J 1;10)

0 no off-do

*nee losmake.* (J 1;10)

0 no loose-make

*magwel tille.* (J 1;11)

0 may-indeed lift

*kan best pakke.* (J 1;11)

0 can indeed get

*magwel hebbe.* (J 1;11)  
 0 may-indeed have  
*moet inzitte.* (J 1;11)  
 0 must in-sit  
*kannie pakke.* (J 1;11)  
 0 can-not get  
*kanniet losmake.* (J 1;11)  
 0 can-not loose-make  
*magniet opgete.* (J 1;11)  
 0 may-not up-eaten  
*kanniet opemake.* (J 1;11)  
 0 can-not open-make  
*kanniet opete.* (J 1;11)  
 0 can-not up-eat  
 dit is tuk. *magniet tukmake.* (J 1;11)  
 0 this is kaput. may-not kaput-make  
*kanniet hebbe.* (J 1;11)  
 0 can-not have  
*kanniet zien.* (J 1;11)  
 0 can-not see  
*kanniet zoeke.* (J 1;11)  
 0 can-not look-for  
*mag ook hebbe.* (J 2;1)  
 0 may also have

(31) Andrea: Agentive predicate, empty topic position and agent missing

*hoef aaie.* (A 2;0)  
 0 have-to caress  
*nee hoof aaie.* (A 2;0)  
 0 no have-to caress  
*toe maa aandoen.* (A 2;0)  
 0 do please on-do  
*gaan boekie leze.* (A 2;0)  
 0 go book read  
 nee papa, *manniet doen.* (A 2;0)  
 no daddy, 0 may-not do  
*kánnie nie aáie.* (A 2;0)  
 0 can't not caress

papa, deze make. papa, *moet* make. (A 2;0)  
 daddy, this-one make. daddy, 0 has-to make  
*kan hel papa zitte.* (A 2;1)  
 0 can-do [ with ] daddy sit  
*mag deur opemake.* (A 2;1)  
 0 may door open-make  
*doe maa uitpakke.* (A 2;1)  
 0 do-please un-pack  
 papa, *nee* doen. (A 2;1)  
 daddy, 0 no do  
*kanniet pakke, deze.* (A 2;1)  
 0 cannot get, this-one  
*mag-ikke hebbe?* foto jouw (A 2;1)  
 0 may-I have? picture your?  
*0 mag inne handje neme.* (A 2;2)  
 may in hand take

To sum up, utterances as in (28) to (31) are used to express topicalization while they adhere to both the structure of the projection of lexical categories and the semantic principle of control asymmetry. The relevant properties can be accounted for as in (32).

(32) Topicalization at the lexical stage

Spec	Head	Complement
Topic <sub>OBJ-i</sub> / ADV	Mod <sub>[+AGENT]</sub> (+ Neg)	$e_i$ Pred <sub>[ACTION]</sub>
<i>disse<sub>i</sub></i> this	<i>hoeniet</i> has-to-not	$e_i$ <i>meeneme</i> with-take
$0_i$ 0	<i>kanniet</i> cannot	$e_i$ <i>pakke</i> take
<i>dan</i> then	<i>magniet</i> maynot	<i>rijden</i> drive
$0$ 0	<i>moet</i> must	<i>inzitte</i> in-sit



#### 4. The functional stage

Utterance structure of the system of the target language has the linguistic means to establish reference to variables of situational context. This is provided with the structural properties of a functional projection (FP). Evidence of FP is a syntactic position for the expression of finiteness. In target Dutch, the morphological expression of finiteness not only occurs with lexical verbs, it is also a property of modals and auxiliary verbs (Mod/Aux). Modals and auxiliary verbs occur together with lexical verbs. As carriers of finiteness modals and auxiliary verbs appear in the position of the head of FP, while the lexical verb carrying the formal properties of non-finiteness is part of the complement. The expression of finiteness in FP is a structural property of the target language system. Thus, as soon as learners systematically use modal *and* auxiliary verbs together with a lexical predicate with non-finite morphology (Vnf) this is evidence of FP. In the target language, the non-finite lexical verb has infinitival morphology if it occurs with a modal (Mod + Vinf), it has past participle morphology if it occurs with an auxiliary (Aux + Vpp).

The figures in Tables 1 and 2 show the frequency of use of non-finite lexical predicates (Vnf), i.e. both infinitival and past participle forms, in Jasmijn (1;10-2;2) and Andrea (2;0-2;4).

*Table 1.* Jasmijn (1;10-2;2): Vnf vs. Mod/Aux + Vnf

Age	Vnf	Mod/Aux + Vnf	Total
1;10	108	46 (= .30)	154
1;11	190	61 (= .24)	251
2;0	47	35 (= .43)	82
2;1	50	52 (= .51)	102
2;2	18	65 (= .78)	83

*Table 2.* Andrea (2;0-2;4): Vnf vs. Mod/Aux + Vnf

Age	Vnf	Mod/Aux + Vnf	Total
2;0	195	32 (= .14)	227
2;1	107	50 (= .32)	157
2;2	109	51 (= .32)	160
2;3	54	123 (= .69)	177
2;4	27	65 (= .71)	92

Initially, non-finite lexical predicates occur most frequently as bare infinitives or past participles. Evidence of a (sudden) increase in the use of infinitives with modals and past participles with auxiliaries is shown in Jasmijn at (2;0) and in Andrea at (2;3).

Furthermore, figures in Tables 1 and 2 evidence that the frequency of bare infinitives and past participles decreases at the same rate at which Mod/Aux + Vnf is being acquired. Hence, it seems that in the process of acquisition non-finite lexical verbs are given up in favour of Mod/Aux + Vnf. In Jasmijn (2;0) and Andrea (2;3) this process can be directly observed as both children vary between using Vnf and Mod/Aux + Vnf. Even with the same lexical verbs, they use both options. Examples are given in (33) and (34).

(33) Jasmijn (2;0): Variation between Vnf and Mod/Aux + Vnf.

a. Vnf

*rommel maakt.*  
mess made  
*anne boek pakke.*  
other book get  
*glijbaan, aanmake.*  
slide, on-make  
*opemake, danoontje.*  
open-make, danoontje  
*glijbaan vastmake.*  
slide up-tie  
*ik aa Cynthia geve.*  
I to C. give  
*Herrie vinde.*  
H. find  
*Daphnie ook uitkijke.*  
D. too out-look

b. Mod/Aux + Vnf

*heef Cynthia maakt.*  
has C. made  
*'k ga boter pakke.*  
I go butter get  
*doemaar aanmake.*  
please-do onmake  
*doe je Pino make.*  
do you P. make  
*ulle glijbaan make.*  
want slide make  
*mag ik Tompoes geve.*  
'may I T. give'  
*ik kanniet Herrie vinde.*  
I cannot H. find  
*poes wil kijke na boter.*  
kitty wil look to butter

(34) Andrea (2;3): Variation between Vnf and Mod/Aux + Vnf.

a. Vnf

*papa ook doen?*  
daddy also do?

b. Mod/Aux + Vnf

*dà mag papa wel doen.*  
that may daddy do

*papa Jaja same passe daan.*  
 daddy J together pee done  
*mellek indoen.*  
 milk in-do  
*papa ook wanneke.*  
 daddy too walk  
*mama eve opzoeke.*  
 mommy just look for  
*papa jij pakke?*  
 daddy you get  
*papa eve torentje make.*  
 daddy just tower make  
*Jaja eve make? ja, maakt.*  
 J just make? yes made  
*papa eve diepe kuil make.*  
 daddy just deep hole make  
*kijke es, vonne. rietje vonne.*  
 look, found, straw found

*dà heefe Jaja daan.*  
 that has J done  
*doe maa mellek indoen.*  
 do milk indo  
*papa, gaan wanneke.*  
 daddy, (we) go walk  
*Mijnie doet barretje zoeke.*  
 M does ball look for  
*opa magniet mij pakke.*  
 grandpa maynot me get  
*Jaja gaat liedje make van jou.*  
 J goes song make for you  
*Jaja hém al goonmaakt.*  
 J has already clean-made  
*doe maa diepe kuil make.*  
 do deep hole make  
*ikke heef Bert vonne.*  
 I have B found

With respect to the data as represented in Tables 1 and 2 it should be noted, however, that the increase in the use of modals with infinitives (Mod + Vinf) seems to begin earlier in the process than the increase in the use of auxiliaries with past participles (Aux + Vpp). This is shown in Tables 3 and 4.

*Table 3.* Jasmijn (1;10-2;2). The acquisition of modal and auxiliary verbs.

Age	Vinf	Mod + Vinf	Total	Vpp	Aux + Vpp	Total
1;10	85	46 (= .35)	131	23	- (= .00)	23
1;11	158	59 (= .27)	217	32	2 (= .06)	34
2;0	26	33 (= .56)	59	21	2 (= .09)	23
2;1	43	47 (= .52)	90	7	5 (= .42)	12
2;2	16	54 (= .77)	70	2	11 (= .85)	13

Table 4. Andrea (2;0-2;4). The acquisition of modal and auxiliary verbs

Age	Vinf	Mod + Vinf	Total	Vpp	Aux + Vpp	Total
2;0	176	32 (= .15)	208	19	- (= .00)	19
2;1	94	49 (= .34)	143	13	1 (= .07)	14
2;2	84	39 (= .32)	123	25	12 (= .32)	37
2;3	46	99 (= .68)	145	8	24 (= .75)	32
2;4	26	48 (= .65)	74	1	17 (= .94)	18

The difference in use between modals and auxiliaries is due to the fact that modals can function both as the head of a lexical projection and as the head of a functional projection. Initially, when FP has not yet been established modals are used only lexically. In Jasmijn (1;10-2;0) and Andrea (2;0-2;1) the use of modals and the absence of auxiliaries is evidence of the lexical stage. At the relevant stage, modal verbs are used to express volition, ability, permission or obligation etc. They function as the head of a lexical projection. Auxiliaries such as *heb/heeft* and *ben/is*, however, are grammatical elements. They are the head of a functional projection. The fact that auxiliaries are part of the functional category system explains why they do not occur at the initial stages. In Jasmijn (2;1-2;2) and Andrea (2;3-2;4) the use of modals with an infinitival predicate increases rapidly. The fact that this occurs simultaneously with the acquisition of auxiliaries with a past participle form indicates the instantiation of FP.

When the past participle form is used with the auxiliary *heb/heeft*, as in *heb/heeft gekregen* (have/has gotten), or less frequently with *ben/is*, as in *ben/is gevallen* (am/is fallen), the language system has changed.<sup>3</sup> As a functional element, the auxiliary *heb/heeft* is evidence of the projection of Aux as a functional category. That is, it shows that the language system has an additional structural property, which, once established, holds for every utterance. This explains the abruptness of the process as it appears from the figures in Tables 3 and 4. In learner grammar this has to be accounted for with an FP and it therefore marks the change from a lexical system to a functional system.

The same developmental process can be observed with the adult L2 learners. This is shown in Table 5.

*Table 5.* L2 Dutch. The acquisition of the auxiliary verb *heb/heeft*.

L2 learners	cycle	type/token ratio		cycle	type/token ratio
Osman / T	1.1-2.5	2/2	→	2.6-3.0	12/18
Mohamed / A	1.1-2.0	0	→	2.1-2.5	11/15

The type/token ratios of the past participles that are used with the auxiliary verb *heb/heeft* are shown in Table 5. Given that type/token ratios are a measure of productivity, the relevant figures show that with both adult L2 learners the spontaneous acquisition of the auxiliary *heb/heeft* occurs within a limited period of time, i.e. within weeks rather than months.

The data of both the L1 and L2 learners are rather striking. They pose the question of the driving forces of the acquisition process. That is, why is it that this process of acquisition occurs all of a sudden and even why does it take place at all? Another question is, *how* does the developmental process take place? This question is particularly relevant because it may provide insights into the way in which the system of the target language operates.

Nontarget-like utterances as in (28) to (32) seem to provide the key to understanding the developmental process at the relevant stage. They have also been noted in Verrips (1996) and Van Kampen and Wijnen (2000: 263-269) where they have been treated both as ergative structures and as a type of underrepresentation of the passive.

(35) Topicalization at the lexical stage (Verrips 1996; van Kampen and Wijnen 2000).

*aardappels moeten schillen.* (Dirk 2;5)

potatoes must peel

*neus is wassen.* (Hein 2;4)

nose is wash

*auto moet repareren.* (Matthijs 2;6)

car must repair

*dat moet omdraaien.* (Thomas 2;7)

that must around-turn

Utterances as in (28) to (31) occur with an agentive predicate which has its (zero) object or an adverbial in initial, specifier position, while the agent is not expressed. This type of instantiation of an agentive lexical projection

not only occurs in L1 and L2 learners of Dutch, but also in L1 and L2 learners of German. Examples are given in (36) and (37).

(36) L1 German. Agentive predicate, topic and missing agent.

*des auchnoch rausmach.* (Lisa 2;0)

that [have-to ] too out-do

*da auch machen?* (Caroline 2;05.31)

that [ must ] also make? (in Winkler, 2008)

*hier kann nich raus.* (M.)

here can not out

[The child is pointing to three children who are locked in a room and cannot get out]

(in Clahsen 1986: 89, 112)

(37) L2 German: Agentive predicate, topic and missing agent.

*diese paket 0 fahren nach polen.*

this parcel [ must ] take to poland

*diese schal 0 fahren im polen.*

this scarf [ must ] take in poland

*das muss sagen.*

that must say

(L2 German / L1 Polish. Dimroth p.c.)

As indicated earlier, the utterances in (28) to (31) are instantiations of the structural possibilities at the lexical stage. As represented in (32), they occur with a modal head (which can be left unexpressed) and a predicate as its complement, while the element in initial position functions as the specifier. Furthermore, they obey the constraint according to which a non-agentive argument may only occur in initial, specifier position if there is no agent available. This explains why the agent is not expressed.

At the relevant stage utterances as in (28) to (31) are used productively both by L1 and L2 learners. They seem to be created to provide for a particular communicative need, i.e. they function as a means for the expression of topicalization. However, given the restrictions of the learner system, learners have to resort to a type of structure which is nontarget-like.

It is a typical feature of utterances as in (28) to (31) that the initial position only serves as a topic position provided there is no position for the agent. However, the use of an agentive predicate semantically implies a

role for an agent, at least at a conceptual level. This explains why at the relevant stage L1 learners of Dutch also produce utterances with an initial (empty) topic position but with the agent expressed by the affix *-ie* (or *-se*, *-et*, *-e*) attached to a *do*-head. Examples are given in (38).

(38) L1 Dutch. Agentive predicate, (empty) topic position and agent affix.

*doetie viesmake.* (A 2;1)  
 does-he dirty make  
*doetie omdraaie.* (J 1;11)  
 does-he over-turn  
*doetie hantie geve.* (A 2;1)  
 does-he hand give  
*doetie alles opete.* (J 1;11)  
 does-he everything up-eat  
*doense same zitte.* (A 2;2)  
 do-they together sit  
*magtie papa zitte.* (A2;2)  
 may-he [ with ] daddy sit  
*zo moettet rije.* (A2;2)  
 this-way must-it drive  
*mama, moete nieuwe make, vokke.* (A2;2)  
 mommy, must-we new-ones make, flakes

Similarly, L1 learners of German produce utterances with an object or an adverbial in topic position and the agent expressed by a type of affix *-ma(n)* (one) or *se* (sie) attached to a Mod-head. Examples are given in (39).

(39) L1 German. Agentive predicate, topic position and agent affix.

*den damannich essen.* (Valle 1;11)  
 that can-one-not eat  
*da daman aufmachen.* (Valle 1;11)  
 this can-one open  
*des buch soll'ma / buch anguckn.* (Valle 1;11)  
 the book must-one / book on-look  
*da hier müssen'se hin.* (Valle 1;11)  
 there must they away

*das wollma abmachen.* (Lisa 2;00)  
 that want-we take off  
 (in Dimroth et al. 2003)

The affix in (38) and (39) does not employ an argument position. Hence, these utterances express topicalization with an agentive predicate, while they adhere to the restrictions of lexical structure at the relevant stage.

The relevant properties of utterances with an agentive predicate, an (empty) topic position and an agent affix can be accounted for as in (40).

(40) Topicalization at the lexical stage.

Spec	Head	Complement
Topic	<i>do</i> -Cl <sub>[+AGENT]</sub> (+ Neg)	$e_i$ Pred <sub>[ACTION]</sub>
$0_i$	<i>doettie</i>	$e_i$ <i>viesmake</i>
0	does-he	dirty-make
0	<i>doettie</i>	<i>alles opete</i>
0	does-he	everything up-eat

Given the structure as in (40), it is not a major achievement for learners to reanalyse the affix as a pronoun. At the relevant stage it is difficult to decide whether the agent is referred to with an affix or a pronoun. However, as soon as the agent is referred to with a pronoun, learners must have created an external argument position for it. Examples are given in (41) and (42).

(41) L1 Dutch. Agentive predicate, topic and agent affix / pronoun

*die mag je nog hebbe.* (J2;2)  
 that may you also have  
*die mag ik lekker opete.* (J2;2)  
 that may I nicely up-eat  
*die wilt ik hebbe.* (J2;2)  
 that want-I have.  
*mag jij lekker opete mette ei.* (A2;2)  
 [that] may you nicely up-eat with-the egg



(42) L2 Dutch. Agentive predicate, topic and agent affix / pronoun

*dan moet ik huis zoeken.* (Os/T 3.3)

then have-to I house look-for

*kan ik proberen.* (Os/T 3.6)

0 can I try

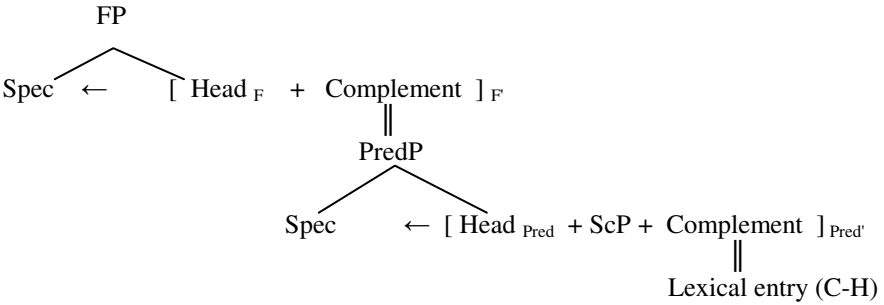
*kan jij kopen.* (Mo 3.2)

0 can you buy

*hier kan ik niet lezen, hè?* (Mo 2.8)

here can I not read, ok?

The consequences of the creation of an external argument position are drastic. The learner language turns from a simple lexical system into a complex target-like system with both lexical and functional categories. A formal representation of the relevant structure is given in Figure 8.



Topic <sub>OBJ-i</sub>	Mod <sub>j</sub>	EA <sub>[+AGENT]</sub>	e <sub>j</sub>	ScP	e <sub>i</sub> - Pred <sub>[ACTION]</sub>
	0			0	
<i>broodje<sub>i</sub></i>	<i>mag</i>	<i>Cynthia</i>		<i>wel</i>	<i>e<sub>i</sub> opete</i>
bread	may	C		indeed	eat

FP = functional projection; PredP = projection of a predicate argument structure  
 F' = functional head + complement  
 Pred' = lexical head head + complement  
 Complement<sub>Pred'</sub> = lexical entry (Complement + Head)  
 ScP = scope particle = adjunct, e.g. *niet* (not), *wel* (indeed), *ook* (also), *weer* (again) etc.

Figure 8. Utterance structure with FP and PredP.

Evidence that learners have created an external argument position for the agent is the use of an Agent-NP (or a stressed pronoun) in utterances as in (43).

(43) L1 Dutch. FP with topic and agentive Pred with agent.

*dan moet Cynthia weer make.* (J 2;2)

then has-to C again make

*die mag boze wolf niet potmake, de muts.* (J 2;2)

that may bad wolf not ruin, the cap

*0 mag poekie niet meer aankome.* (J 2;2)

may kitty not anymore touch

*moete mammië ook kope.* (A 2;2)

0 has-to mommy also buy

*nou mag Jaja peenie in.* (A 2;2)

now may J pacifier in

*mag IK doen.* (A 2;3)

0 may I do

*da mag papa wel doen.* (A 2;3)

that may daddy indeed do

*hier moet poesje eve kamme.* (A 2;3)

here has-to kitty just comb

*zo kan ikke Jaja wel niks zien.* (A 2;3)

this-way I J indeed nothing see

*hier kan ikke op saan.* (A 2;4)

here can I on stand

*hier wilt Jaja ook denkik naa toe.* (A 2;4)

here wants J also think-I to

*broodje mag Cynthia wel opete.* (A 2;4)

bun may C indeed up-eat

The representation in Figure 8, accounts for the evidence in examples as in (43). That is, it accounts for the fact that the learner grammar has both a position for a topic constituent as part of a functional projection and a position for the agent as the external argument of a lexical predicate. This means that at the relevant stage there are two specifier positions: a specifier position in FP and a specifier position in PredP. Hence, there are also two head positions: a position (F) for Mod as the head of FP and a position Pred for Mod as the head of PredP. As a carrier of finiteness the modal verb occurs in F. This leaves the position of Pred as the head of PredP

empty. This empty position accounts for the semantic interpretation of the modal in F as a root modal, which means that it is used to express the volition, ability, permission or obligation of an agent to perform an action. The agent occurs in the EA position of Pred', the action is expressed in the position of the complement of Pred.

Evidence for the functional reanalysis of Mod as a carrier of finiteness is the fact that the elements that used to occur in Mod as the head of the PredP as well as their morpho-syntactic properties have changed significantly. For example, unanalysed lexical modal expressions have disappeared. As shown in Hoekstra and Jordens (1994), there are no more phrasal elements such as *unne* (want), *mag-ikke* (may-I), *nee* (want not); *kanwel* (can-indeed), *kanniet* (cannot); *magwel* (may-indeed), *magniet* (may-not) and no more adverb-like modal predicates such as *nee* (no) or *handigniet* (handy-not).

Finally, note that in Figure 8 both the functional category (FP) and the lexical category (PredP) occur with head-complement structure, while the lexical entry which serves as the complement of the lexical head (Pred) has complement-head structure.

Summarizing, utterances with an agentive predicate, an initial topic position and *no* argument position for the agent as in (28) to (31) play a key role in the acquisition of the functional category FP. With the acquisition of an external argument position for the agent as in (43) the learner grammar has established a position for a modal head both as the head of a functional category F and as the head of a lexical category Pred. With the functional category F and the lexical category Pred, utterance structure accommodates a division of labour. The functional category F and its projection FP serve to express the linguistic properties of information structure. The lexical category Pred and its projection of the predicate argument structure PredP serve to express the semantic content of an utterance. As soon as the position of F has been established to express the information structural properties of finiteness, other verbal elements such as non-root modals, auxiliaries and lexical verb forms may also occur in this position as carriers of finiteness. Root modals require an agentive predicate, non-root modals do not. Non-root modals are used to express that an event or a situation as represented with the PredP is possible, allowed or necessary. Hence, they occur in F but not in Pred. This explains why with the acquisition of F, F is used not only as a position for root modals to express volition, ability, permission and optionality but also as a position for non-root modals. Modal verbs are now used not only as root-modals with predicates of (causative) action and agentive motion, but also as non-root modals with

state and change of state predicates as in *kannie niet staan* (J 2;1) (can-he not stand); *kanne niete Mijnie zien* (A2;2) (cannot M see); *auto mag niet kome* (A2;2) (car may not come).

With the acquisition of F, the learner grammar also provides a position for the functional category of auxiliary verbs. This explains why simultaneously with the use of both root and non-root modal verbs in F, learners all of a sudden appear to be able to use the auxiliary verbs *heb/heeft* and *ben/is* in this position too. Examples are given in (44)

(44) L1 Dutch. The acquisition of auxiliary verbs

*ikke hè dit pakt.* (J 2;1)

I have this got

*ik heb wonne.* (J 2;1)

I have won

*ik heef afspoeld.* (J 2;2)

I have washed

*die is altijd opde televisie geweest.* (J 2;2)

that-one is always on tv been

*Jaja hemme al goonmaakt.* (2;2)

J has already up-cleaned

*ikke hemme deze tekend.* (2;3)

I have this drawn

*ik heef óók appel gete.* (2;4)

I have too apple eaten

In both learner varieties, the auxiliary verb *heb/heeft* is the first linguistic element with no lexical meaning. As such, it provides unambiguous evidence of a functional category. The rapid increase in the use of both modals and auxiliaries as shown in Tables 3 and 4, is evidence that the learners are in the process of acquiring the functional category system of the target language. This process entails the acquisition of morphological elements with the grammatical function of finiteness and of syntactic categories which account for phenomena such as the raising of the lexical verb and topicalization. The relevant stage in which these morpho-syntactic features are established is referred to as the functional stage.

Evidence of the relevant process of acquisition is the fact that simultaneously with the use of the auxiliary *heb/heeft* both child and adult learner varieties show the systematic use of structures with topicalization. Exam-

ples of the use of the auxiliary *heb/heeft* in utterances with and without topicalization are given in (45).

(45) The auxiliary *heb/heeft* and the acquisition of topicalization.

Examples in child L1 Dutch

<i>no topicalization</i>	<i>Mijnne heefe nome?</i> (A2;3) Mijnne has-it taken? <i>ik heb pakt</i> (J2;2) I have taken
<i>with topicalization</i>	<i>die hem ik van J kege.</i> (A2;4) that have I from J got <i>die heb ik wel geplakt.</i> (J2;2) that have I indeed glued

Examples in adult L2 Dutch

<i>no topicalization</i>	<i>ik heb daar geslapen buiten.</i> (Mo3.6) I have there slept outside <i>ik heb dokter geweest.</i> (Os3.1) I have doctor been
<i>with topicalization</i>	<i>dat heb ik nooit gezegd.</i> (Mo3.8) that have I never said <i>Izmir heb ik niet geweest.</i> (Os3.4) Izmir have I not been

Note that topicalization with the auxiliary *heb/heeft* always occurs with an external argument, often pronouns such as *ik* (I) and *je* (you), in the specifier position of its lexical projection (Jordens 2006). There are no examples of topicalization with the auxiliary *heb/heeft* with an external argument missing as for example *\*die heb geplakt* (that have glued), *\*dat heb nooit gezegd* (that have never said). This is precisely what can be predicted on the basis of the acquisition process as described. Lexical structures as in (28) to (31) with a modal head and object topicalization are reanalysed in order to establish a target-like utterance structure with the projection of both a functional and a lexical category. It is driven by the creation of an external argument position for the agent instead of an affix. This process is a prerequisite for the use of the auxiliary *heb/heeft* as a functional element in the position of F. Hence, the auxiliary *heb/heeft* does not occur without such a position already having been created. Therefore, if the auxiliary

*heb/heeft* occurs with a topicalized constituent in initial position, the external argument is always present.

The acquisition of F is also a prerequisite for the use of finite lexical verbs in verb-second position. Verhagen (2009) provides evidence from experimental research with speakers of L1 Turkish and L1 Moroccan Arabic learning L2 Dutch. She investigated the placement of lexical verbs and auxiliaries with respect to the position of the sentence negator *niet*. In the target system in Dutch, the lexical verb can be placed before or after *niet*. Examples with the verb *lopen* are given in (46). The positioning of *lopen* depends on whether there is an auxiliary verb or not.

(46) Placement of the lexical verb in Dutch

- (a) *Het meisje heeft niet op het stand gelopen.* (AUX) *niet* Vnon-fin  
the girl has not on the beach walked
- (b) *Het meisje loopt niet op het strand.* Vfin *niet*  
the girl walks not on the beach

In (46a) the lexical verb *gelopen* occurs after *niet* due to the fact that the position of the finite verb before *niet* is taken by the auxiliary verb *heeft*. In (46b) there is no auxiliary verb, hence the lexical verb *loopt* occurs before *niet*. With an auxiliary verb as in (46a), the lexical verb after *niet* is non-finite (*gelopen*), in absence of an auxiliary verb, the lexical verb before *niet* is finite (*loopt*).

Verhagen (2009) carried out a cross-sectional study with two groups of L2 learners of Dutch. That is, L2 learners who were not yet able to produce the auxiliary *heb/heeft* and learners who were: the -Aux group and the +Aux group, respectively. Verhagen found that learners of the -Aux group only rarely placed the lexical verb before the negation, whereas learners of the +Aux group did so significantly more often. The relevant data are shown in Table 6.

Table 6. The use of the lexical verb before *niet* in L2 Dutch. (Data from Verhagen 2009: 60, 63).

	Turkish	Moroccan
- Aux	3.5% (6 / 176)	8.6 % (8 / 93)
+ Aux	37.0% (71 / 192)	78.4% (138 / 176)

Thus, it seems that as long as L2 learners have not acquired a position for the auxiliary, the lexical verb is non-finite and is placed after the negation. However, as soon as the auxiliary position has been established, learners appear to be able to use the lexical verb before the negation. The acquisition of a position for Aux is thus a prerequisite for the positioning of the lexical verb before *niet*. The acquisition of the category Aux is evidence that the learner grammar has established a position which in absence of an auxiliary verb, becomes the position of the lexical verb. In the target system this position is linked to the expression of finiteness and the use of finite morphology. Evidence of the presence of FP is the fact that the learner grammar at the relevant stage not only has a structural position for the marking of finiteness, but as illustrated in (47) also an (empty) position for a topic constituent.

- (47) *heb ik niet gezien*  
 [ 0 ] have-1sg I not seen (Verhagen 2009: 72)

The acquisition of FP establishes both the functional categories F and SpecF. Given its function of contextual embedding, the position of SpecF provides a position not only for elements with topic function. It can also be used to express that a speaker likes to know *how* or *whether* a predication can be linked to a particular situation. If the speaker wants to know how a predication can be linked, i.e. *for which* entity, location, time or situation a particular predication may hold, SpecF is the position for a *wh*-word. If the speaker wants to find out *whether* the predication can be linked to a particular situational context at all, the position of SpecF remains empty. This explains why at the relevant stage, it becomes possible for learners to acquire the structural properties of both *wh*- and *yes/no*-questions. Examples of the first occurrences are given in (48).

- (48) *Wh*- and *yes/no*-questions in L1 Dutch

*waa ben je nou geweest?* (J 2;2)  
 where are you been?  
*zulle lego spele?* (J 2;1)  
 shall we [ with ] lego play  
*wil'jes opedoen?* (J 2;1)  
 will you open-do?  
*ga je staan?* (J 2;1)  
 go you stand

*heb je visje gehad?* (J 2;1)  
 have you fish had?  
*mag ik wel uit bedje klimme?*(J 2;2)  
 may I please out bed climb  
*mag ik die plakke?* (J 2;2)  
 may i that glue?  
*mag ik afknippe?* (J 2;2)  
 may I off-cut?

(49) *Wh-* and *yes/no*-questions in L2 Dutch

*wat moet ik doen dan?* (Mo/A 3.3)  
 what should I do then?  
*wat heb ik gedaan?* (Mo/A 3.2)  
 what have I done?  
*heb jij zaterdag televisie gezien jij?* (Mo/A 2.2)  
 have you saturday tv seen?  
*heb jij geen klok gezien?* (Mo/A 2.3)  
 have you no clock seen?  
*heb je die auto gezien?* (Mo/A 2.5)  
 have you that car seen?  
*waar heb jij geweest?* (Os/T 3.4)  
 where have you been?  
*nou hoe moet ik doen?* (Os/T 3.6)  
 now how should I do?  
*dan wat moet ik doen?* (Os/T 3.6)  
 then what should I do?

Summarizing, at the lexical stage examples such as *disse hoeniet meeneme* (this-one must-not with-take) and *doetie omdraaie* (does-he over-turn) are evidence of topicalization within the constraints that hold for the structure of lexical projections. The agent is either implied in the modal predicate or expressed as an affix. With the reanalysis of the affix as a pronoun the learner system creates an external argument position for the agent. With an external argument position for the agent and a functional position for the topic, the learner grammar has two specifier positions. The external argument position is projected by the lexical category Pred, the topic position by the functional category F. As a carrier of finiteness F also provides a position for non-root modals, the auxiliary verb *heb/heeft* (have/has) and *ben/is* (am/is) and later in the acquisition process also for the lexical verb.



As a functional position, Spec-F is available for contextual embedding. That is, it is both a position for topicalization and a position for the expression of *wh*- and *yes/no*-questions.

## 5. Conclusion

In both in child L1 and in adult L2 Dutch, learner varieties develop from a lexical system to a functional system. At the lexical stage, functional categories are absent. Utterance structure is determined by the lexical projection of a predicate-argument structure interacting with principles of information structuring. Predicate argument structure determines the semantic functioning of lexical elements, while information structure determines their positioning. It is the semantic principle of control asymmetry (Klein and Perdue 1997) according to which "the NP-referent with highest control comes first". Thus, a non-agentive argument may only occur in initial position if there is no agent available. With agentive predicates the illocutive function is carried by a lexical modal predicate or in the default case by either a dummy element or an empty position. With non-agentive predicates the illocutive function is the default function of assertion. At the lexical stage, topicalization cannot be expressed with the functional means of the target system. However, it is expressed with the structure of an agentive lexical projection which has the object in initial position as in *disse hoeniet meeneme* (this-one have-to-not withtake). These structures adhere to the semantic principle of control asymmetry because they do not provide a position for the agent: the agent remains implicit in the modal element. However, absence of a position for the agent is nontarget-like. This explains why at the relevant stage the agent is also expressed with an affix as in *doettie omdraaie*. Reanalysis of the affix as a pronoun as in *mag IK doen* (0 may I do) or as an NP as in *broodje mag Cynthia wel opeten* (roll may C not eat) establishes an external argument position for the agent. In order to account for both an external argument position and a topic position, the learner grammar needs two projections: a lexical projection of Pred for the expression of the predicate argument structure and a functional projection of F for the expression of the properties of information structure.

The acquisition of the functional category F allows verbal elements in the position of F to be used as carriers of finiteness, i.e. they are used to express that the predication is true for a particular time and space (spatio-temporal anchoring). The instantiation of a functional position for the expression of finiteness leads to the reanalysis of unanalysed lexical modal

expressions such as *unne* (want), *mag-ikke* (may-I), *nee* (want not), *kanwel* (can-indeed). Furthermore, the functional position of F serves as a prerequisite for the acquisition of the auxiliary verb *heb/heeft* (have/has) and *ben/is* (am/is) and the possibility for the lexical verb to occur in the position of verb-second.

To conclude, at the lexical stage objects may occur in sentence-initial position. Reanalysis of this position as a topic position is accounted for in terms of a functional projection (FP). FP serves as the structural prerequisite for the expression of the functional properties of information structure of the target language. Hence, topicalization is the driving force in the development of learner languages from a lexical to a functional system.

## Notes

1. In earlier papers (Dimroth et al. 2003; Jordens and Dimroth 2006; Jordens et al. 2008) we discriminated between stages of acquisition such as the holistic stage, the conceptual ordering stage and the finite linking stage. Both the holistic stage and the conceptual ordering stage are lexical stages, i.e. stages at which functional categories are absent. The finite linking stage is a functional stage. At the relevant stage functional categories have been acquired. The acquisition of functional categories is a major developmental process in language acquisition. In this paper focus is on how this process takes place.
2. Similarly, Perdue et al. (2002: 854) suggest that early learner languages may use the less specific means of adverbials and discourse-organisational principles to express S-finiteness.
3. A past participle can be preceded by a form of the auxiliary verb *hebben* (have), i.e. *heb / heeft* (have/has), or *zijn* (be), i.e. *ben/is* (am/is). However, due to the fact that the use of *ben/is* is restricted to a relatively small category of intransitive verbs, it occurs rather infrequently. The available data are in line with what has been found for the use of the auxiliary *heb/heeft*. That is, at the lexical stage Jasmijn and Andrea produced utterances in which the auxiliary *is* is typically absent. Examples are: *chicke little valle* (J 1;10) (chicken little fallen); *dit Cynthia weest* (J 1;10) (this C. been); *Nog niet? Afberope?* (A 2;0) (not yet? finished); *Jaja óók gijbaan hees* (A 2;0) (J too slide been). At the functional stage, both Jasmijn and Andrea produced utterances with the auxiliary *is*, even with the same participles. Examples are: *die is altijd opde televisie geweest* (J 2;2) (that-one is always on tv been); *nou's weer aflope* (J 2;2) (now is again finished); *da issie varre* (A 2;2) (there is-he fallen); *die isse Jaja gete* (A 2;4) (that is J forgotten); *Ruudje is uittefaapt* (A 2;4) (R is finished-slept); *Jaja is zelf naa bove gaan naa papa* (A 2;4) (J is herself upstairs gone to daddy); *isse Barnies affehope mam?* (A 2;4) (is B

finished mommy?). The same is true for adult L2 learners of Dutch. With intransitive past participles the auxiliary *is* is absent as in *alles betaald* (Fa/A 2.7) (everything paid-for); *kontrakt afgelopen* (Ma/T 3.1) (contract finished). It occurs as *is/ben* in *nu auto is afgelopen* (Fa/A 3.6) (now car is finished); *die ben getrouwd* (Ma/T 1.5) (that am married).

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# The acquisition of syntactic finiteness in L1 German. A structure-building approach.<sup>1</sup>

*Steffi Winkler*

## 1. Introduction

### 1.1. Research background

#### 1.1.1. *The semantic concept of finiteness*

Within the present framework the notion of finiteness is understood in the sense of the semantic concept of finiteness as developed by Klein (1998).

According to Klein (1998), finiteness can be seen as an abstract semantic operator [FIN] that serves at least two distinct functions: anchoring and linking. The linking function of finiteness concerns the information structural coherence of linguistic expressions: it relates the descriptive content of an utterance (PREDICATE) to its topic component (TOPIC). Thus, a relation of validation is established: the predicate of an utterance is marked as being valid for the topic of the same utterance. Validation is expressed by the abstract operator [AST] (ASSERTION). The anchoring function of finiteness concerns the fixation of the assertive content of an utterance to the time axis. It is realized by the abstract operator [TT] (TOPIC TIME). The topic time is the time span for which the assertion holds.<sup>2</sup> Hence, the operator [FIN] contains two functions: FIN [AST, TT].

The semantic function of the finiteness operators [AST] and [TT] can best be illustrated in a structure with a finite form of the copula verb *to be*. As a functional verb, the copula hardly conveys any lexical meaning, but can mainly be seen as the carrier of [AST] and [TT]. The following, often-cited example is taken from Klein (1998: 226):

- (1)     *The book*            *was*                    *on the table.*  
          [THE BOOK]     FIN [AST,TT]     [BE ON THE TABLE]  
          [TOPIC]         FIN [AST,TT]     [PREDICATE]

If there is contrastive stress on the inflected verb form, the utterance in (1) expresses two distinct contrasts: a contrast regarding the assertion, i.e. the relation of validation between topic and predicate as illustrated in (1a), and a contrast regarding the time span for which the assertion is claimed to hold, illustrated in (1b):

- (1) a. A: *The book was not on the table.*  
 B: *Sure! The book WAS on the table.* (That's a fact.)  
           [THE BOOK] [AST,TT] [BE ON THE TABLE]
- b. A: *The book is on the table.*  
 B: *No! The book WAS on the table.* (But it isn't any longer.)  
           [THE BOOK] [AST,TT] [BE ON THE TABLE]

In (1a), the assertive force of the finiteness operator is highlighted. It is expressed that the predicate [BE ON THE TABLE] is valid for the topic [THE BOOK] (in contrast to the possibility that the state of affairs expressed by the predicate is not true for the present topic). Thus, a relation of validation is established between the topic and the predicate, i.e. an assertion is made, realized by the operator [AST]. In (1b), on the other hand, the time span for which the topic-predicate relation holds is under discussion, but not the validation of the topic-predicate relation itself. Thus, (1b) refers to the notion of topic time, realized by the operator [TT].

Summarizing, the semantic function of finiteness can be defined as the establishment of a relation of validation between the topic and the predicate of an utterance (assertion) and the confinement of this relation to a certain time span (topic time). In German – as well as in other languages of the world – this is formally realized by the fusion of the operator FIN [AST, TT] with a [-finite] verb form in the underlying structure, which results in the appearance of a [+finite] marked verb form as the morphological carrier of the finiteness information in the surface structure. Syntactically, finiteness has to be expressed in clause second position in German.

### 1.1.2. A stage-model for the development of finiteness in Germanic languages

The semantic concept of finiteness as defined by Klein constitutes the theoretical basis for recent functional approaches to the development of the finiteness category in first and second language acquisition. See Dimroth et

al. (2003) for Germanic languages, Jordens (2002, 2006, 2008) and Jordens and Dimroth (2006) for Dutch, and Klein and Perdue (2006) for Germanic and Romance languages. The authors analyze learner languages from an information structural point of view and describe constituents in terms of their function as topic, predicate, and finiteness marker, respectively. They share the central idea that in early L1 and L2 learner languages, only semantic properties of finiteness are expressed, while reflexes of morphosyntactic properties of finiteness are largely absent from the learner system. That is, learners express assertion (AST), but they do not mark subject-verb agreement or the category of tense.

As explicated by the above mentioned studies, early assertion marking is realized by pragmatic and lexical means. The internal organization of learner utterances is based on principles of information structure. In later stages of development, the linking function of finiteness is expressed by finite verbal morphology. Learners then show morphological tense and agreement marking. Utterance structure is now determined by syntactic principles of the target language. In sum, it is stated that finiteness develops from a lexical to a functional category in the course of the L1 and L2 acquisition process.

Dimroth et al. (2003) propose a cross-linguistic stage model for the development of finiteness in Germanic languages. The authors discriminate a Holistic Stage, a Conceptual Ordering Stage, and a Finite Linking Stage. At each of these stages, the linking function of finiteness is expressed by different linguistic means whose characteristics determine the syntactic structure of the learner language in a specific way. The following provides an overview of the three developmental stages as proposed by Dimroth et al. (2003):

At the Holistic Stage linking is primarily achieved by pragmatic means. In most of the cases, no linking element is realized at all. Topic and predicate are used in a juxtaposition constellation and their intended relation has to be inferred from the context. If there is a linking element – typically a modal expression (2a), (2b) or a negation particle (2c), (2d) – it occurs in either clause-initial or clause-final position, i.e. it is used as a holistic operator that has scope over the utterance as a whole. Examples in (2) are taken from Dimroth et al. (2003: 73-75):

- |                    |                     |            |
|--------------------|---------------------|------------|
| (2) a. <i>unne</i> | <i>Mijnie sijfe</i> | (Dutch L1) |
| want               | Mijnie write        |            |
| b. <i>mag-ikke</i> | <i>fomme, ja?</i>   | (Dutch L1) |
| may-I              | swing, yes?         |            |



c. <i>nein</i>	<i>mi(l)ch</i>		(German L1)
no	milk		
d.	<i>auto</i>	<i>nein</i>	(German L1)
	car	no	

The transition to the Conceptual Ordering Stage is characterized by a significant increase of lexical linking devices, in number as well as in diversity. The linking devices are considered to be proto-functional elements that constitute a closed class of semantic operators within the learner system. Besides modal expressions (3a), (3b) and negators (3c), (3d), scope particles like German *auch*, Dutch *ook* (also, too) (3e), (3f) play an important role in early assertion marking. Examples in (3) are again taken from Dimroth et al. (2003: 77-82):

(3) a.	<i>i</i>	<i>will</i>	<i>da sitz</i>	(German L1)
	I	want	there sit	
b.	<i>Jaja</i>	<i>mag</i>	<i>dop opdoen</i>	(Dutch L1)
	Jaja	may	lid on-do	
c.	<i>des</i>	<i>net</i>	<i>gummi</i>	(German L1)
	this	not	rubber	
d.	<i>dit</i>	<i>nee</i>	<i>afdoen</i>	(Dutch L1)
	this	no	off-do	
e.	<i>mama</i>	<i>auch</i>	<i>spielplatz</i>	(German L1)
	mommy too		playground	
f.	<i>Mijnie</i>	<i>ook</i>	<i>heppele</i>	(Dutch L1)
	Mijnie too		help	

As becomes evident from the examples in (3) the linking element is now integrated into the utterance and appears in middle position between topic and predicate. Despite their difference in origin, all lexical linking devices show the same distributional properties. The fixed constituent order of ‘topic – link – predicate’ shows that at the level of surface structure elements are ordered sequentially by principles of information structure.

At the Finite Linking Stage the relation of validation between topic and predicate is expressed by finite verbal morphology. The acquisition of the auxiliary verb *haben / hebben* ‘to have’ in German / Dutch is considered to function as evidence of the functional category system of the target language. It constitutes one of the first grammatical links and forms the head of a maximal functional projection with the predicate as VP-complement and the topic in specifier position. At the same time, the productive use of

subject pronouns allows for formal marking of the relationship between topic and link by morphological subject-verb agreement. The acquisition of a functional head results in the reanalysis of the lexical linking devices of the Conceptual Ordering Stage that now come to be used according to their target-like function.

Finiteness is thus discovered to be a morphosyntactic property of verbs that manifests itself in syntax by the projection of an inflectional phrase (IP). Typical learner utterances of the Finite Linking Stage are (see Dimroth et al. 2003: 85-86):

- |        |             |                    |                 |             |
|--------|-------------|--------------------|-----------------|-------------|
| (4) a. | <i>Lisa</i> | <b><i>hat</i></b>  | <i>was malt</i> | (German L1) |
|        | Lisa        | has                | something drawn |             |
| b.     | <i>ik</i>   | <b><i>heef</i></b> | <i>afspoeld</i> | (Dutch L1)  |
|        | I           | have               | washed          |             |

With further development, also lexical verbs are morphologically marked for finiteness and show up in the V2-position.

### 1.1.3. The role of 'auch' in early child German

The additive scope particle *auch* (also, too) is observed to be one of the first and most frequent assertion markers in early German child language (Penner et al. 2000; Nederstigt 2003).

In her comprehensive and detailed empirical study Nederstigt (2003) provides a qualitative as well as a quantitative analysis of the particles *auch* and *noch* (still) in child and adult German. One of her results is the identification of two distinct instances of *auch*. Based on the particle's different linguistic behavior with respect to scope properties and intonation, Nederstigt (2003) discriminates one *auch* for the addition of (repeated) assertion and another *auch* for constituent addition. In the former case, the particle is stressed and has focus status. It has scope over the whole VP. In the latter case, focal stress is on the affected constituent, whereas the particle itself is unstressed and has scope over the relevant constituent only. The two distinct uses of *auch* are exemplified in (5) and (6), respectively:

- (5) a. *Mara geht ins Kino.*  
Mara goes to the cinema.

- b. *Sarah geht AUCH ins Kino.*

Sarah also goes to the cinema.

[<sub>CP</sub> Sarah<sub>j</sub> [<sub>C</sub> geht<sub>i</sub> [<sub>IP</sub> t<sub>j</sub> [<sub>Γ</sub> [<sub>XP</sub> auch [<sub>VP</sub> ins Kino t<sub>i</sub> ] ] t<sub>i</sub>' ]]]]

Sarah goes also to the cinema

- (6) a. *Mara geht ins Kino.*

Mara goes to the cinema.

- b. *Auch SARAH geht ins Kino.*

Also Sarah goes to the cinema.

[<sub>CP</sub> [<sub>DP</sub> auch [<sub>D</sub> [<sub>NP</sub> Sarah ]]]<sub>j</sub> [<sub>C</sub> geht<sub>i</sub> [<sub>IP</sub> t<sub>j</sub> [<sub>Γ</sub> [<sub>VP</sub> ins Kino t<sub>i</sub> ] ] t<sub>i</sub>' ]]]]

also Sarah goes to the cinema

(5) reflects an instance of assertion addition that can be described as follows: by uttering clause (5a), the speaker establishes an assertion ASTa: [Mara] – [ins Kino gehen]. By uttering clause (5b), the speaker establishes a second assertion ASTb: [Sarah] – [ins Kino gehen]. And by inserting the additive particle *auch* into clause (5b), finally, the speaker marks the repetition of the assertion. He signals that the descriptive content that is valid for the topic entity [Sarah] is the same one as for the topic entity [Mara]. ASTb can thus be added to ASTa. As a result, there are two distinct topic entities – each represented by a distinct topic component – for which the same descriptive content is valid.<sup>3</sup>

(6) on the other hand, mirrors an instance of constituent addition. By uttering clause (6a), the speaker – again – establishes an assertion ASTa: [Mara] – [ins Kino gehen]. Thereby he relates the descriptive content of the utterance to the topic entity TEa. Parallel to example (5) the speaker establishes a second assertion ASTb [Sarah] – [ins Kino gehen] with clause (6b). The descriptive content of the utterance is related to the topic entity TEb. By inserting *auch* into utterance (6b), the speaker marks that he wants to add TEb to TEa, because the descriptive content that is valid for TEb and TEa is the same. As a result, there are two distinct topic entities – represented by just one topic component – to which one and the same descriptive content is related.

As for the use of the particle *auch* in child German, Nederstigt (2003) observes that the *auch* for assertion addition is acquired much earlier than the *auch* for constituent addition. Whereas the former is attested in her subject Caroline from age 1;06.02 on, the latter appears for the first time at age 2;01.14 (Nederstigt 2003: 349). It seems that children make use of the additive impact of *auch* as an economic way to express assertion. Look at the following small fictitious dialogue:

- (7) A: *Also, ich geh am liebsten ganz früh morgens joggen, wenn alles noch ganz ruhig ist und die Sonne aufgeht.*  
 'Well, I prefer to go jogging very early in the morning, when everything is still very quiet and the sun is just rising.'
- B: *Ich auch.*  
 'Me too.'

It becomes obvious here that in order to establish an assertion neither the assertion marker nor the asserted content itself have to be expressed explicitly. It seems to be sufficient for speaker B to signal the establishment of a second relation of validation by the introduction of a new topic entity. With *ich* 'I' in the case of (7) and the adequate use of *auch* all other information can then be inferred from the context.

The above-illustrated possibility of a fairly effortless reuse of contextually given information makes *auch* a very effective means for early assertion marking. In this function it is used consistently and with high frequency in German child language.

## 1.2. Research questions

After the attainment of the Conceptual Ordering Stage, but before the use of finite verbal morphology, German children are observed to produce utterances as in (8). The examples (8f) and (8g) are taken from Dimroth et al. (2003: 82 and 80, respectively).

- |        |              |                          |                                  |                    |
|--------|--------------|--------------------------|----------------------------------|--------------------|
| (8) a. | <i>Mone</i>  | <b><i>will auch</i></b>  | <i>ein balla</i>                 | (Simone 2;01.12)   |
|        | Mone         | wants also               | a ball                           |                    |
| b.     |              | <b><i>möcht auch</i></b> | <i>mal hustensaft</i>            | (Simone 2;00.05)   |
|        |              | want also                | one-time cough mixture           |                    |
| c.     | <i>Klaus</i> | <b><i>auch kann</i></b>  | <i>schon neiden meine schere</i> | (Caroline 2;01.28) |
|        | Klaus        | also is able             | already cut my scissors          |                    |
| d.     | <i>papi</i>  | <b><i>auch nicht</i></b> | <i>schlafen</i>                  | (Caroline 2;01.28) |
|        | daddy        | also not sleep           |                                  |                    |
| e.     | <i>gans</i>  | <b><i>auch nicht</i></b> | <i>aua</i>                       | (Caroline 2;02.16) |
|        | goose        | also not injury          |                                  |                    |
| f.     | <i>ich</i>   | <b><i>soll auch</i></b>  | <i>hoch</i>                      | (Valle 1;11)       |
|        | I            | shall also               | up                               |                    |
| g.     | <i>ich</i>   | <b><i>auch will</i></b>  | <i>kaffee</i>                    | (Benny 2;02)       |
|        | I            | also want                | coffee                           |                    |

Obviously, all of the above-given utterances contain two of the lexical linking devices typical for the Conceptual Ordering Stage as defined by Dimroth et al. (see Subsection 1.1, example (3)). In most of the cases, the scope particle *auch* is combined with a modal expression (8a), (8b), (8c), (8f), (8g), but also the combination of *auch* with a negator can be observed (8d), (8e). If the elements in linking position indeed function as lexical means to express assertion, their usage in (8a), (8b), (8c), (8f), and (8g) would be functionally redundant. For (8d) and (8e), there would even be a semantic contradiction between *auch* as a marker for positive assertion and *nicht* 'not' as a negative assertion marker.<sup>4</sup> Given this situation, the utterances in (8) directly lead to the following research questions:

1. What is the function of the elements in linking position in utterances like (8)?
2. How are these elements represented in the child's syntax?
3. Do structures like (8) have a structure-building impact in the L1 acquisition of German? If yes, what position do they take in the overall development and what does the concrete acquisition path look like?

The paper is organized as follows: In Section 2 my data sources are presented. Section 3 constitutes the main part of this paper. It deals with the analysis and interpretation of the crucial child language data. Since the study is concerned with the acquisition of syntactic properties of finiteness, an analysis in terms of generative X-bar syntax seems appropriate. After a summary of the developmental stages, the findings for German and Dutch child language will be compared and interpreted in Section 4. Section 5, finally, contains the overall conclusion of this study.

## 2. Data sources

The present study is primarily based on the analysis of the Caroline corpus, an extensive longitudinal data collection of a monolingual German girl. The transcribed audio-recordings represent the child's speech in situations of everyday life (e.g. having breakfast, playing with her mother) and in conversations with a narrative style (e.g. telling her mother about her day in kindergarten or her adventures in the zoo). The Caroline corpus covers a period from age 0;10.01 until age 4;03.18, with an average of six re-

cordings per month. The time span between age 1;06.01 and age 2;05.31 is of special interest for the present investigation.

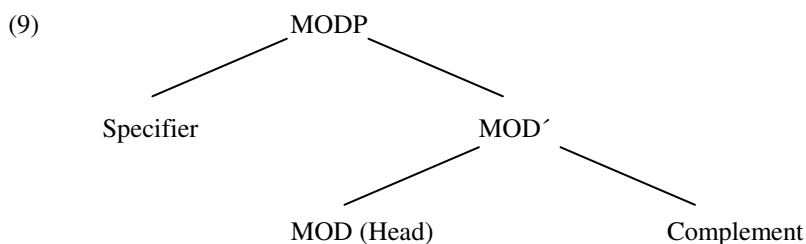
Additionally, data from the Simone corpus are used to provide further evidence for the relevant phenomenon. As is the case for Caroline, the Simone corpus also documents the monolingual first language acquisition of a German girl in the form of an extensive longitudinal study from age 1;09.11 until age 4;00.06. Both corpora are available from the CHILDES-database (MacWhinney 2000).

### 3. Data analysis and interpretation

#### 3.1. General remarks

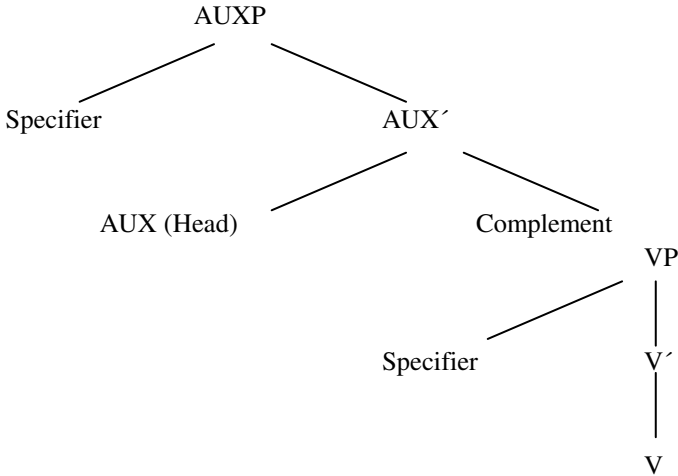
Jordens (2006, 2008) provides a comprehensive analysis for the development of finiteness in Dutch learner language. The central assumption of these studies is that in the course of acquisition, learners proceed from a lexically based system for the expression of finiteness to a functional one. As already stated in Jordens (2002), transition from the lexical stage to the functional stage in learner languages cooccurs with the acquisition of the auxiliary verb *hebben* (to have).

At the lexical stage, the learner language is characterized by the projection of a MODP, with MOD as the lexical head of a maximal phrase with the structure in (9) below. Compare Jordens (2008: 197):



With the acquisition and productive use of the auxiliary verb *hebben* the first functional elements appear in the learner system. These elements constitute the head of a functional projection. As a consequence, the lexical structure of the learner system is reanalysed. This reanalysis leads to the establishment of the target-like structure for the expression of finiteness as represented in (10). Compare Jordens (2008: 204):

(10)



Can this model for the development of finiteness in Dutch learner language be applied to the language acquisition process of German? More precisely, can the German child data – most notably the data in (8) – be accounted for by the structures in (9) and (10)? Since all of the utterances in (8) are attested in the German children before the use of the auxiliary *haben* (to have), the corresponding structure should be the one in (9). There is, however, only one position available for the lexical linking elements, i.e. the head position. Thus, the structure in (9) can only be applied to the German child utterances in (8) if we assume the unanalysed use of the two elements in linking position. As Jordens (2002, 2006, 2008) shows, Dutch children tend to employ combinations of modal + negation word, e.g. *manniet* (maynot), *kanniet* (cannot), *hoeniet* (has-to-not), modal + a subject pronoun, e.g. *moettie* (has-to-it), *mag-ikke* (may-I), and modal + particle, e.g. *magwel* (may-indeed), *kanwel* (can-indeed) for the expression of finiteness at the lexical stage. Jordens argues that the children have extracted these combinations from the input as just one single unit. Does the same assumption hold for the German child utterances in (8)? In all of the cases, the utterances contain the particle *auch*, either in the combination modal-*auch* / *auch*-modal or as the sequence *auch-nicht*. It is crucial to notice, though, that with the structure *auch*-modal German children are employing a target-deviant pattern. See, for example, Caroline in (8c) *Klaus auch kann schon neiden meine Schere* (Klaus also is able already cut my scissors) and Benny in (8g) *ich auch will Kaffee* (I also want coffee), where *auch* incorrectly precedes the modal verb. Since the constituent order of *auch-kann* (also-can) and *auch-will* (also-want) is ungrammatical with respect to adult

main clauses, it is hardly imaginable that the children could have extracted these patterns as fixed expressions from the input. I therefore assume that children are using the elements in linking position in (8) in their own right and I want to provide two additional arguments for the usage of the relevant elements as autonomous linguistic items:

1. Children allow constituents to appear in the position between the two elements in linking position. In the following examples (11c) is taken from Miller (1976: 471) and (11d) from Dimroth et al. (2003: 80):

- (11)a. ***auch***                    *rot*                    ***will***                    (Caroline 1;10.23)  
           also                    red                    want
- b. ***Mone will***            *mal*                    ***auch***                    (Simone 2;01.18)  
           Mone wants            one-time            also
- c. ***auch***                    *frühstück*            ***nich***  
           also                    breakfast            not
- d. ***ich auch***            *kaffee*                    ***will***  
           I also                    coffee                    want

2. Children alternatively use just one or both of the relevant linking elements in different utterances of just one conversational unit:

- (12)a. Simone (2;01.12)
- |             |                         |  |                      |
|-------------|-------------------------|--|----------------------|
| <i>Mone</i> | <b><i>auch</i></b>      |  | <i>ein balla</i>     |
| Mone        | also                    |  | a ball               |
| <i>Mone</i> | <b><i>auch</i></b>      |  |                      |
| Mone        | also                    |  |                      |
| <i>Mone</i> | <b><i>auch</i></b>      |  | <i>hab ein balla</i> |
| Mone        | also                    |  | have a ball          |
| <i>Mone</i> | <b><i>will auch</i></b> |  | <i>ein balla</i>     |
| Mone        | wants also              |  | a ball               |
- b. Simone (2;02.20)
- |                         |  |                           |
|-------------------------|--|---------------------------|
| <b><i>auch</i></b>      |  | <i>bilderbuch angucke</i> |
| also                    |  | picture book look-at      |
| <b><i>will auch</i></b> |  | <i>bilderbuch anguck</i>  |
| want also               |  | picture book look-at      |



## c. Simone (2;02.21)

Meike: *das ist Meikes Meikes*  
 this is from Meike Meike

Simone: *Mone auch decke habe*  
 Mone also blanket have

Meike: xxx (incomprehensible utterance)

Simone: *Mone will auch decke habe*  
 Mone wants also blanket have

## d. Caroline (2;02.16)

*auch nicht aua*  
 also not injury

*gans auch nicht aua*  
 goose also not injury

*alle nicht*  
 all not

The data in (11) and (12) clearly present evidence against the assumption of an unanalysed use of the two elements in linking position in (8). Above all, the self-repetitions and self-corrections in (12) demonstrate that children do not at all interpret the sequences modal-*auch*, *auch*-modal, and *auch-nicht* as fixed expressions, but that they rather try hard to combine the single elements, to place them according to their target-like position and – finally – to form an appropriate syntactic structure.

Having argued for the independent status of the elements in linking position in (8) we can now come back to our initial question concerning the applicability of the Dutch model to the German child language data in (8): it can be stated that due to its structural restrictedness, i.e. the availability of only one head position, the syntactic projection in (9) can not be applied to the relevant German child utterances.

In what follows, I will propose an analysis for the development of the finiteness category in German child language. This analysis takes the form of a structure-building approach with special focus on the data in (8) as the central phenomenon of the present investigation. It will be shown that structures as in (8) have a crucial structure-building impact in the development of the syntactic expression of finiteness in early child German.

### 3.2. A structure-building approach for the development of finiteness in German L1

#### 3.2.1. Merge Stage – the first minimal structure

As explicated by Dimroth et al. (2003), learners start out with holistically used operators as means for the early expression of finiteness. At this stage of development, there is no fixed position for the finiteness marking element in the learner language. It is realized either utterance-initially or utterance-finally. In terms of formal syntax, the constituent order exhibited here can best be described as a simple merge relation, where the clausal operator [AST] fuses with the topic-predicate complex. The relative order of the two constituents is subject to variation:



Examples for utterances of type (13a) are given in (14a) and (14b) and of type (13b) in (14c) and (14d). (14b) is taken from Wode (1977: 93):

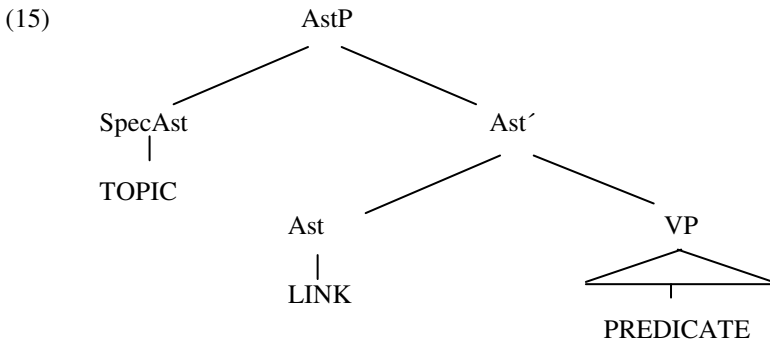
- |        |  |                                    |
|--------|--|------------------------------------|
| (14)a. | [ <b>auch</b> ] [ <i>dach schläfchen</i> ]   | (Caroline 1;09.02)                 |
|        | also    roof nap                             |                                    |
|        | b.    [ <b>nein</b> ] [ <i>Heiko mütze</i> ] |                                    |
|        | no     Heiko cap                             |                                    |
|        | c.            [ <i>Mone ein butterbrot</i> ] | [ <b>auch</b> ] (Simone 2;01.18)   |
|        | Mone a buttered bread                        | too                                |
|        | d.            [ <i>lieb</i> ]                | [ <b>nich</b> ] (Caroline 1;11.07) |
|        | nice   | not                                |

#### 3.2.2. AstP Stage – the establishment of a syntactic hierarchy

With further development, i.e. with the transition from the Holistic Stage to the Conceptual Ordering Stage in terms of Dimroth et al. (2003), it comes to a change in the surface order of elements: the topic element appears in utterance-initial position, the link in the middle, and the predicate is realized in the final slot. I want to argue that this syntactic reorganisation does not come as a *deus ex machina*. It rather seems plausible to assume that the

change in the surface structure is accompanied by a modification of the underlying syntactic structure: firstly, there must be a new structural position available in the learner system. Evidence for this assumption is provided by the split-up of the topic-predicate complex and the realization of the topic element in utterance-initial position. Secondly, there must be a hierarchical organized relation between the single elements. This is exactly what Jordens (2006, 2008) claims for the Dutch learner language. Compare (9). The assumption of a hierarchical syntactic structure for the relevant developmental stage is supported by the positional invariability of utterance constituents. In contrast to the Merge Stage, which allows for structural variation as illustrated in (13), utterance constituents now appear in a fixed order.

What does the assumed hierarchical relation look like? In order to account for the developmental changes in the learner system, the child has discovered the lexical linking element as the carrier of the syntactically relevant finiteness information. It is a syntactic operator for the expression of assertion, i.e. for the establishment of a relation between the topic and the predicate of an utterance. As such, it projects the first proto-functional maximal phrase in child language – an assertion phrase (AstP). The link constitutes the head of the AstP, the topic element appears in specifier position and the predicate forms the VP complement:



It is only the assumption of the existence of a maximal projection in the child's syntax that explains why the topic component can be realized in utterance-initial position at this stage of development. At the Merge Stage, as illustrated in (13), there is no potential landing site for the topic element. It therefore remains in the topic-predicate complex. With the establishment of the AstP, however, a new structural position – SpecAstP – is provided in the learner system. This position can be taken by the topic element from now on.

Yet another argument for the assumption of an AstP with a structure as in (15) is the consistent realization of the predicate, i.e. the infinite part of the utterance, in the utterance-final slot: this constellation shows the first reflexes of a head-complement relation in terms of a categorical selection.

Since finite verbal morphology is absent from the present learner language, there is still no formal marking of the specifier-head relation between topic and linking element at this developmental stage. Furthermore, the absence of both topicalization and clear reflexes of scrambling is reason to assume that syntactic movement is not active yet. Considering these target-deviant characteristics of the learner system on the one hand, but taking into account the operator status of the early assertion markers on the other hand, it seems most adequate to categorize the AstP as proto-functional projection. Typical child utterances of the AstP Stage are:

- |        |  |   |   |
|--------|--|---|---|
| (16)a. | [ <sub>AstP</sub> <i>Mone</i><br>Mone  | [ <sub>Ast</sub> <b><i>auch</i></b><br>also | [ <sub>VP</sub> <i>flasche</i> ]]] (Simone 2;00.01)<br>bottle           |
| b.     | [ <sub>AstP</sub> <i>Mone</i><br>Mone  | [ <sub>Ast</sub> <b><i>auch</i></b><br>also | [ <sub>VP</sub> <i>creme drauf</i> ]]](Simone 2;00.01)<br>cream onto    |
| c.     | [ <sub>AstP</sub> <i>Maxe</i><br>Maxe  | [ <sub>Ast</sub> <b><i>auch</i></b><br>also | [ <sub>VP</sub> <i>saft habe</i> ]]] (Simone 2;00.03)<br>juice have     |
| d.     | [ <sub>AstP</sub> <i>mami</i><br>mommy | [ <sub>Ast</sub> <b><i>auch</i></b><br>also | [ <sub>VP</sub> <i>mitkommen</i> ]]](Caroline 2;01.03)<br>with-come     |
| e.     | [ <sub>AstP</sub> <i>ich</i><br>I      | [ <sub>Ast</sub> <b><i>auch</i></b><br>also | [ <sub>VP</sub> <i>käse</i> ]]] (Caroline 2;01.21)<br>cheese            |
| f.     | [ <sub>AstP</sub> <i>baby</i><br>baby  | [ <sub>Ast</sub> <b><i>nich</i></b><br>not  | [ <sub>VP</sub> <i>nuckel habe</i> ]]](Simone 2;00.01)<br>pacifier have |
| g.     | [ <sub>AstP</sub> <i>mami</i><br>Mommy | [ <sub>Ast</sub> <b><i>nich</i></b><br>not  | [ <sub>VP</sub> <i>singen</i> ]]] (Caroline 2;01.09)<br>sing            |
| h.     | [ <sub>AstP</sub> <i>ich</i><br>I      | [ <sub>Ast</sub> <b><i>will</i></b><br>want | [ <sub>VP</sub> <i>anhüpfen</i> ]]] (Caroline 1;11.16)<br>on-jump       |

If the topic element or the intended predicate can be inferred from the context, they are sometimes left implicit and either of the two positions can thus be empty:

- |        |    |   |
|--------|----|---|
| (17)a. | M: | [ . . . ] <i>wo ist der hase?</i><br>[ . . . ] where ist the bunny?   |
|        | C: | [ <sub>AstP</sub> [ <sub>Ast</sub> <b><i>auch</i></b> [ <sub>VP</sub> <i>mit reingekommt</i> ]]](Caroline 2;00.24)<br>also with in-came |

- b. M: *ei hase # solln wir jetzt mal abendbrot essen?*  
 bunny, shall we now have dinner?  
 C: *ja* [<sub>AstP</sub> *hase* [<sub>Ast'</sub> **auch** [<sub>VP</sub> ]]] (Caroline 2;00.24)  
 yes bunny too
- c. M: *Caroline hör bitte auf*  
 Caroline please stop it  
 M: *du dann nehm ich dich runter*  
 I'll have to take you down then  
 M: *dann darfst du nicht mehr hier oben sein*  
 then you are not allowed to stay up here anymore  
 C: [<sub>AstP</sub> [<sub>Ast'</sub> **will** [<sub>VP</sub> *da bleiben* ]]] (Caroline 1;10.16)  
 want there-stay

### 3.2.3. AstP/FpP Stage – reclassification and reorganization of the linking elements

The next step of development is achieved when children use two of the lexical linking devices in the position between topic and predicate as illustrated in the utterances in (8):

- (8) a. *Mone will auch ein balla* (Simone 2;01.12)  
 Mone wants also a ball
- b. *möcht auch mal hustensaft* (Simone 2;00.05)  
 want also one-time cough mixture
- c. *Klaus auch kann schon neiden meine schere* (Caroline 2;01.28)  
 Klaus also is able already cut my scissors
- d. *papi auch nicht schlafen* (Caroline 2;01.28)  
 daddy also not sleep
- e. *gans auch nicht aua* (Caroline 2;02.16)  
 goose also not injury
- f. *ich soll auch hoch* (Valle 1;11)  
 I shall also up
- g. *ich auch will kaffee* (Benny 2;02)  
 I also want coffee

According to present approaches for the development of finiteness (Jordens 2002; 2006; 2008; Dimroth et al. 2003; Jordens and Dimroth 2006) the linking devices for the early expression of finiteness in learner languages constitute a closed class of lexical operators functioning as assertion mark-

ers. Unless one wants to suppose the very unlikely case of redundant assertion marking, the double usage of the assertive elements in linking position suggests that the formerly closed operator class has been split up and certain elements have been reclassified. It is only the assumption of a reclassification of the lexical linking devices that explains why it is now possible for the child to use two of these elements in linking position: whereas one element (still) functions as assertion marker, the second element realizes another function within the learner system. The question then is which function? Looking at the data in (8) again, the question is which element would be a prime candidate for reclassification? Significantly, all of the utterances under discussion contain the particle *auch*.

As mentioned in Section 1.1., Caroline uses *auch* in the function of constituent addition for the first time at age 2;01.14 (Nederstigt 2003: 349):

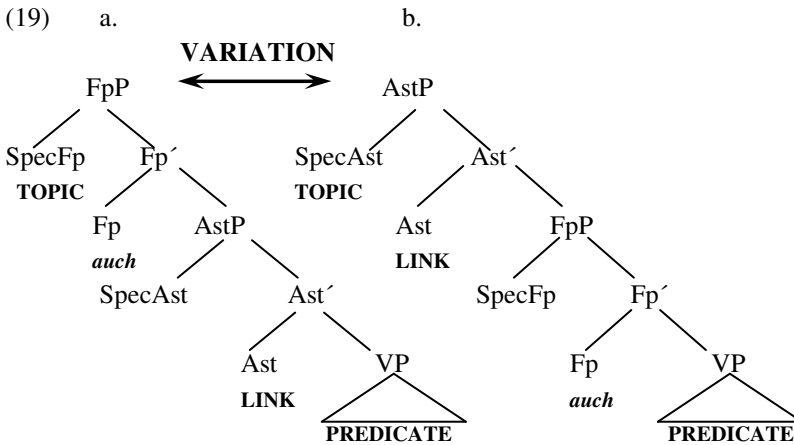
(18) *auch mami*  
also mommy

(Caroline 2;01.14)

Interestingly, it is only after the first emergence of *auch* in the function of constituent addition at age 2;01.14 that Caroline uses structures with two elements in linking position. Both the utterances (8c) *Klaus auch kann schon neiden meine schere* (Klaus also is able already cut my scissors) and (8d) *Papi auch nicht schlafen* (Daddy also not sleep) are attested at age 2;01.28, followed by (8e) *gans auch nicht aua* (goose also not injury) at 2;.16. By reason of the chronological order in which these phenomena are attested in Caroline (first: evidence for *auch* for constituent addition, then: usage of two elements in linking position) I want to assume that the acquisition of *auch* as a means of constituent addition causes a reclassification of the assertion marker *auch*. The child discovers that *auch* is – in fact – not an assertion marker, but an additive scope particle. As such, *auch* can be used for the expression of an assertion by means of assertion addition, but it doesn't establish an assertion itself. Consequently, assertion marking can – and even has to – be instantiated by other linguistic means within the utterance. As a result, the child now uses two elements in linking position (see 8) to which the following functional interpretation can be applied: the modal element or the negation particle in linking position function as positive and negative assertion marker, respectively. They are the carrier of the assertion operator [AST]. The second element in linking position, the particle *auch*, is used in its target-like function as an additive scope particle and serves as a means for the addition of the established assertion.

Concerning the syntactic status of *auch*, I want to follow Penner et al. (2000: 155), who propose the projection of a Focus Particle Phrase (FpP). The assertive element, i.e. the modal expression or the negator, forms the head of an assertion phrase (AstP).

As becomes evident from the child utterances in (8), the relative position of the focus particle *auch* and the modal element still constitutes a problem at this stage of development: *auch* can precede the modal assertion marker which results in a target-deviant pattern with respect to adult main clauses as in (8c) and (8g) or it is placed in the target-like position after the modal expression as in (8a), (8b), and (8f). This fact can be accounted for by the assumption of variation in the underlying structure of the learner language. In cases as in (8c) and (8g) the FpP dominates the AstP, whereas instances like (8a), (8b), and (8f) reflect the dominance of the AstP over the FpP. Accordingly, I want to propose the following two competing structures for this developmental stage:



The observed structural variation can be explained by the overgeneralized use of other predominant patterns in the individual child. A closer look at Caroline's early speech reveals her preference for the combination *auch-nicht*. Structurally, this string refers to FpP-AstP, a hierarchy that is then transferred to the sequence *auch-modal* as in *Klaus auch kann schon neiden meine schere* (Klaus also is able already cut my scissors). Simone, on the other hand, shows a significant preference for the structure *ist-auch* 'is-also' with an AstP-FpP order. Consequently, she uses this pattern also in constructions with modal assertion markers and produces structures like *Mone will auch ein balla* (Mone wants also a ball).

The target-like surface order of elements in Simone's data in (8a) and (8b) runs the risk of a misinterpretation of the underlying syntactic structure of the learner system. One could argue that Simone has already acquired the syntactic properties of the adult system and the whole CP-IP-VP tree is projected. It should be noticed, however, that there are hardly any finite forms of lexical verbs, subject pronouns, or complementizers attested in Simone at this age. Furthermore, syntactic phenomena such as topicalization or inversion are absent from the child language. Hence, there is no evidence for an underlying CP-IP-VP structure in Simone's speech. The relevant child data in (8) can thus be analyzed as follows:

- (8') a. [<sub>ASTP</sub> *Mone* [<sub>AST'</sub> *will* [<sub>FpP</sub> [<sub>Fp'</sub> *auch* [<sub>VP</sub> *ein balla* ]]]]]  
         Mone        wants        also        a ball
- b. [<sub>ASTP</sub> [<sub>AST'</sub> *möcht* [<sub>FpP</sub> [<sub>Fp'</sub> *auch* [<sub>VP</sub> *mal hustensaft* ]]]]]  
         'want        also        on-time cough mixture
- f. [<sub>ASTP</sub> *ich* [<sub>AST'</sub> *soll* [<sub>FpP</sub> [<sub>Fp'</sub> *auch* [<sub>VP</sub> *hoch* ]]]]]  
         I        shall        also        up'
- c. [<sub>FpP</sub> *Klaus* [<sub>Fp'</sub> *auch* [<sub>ASTP</sub> [<sub>AST'</sub> *kann* [<sub>VP</sub> *schon neiden meine schere*]]]]]]  
         Klaus        also        is able        already cut my scissor
- g. [<sub>FpP</sub> *ich* [<sub>Fp'</sub> *auch* [<sub>ASTP</sub> [<sub>AST'</sub> *will* [<sub>VP</sub> *kaffee* ]]]]]  
         I        also        want        coffee
- d. [<sub>FpP</sub> *papi* [<sub>Fp'</sub> *auch* [<sub>ASTP</sub> [<sub>AST'</sub> *nicht* [<sub>VP</sub> *schlafen* ]]]]]  
         daddy        also        not        sleep
- e. [<sub>FpP</sub> *gans* [<sub>Fp'</sub> *auch* [<sub>ASTP</sub> [<sub>AST'</sub> *nicht* [<sub>VP</sub> *aua* ]]]]]  
         goose        also        not        injury

Since inflectional morphology is still absent from the present learner language, there is no formal licensing in the sense of the concept of generative X-bar syntax as defined in Chomsky (1981). At the same time, there is no evidence for syntactic movement. The syntactic system of the child can be seen as more or less static construction that still lacks the dynamics and flexibility of the adult system. Thus, the syntactic projection in (8') should be assigned a proto-functional character.

As it is typically the case for learner systems, the boundaries between single stages of acquisition are not absolute and clear-cut. The language acquisition process should rather be understood as a continuum than as a sequence of distinct developmental stages. The transition from one stage to another takes place in a gradual manner and is accompanied by a relatively high degree of variability. Consequently, it might well be that a characteristic phenomenon of an early stage of acquisition still appears in later stages



of development or that two functional variants co-occur for a certain time span. And this is exactly what we find in the child data: even if there is clear evidence for the use of *auch* as an additive focus particle, as in (18) and (8), *auch* is still employed frequently in the function of a positive assertion marker. The reason for this linguistic behaviour is quite obvious: due to the enduring lack of morphological finiteness markers, children have to resort to other means for the expression of positive assertion. Nevertheless, the reanalysis of the assertion marker *auch* as an additive particle has made the child sensitive to the existence of finiteness markers different from those used at the AstP-Stage. This sensitivity constitutes a fundamental precondition for the next step in the formation of morphosyntactic properties of finiteness.

### 3.2.4. *FinP Stage – the reanalysis of the modal expressions*

With the recategorization of *auch* as an additive focus particle the most effective assertive element in German child language has been separated out of the closed class of linking devices. As a consequence, the leading role in positive assertion marking is transferred to another, well established type of assertion markers – the modal elements. This process finally results in the reanalysis of modal elements as finite verb forms. Evidence for the reanalysis is provided by Caroline's productive use of finite morphology with modal verbs. In example (20) below, they are unambiguously marked for tense (20a) and show target-like person/number agreement with a subject pronoun (20b), (20c):

- |         |               |                              |                    |
|---------|---------------|------------------------------|--------------------|
| (20) a. | <b>wollte</b> | <i>grade das abschneiden</i> | (Caroline 2;02.10) |
|         | want-PRET     | just this off-cut            |                    |
| b.      | <b>kann</b>   | <i>schon</i>                 | (Caroline 2;02.06) |
|         | I-1sg         | be able-1/3sg                | already            |
| c.      | <b>will</b>   | <i>tanzen</i>                | (Caroline 2;02.21) |
|         | this-one-3sg  | want-1/3sg                   | dance              |

Additional evidence for the productivity of modal verbs is provided by data from the Lisa corpus and the Falko corpus, both available from the CHILDES database (MacWhinney 2000). See the morphological minimal pairs in (21) and (22).

- (21) a. *ich kann das auch* (Lisa 2;01.12)  
           I-1sg be able to-1/3-sg this too
- b. *da könn'n die + . . .* (Lisa 2;01.12)  
           there be able to-1/3-pl they + . . .
- (22) a. *ich will geh'n* (Falko 2;01.14)  
           I want-to-1/3-sg go
- b. [Falko wants to do a puzzle with ducks]  
           *woll'n wir mal enten* (Falko 2;01.14)  
           want-1/3-pl we-3pl now ducks

There are two crucial implications to be drawn by the child out of the re-analysis of modal elements: firstly, finiteness is a property of verbs and secondly, finiteness is expressed by means of morphology. Having discovered these facts, the child has figured out two central characteristics of morphosyntactic finiteness. As a consequence, the first instances of finite lexical verbs in person/number agreement constellations show up in Caroline's speech at about the same age range:

- (23) a. *papi schläft schon mei Bobos bett* (Caroline 2;01.28)  
           daddy sleep-3sg already my Bobos bed
- b. *ich schenk papa ein kuchen* (Caroline 2;02.13)  
           I-1sg give-to-1sg daddy a cake
- c. *gib ich schildkröte* (Caroline 2;02.16)  
           give-1sg I-1sg turtle
- d. [in a role play with her mother]  
           *leute sagen?*  
           people say-1/3pl  
           [four turns later]  
           *doktor Maiburg sagt?* (Caroline 2;02.29)  
           doctor Maiburg say-3sg

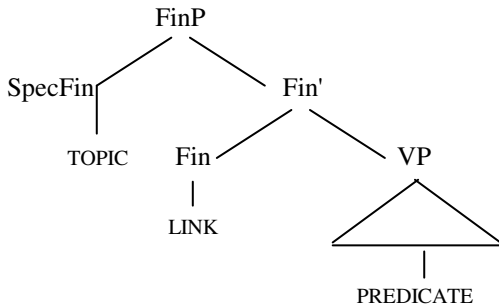
The use of finite verbal morphology shows that the expression of finiteness has been grammaticalized. Assertion marking is now realized by inflectional morphemes, i.e. functional elements of the adult grammatical system.

At the same time, it leads to the grammaticalization of the structural relation between topic and linking element. While formal grammatical marking of the link (Ast°) and the topic (SpecAstP) was largely absent at the AstP and the AstP/FpP Stage, finite verbs in Caroline's utterances now

show person/number agreement with an overtly realized subject pronoun. Examples are given in (20b), (20c), and (23b). With the formal expression of the specifier-head relation of subject and linking element the child has acquired another crucial feature of morphosyntactic finiteness. Summarizing, it can be stated that the proto-functional characteristics of the child's syntactic system at the AstP and the AstP/FpP Stage have been replaced by functional properties of the adult target system.

How are these developmental changes represented in the child's syntax? There are still no complementizers and no wh-questions attested in Caroline. Hence, there is no evidence for the projection of a CP. Given the lack of verb-final structures with [+ finite] verbs, too, one can neither assume the existence of a target-like IP. The observed syntactic phenomena at this stage of development, can be accounted for with the projection of a head-initial finiteness phrase (FinP).

(24)



There are, however, the first reflexes of inversion in Caroline's data. (25a), for example, is uttered shortly before (25b) within one and the same recording:

- |         |                    |                      |                      |                    |
|---------|--------------------|----------------------|----------------------|--------------------|
| (25) a. | <i><b>mach</b></i> | <i>ich</i>           | <i>gleich # mami</i> | (Caroline 2;02.06) |
|         | do-1sg             | I-1sg                | shortly mommy        |                    |
| b.      | <i>ich</i>         | <i><b>mach</b> #</i> | <i>ich</i>           | (Caroline 2;02.06) |
|         | I-1sg              | do-1sg               | I-1sg                |                    |

Even if structures like (25a) are marginal, they can be taken firstly, as evidence for the activation of syntactic movement in terms of verb raising and secondly, as sign of an emerging CP-projection or at least of a projection higher than the one illustrated in (24). Nevertheless, the absence of verb-final structures with [+ finite] verbs, complementizers, and object topicali-

zation (until age 2;03.02) whilst finite morphology is used productively with modal and even lexical verbs in the learner language is reason to assume the existence of an intermediate developmental stage as described in (24). Accordingly, Caroline's utterances in (20) and (23) can be analyzed as follows:

- (20) a. [<sub>FinP</sub> [<sub>Fin</sub> **wollte** [<sub>VP</sub> *grade das abschneiden*]]]  
 want-PRET just this off-cut
- b. [<sub>FinP</sub> *ich* [<sub>Fin</sub> **kann** [<sub>VP</sub> *schon*]]]  
 I-1sg be able-1/3sg already
- c. [<sub>FinP</sub> *die* [<sub>Fin</sub> **will** [<sub>VP</sub> *tanzen*]]]  
 this-one-3sg want-1/3sg dance
- (23) a. [<sub>FinP</sub> *papi* [<sub>Fin</sub> **schläft** [<sub>VP</sub> *schon mei Bobos bett*]]]  
 daddy sleep-3sg already my Bobos bed
- b. [<sub>FinP</sub> *ich* [<sub>Fin</sub> **schenk** [<sub>VP</sub> *papa ein kuchen*]]]  
 I-1sg give-to-1sg daddy a cake
- c. [<sub>FinP</sub> *leute* [<sub>Fin</sub> **sagen** [<sub>VP</sub> ]]]  
 people say-1/3p
- [<sub>FinP</sub> *doktor Maiburg* [<sub>Fin</sub> **sagt** [<sub>VP</sub> ]]]  
 doctor Maiburg say-3sg

### 3.2.5. CP-IP-VP Stage – the establishment of the CP-IP-VP system

From the age of 2;03.02 on there is clear evidence for the existence of a CP-IP-VP system in Caroline's syntax. Subordinated clauses with finite verbs in final position (26) are evidence that the headedness of the FinP has now been switched to its target-like head-final value. Complementizers (26b) and wh-pronouns (26a) are to be interpreted as evidence of a CP projection. Furthermore, object topicalization and inverted structures as in (27) point to the acquisition of V2 and syntactic movement and – again – to the presence of a CP tree:

- (26) a. *eh guckt,*  
 eh looks  
*was* *der mann* **hat** (Caroline 2;03.09)  
 what the man have-3sg
- b. *weil* *ich groß* **bin** (Caroline 2;03.02)  
 because I-1sg tall be-1sg

- (27) a. *noch ein haus*     **mal**             *ich*                     (Caroline 2;03.09)  
           another house    draw-1sg            I-1sg
- b. *ein dach*             **musst**             *du malen* (Caroline 2;03.09)  
           a roof             have-to-2sg        you-2sg draw
- c. *da*                     **wohnt**    *ein gecko, eine schlange* (Caroline 2;03.02)  
           there                live-3sg    a gecko,    a snake

In sum, all syntactic properties of the finiteness category and – moreover – all characteristics of the German functional category system are reflected in Caroline's syntax. Thus, finiteness is now represented as a fully developed functional category in the syntactic system of the child and, hence, the examples in (26) and (27) occur with the adult CP-IP-VP structure.

- (26') a. *eh guckt,*  
           eh looks  
           [<sub>CP</sub> *was*             [<sub>C</sub>                     [<sub>IP</sub> *der mann* [<sub>I'</sub> [<sub>VP</sub> *t<sub>i</sub>* ]     **hat<sub>i</sub>** ]]]]  
           what                    the man                    have-3sg
- b. [<sub>CP</sub>                    [<sub>C</sub> *weil*             [<sub>IP</sub> *ich*             [<sub>I'</sub> [<sub>VP</sub> *groß* *t<sub>i</sub>* ] **bin<sub>i</sub>** ]]]]  
           because                I-1sg                    tall    be-1sg
- (27') a. [<sub>CP</sub> *noch ein haus* [<sub>C</sub> **mal<sub>i</sub>**             [<sub>IP</sub> *ich*             [<sub>I'</sub> [<sub>VP</sub> *t<sub>j</sub> t<sub>i</sub>* ] *t<sub>i</sub>'* ]]]]  
           another house    draw-1sg            I-1sg
- b. [<sub>CP</sub> *ein dach<sub>j</sub>*     [<sub>C</sub> **musst<sub>i</sub>**             [<sub>IP</sub> *du*             [<sub>I'</sub> [<sub>VP</sub> *t<sub>j</sub> malen t<sub>i</sub>* ] *t<sub>i</sub>'* ]]]]  
           a roof             have-to-2sg        you-2sg             draw
- c. [<sub>CP</sub> *da<sub>j</sub>*             [<sub>C</sub> **wohnt<sub>i</sub>**    [<sub>IP</sub> *ein gecko, eine schlange* [<sub>I'</sub> [<sub>VP</sub> *t<sub>j</sub> t<sub>i</sub>* ] *t<sub>i</sub>'* ]]]]  
           there                live-3sg            a gecko, a snake

Other syntactically complex utterances of this acquisition stage are given in (28).

- (28) a. *ich*                 **mal**             *ein sturm*                     (Caroline 2;03.02)  
           I-1sg             draw-1sg    a storm
- b. *ich*                 **hab**             *hier eine tür*                 (Caroline 2;03.02)  
           I-1sg             have-1sg    here a door
- c. *noch eins*         **hab**             *ich jetzt*                     (Caroline 2;03.02)  
           another one    have-1sg    I-1sg    now
- d. *ich*                 **nehm**             *mal vielleicht schwarz*    (Caroline 2;03.02)  
           I-1sg             take-1sg    maybe black
- e. *gelb*                **nehm**             *ich hier*                     (Caroline 2;03.02)  
           yellow                take-1sg    I-1sg    here

f.	<i>gut,</i> well,	<b><i>mal</i></b>	<i>ich</i>	<i>anderes</i>	(Caroline 2;03.02)
		draw-1sg	I-1sg	another	
g.	<i>so, da</i> well, here	<b><i>hab</i></b>	<i>ich</i>	<i>eine butt</i>	(Caroline 2;03.09)
		have-1sg	I-1sg	a butt	

### 3.3. General summarizing remarks: functional elements in learner systems

In a broader sense, the syntactic analysis as presented in section 3 of this study addresses a much debated issue in language acquisition research: the question of the presence or absence of functional categories in early learner varieties (e.g. Poeppel and Wexler 1993; Weissenborn 1990, 1992; Schwartz and Sprouse 1996; Vainikka and Young-Sholten 1996). A detailed answer to this problem would go far beyond the scope of the present investigation. Some remarks to this point seem to be appropriate though.

At the AstP and the AstP/FpP Stage children employ lexical – or at least morphologically unanalysed – elements for the expression of finiteness. These elements, in the way they are used by the children, are not part of the adult functional category system. This does not necessarily mean, however, that they can't have a functional status in the child language. It should always be kept in mind that learner systems are systems in their own right. In these systems the status and the function of certain elements or classes of elements might well differ from the status these elements have in the target language. In the course of acquisition then, the learner system gradually develops towards the target system, passing through several processes of reanalysis and recategorization.

Whether the linking elements for the early expression of finiteness in child language can be interpreted as functional elements shall be left open to further discussion and research here. It should be pointed out, however, that early finiteness marking elements in the child language have operator status. Evidence for this assumption is provided by their realization in a syntactically fixed position as well as by the fact that they never occur as an isolated item in the child language, but always in combination with other linguistic material. This structural properties are crucial characteristics of an operator.

To sum up, it is a major concern of the present study to underline the ambivalent character and status of early finiteness markers in the child language and hence, the term 'proto-functional' is used for the categorization of the relevant elements.

### 3.4. Overview of the developmental stages

The analysis of German child language data as presented in subsection 3.2 has shown that the emergence of morphosyntactic properties of finiteness can be described as a stepwise process that is accompanied by the establishment of the target-like functional category system. For this process, five successive stages can be identified:

#### Stage 1 – Merge Stage

- simple binary structure
- holistically used assertion operators with proto-functional character
- scope particles, negation words
- [AST] – [TOPIC-PREDICATE] ↔ [TOPIC-PREDICATE] – [AST]

#### Stage 2 – AstP Stage

- emergence of the first proto-functional projection
- establishment of a structurally fixed position for assertion operators
- scope particles, modal expressions, negation words, and others as a closed operator class
- [AstP [Ast' Ast [VP V]]]

#### Stage 3 – AstP/FpP Stage

- proto-functional projection
- reclassification of assertion operators and syntactic reorganisation
- modal expressions, negative words as assertion operators + *auch* as additive focus particle
- [AstP [Ast' Ast [FpP [Fp' *auch* [VP V]]]] ↔ [FpP [Fp' *auch* [AstP [Ast' Ast [VP V]]]]]

#### Stage 4 – FinP Stage

- functional projection, head-initial finiteness phrase with characteristics of an IP
- reanalysis of modal expressions, acquisition of subject pronouns and S-V agreement
- finite modal and lexical verbs as grammatical finiteness markers, no auxiliaries
- [FinP [Fin' Fin [VP V ]]]

#### Stage 5 – CP-IP-VP Stage

- functional category system of the target language

- acquisition of V-final, V2, inversion, object topicalization, complementizers, wh-pronouns
- finite modal and lexical verbs as grammatical finiteness markers, no auxiliaries
- [CP [C' C [IP [I' [VP V] I ]]]]

As it is often the case in the scientific description of the natural world, the static character of theoretical models does not cope with the dynamics and variability of real life. Therefore – as already done in subsection 3.2 – I want to point out again that the acquisition stages as formulated above should not be understood as isolated phenomena with clear-cut and absolute boundaries. In fact, stages will overlap and / or coexist for a certain time span in the course of development. Thus, they should rather be seen as certain milestones in an overall continuous process.

In the following subsection I will illustrate and discuss the phenomenon of variation in early finiteness marking. The observed (structural) variation will be accounted for within the present structure-building approach.

### 3.5. Variation in early finiteness marking

First language acquisition is a process that goes along with children's cognitive and overall physical development. With respect to the process of finding one's feet, for example, the very young child will start to crawl one day, it will then erect and learn to stand, and it will finally walk its first steps alone. This achievement, however, does not mean that the child will exclusively be moving in an upright position from that day on. It will rather be the case that most of its ways are still mastered on all four or at the parents' arms.

The idea of mastering a certain skill on the one hand, but the consistent regress to previously used strategies and solutions on the other can be applied to the process of language acquisition. Accordingly, the fact that a child uses syntactic structures that clearly allow for a CP analysis does not mean that the whole adult tree is projected with every utterance. A closer look at the Caroline and the Simone data shows that even though there is indubitable evidence for the existence of a CP in the children's speech, a lot of their utterances are structurally very simple or do not reflect the presence of functional categories at all. With respect to the expression of finiteness it can be found that children still employ strategies of earlier acquisition stages even if they are already capable of using other,



linguistically more complex means for finiteness marking. Some examples are given in (29) and (30):

- (29) holistically used operators (Merge Stage) in later stages of acquisition
- |    |             |                            |                    |                    |
|----|-------------|----------------------------|--------------------|--------------------|
| a. | <b>nein</b> | <i>eindeigen mami</i>      | (Caroline 2;01.22) |                    |
|    | no          | board mommy                |                    |                    |
| b. | <b>nich</b> | <i>ausschneiden</i>        | <i>saatkrähne</i>  | (Caroline 2;02.29) |
|    | not         | cut out                    | rook               |                    |
| c. | <b>auch</b> | <i>kippen roller</i>       | (Caroline 2;04.23) |                    |
|    | also        | topple                     | scooter            |                    |
| d. |             | <i>Mone ein butterbrot</i> | <b>auch</b>        | (Simone 2;01.18)   |
|    |             | Mone a buttered bread      | too                |                    |
- (30) lexical linking devices (AstP Stage) in later stages of acquisition
- |    |                 |              |                           |                    |
|----|-----------------|--------------|---------------------------|--------------------|
| a. | <i>flugzeug</i> | <b>auch</b>  | <i>mitfahrn natürlich</i> | (Caroline 2;03.10) |
|    | airplane        | also         | with-go of course         |                    |
| b. | <i>du</i>       | <b>auch</b>  | <i>eine karte nehm</i>    | (Caroline 2;04.17) |
|    | you             | also         | a card take               |                    |
| c. | <i>papi</i>     | <b>auch</b>  | <i>mit?</i>               | (Caroline 2;05.20) |
|    | daddy           | also         | with?                     |                    |
| d. | <i>ich</i>      | <b>auch</b>  | <i>ein glückspilz</i>     | (Caroline 2;05.28) |
|    | I               | also         | a lucky girl              |                    |
| e. | <i>ich</i>      | <b>nicht</b> | <i>eine geschichte</i>    | (Caroline 2;03.18) |
|    | I               | not          | a story                   |                    |
| f. | <i>Mone</i>     | <b>auch</b>  | <i>eine latte habe</i>    | (Simone 2;04.20)   |
|    | Mone            | also         | a batten have             |                    |
| g. | <i>Maxe</i>     | <b>auch</b>  | <i>fische fang</i>        | (Simone 2;04.21)   |
|    | Maxe            | also         | fishes catch              |                    |
| h. | <i>Tobias</i>   | <b>nich</b>  | <i>hauen</i>              | (Simone 2;04.17)   |
|    | Tobias          | not          | beat                      |                    |

Concerning variation in early finiteness marking special attention has been given to the scope particle *auch* in its function as a very frequent and effective assertion marker in German child language. Penner et al. (2000) notice a strong tendency for *auch* utterances to be infinite or non-finite, even if morphological finiteness marking occurs in 80-90 % of all verbal constructions.

It should be noticed, however, that the omission of finiteness in structures with *auch* is not that prominent in the Caroline data as compared to

the results of Penner et al. (2000). Nevertheless, the use of infinite verb forms in combination with the particle is quite common in the child: from the age of 2;03.10, i.e. after a CP structure is evidenced in Caroline, until the age of 2;05.31 there are 25 utterances with the particle *auch* and a lexical verb attested in the child. 12 of these utterances are infinite, 13 show morphological finiteness marking. Two of the 13 finite utterances exhibit a target-deviant word order with the particle *auch* preceding the finite verb. See (31b) and (31c) below.

Nederstigt (2003) explains the use of target-deviant patterns in finite *auch* utterances with the assumption of a positional conflict between the former assertion marker *auch* and the finite verb, because “both of them occur in utterance second position and both of them are assertion markers” (Nederstigt 2003: 347-348). As a consequence, the child does not know how to place these two elements within one utterance. This conflict leads to variation in the relative position of *auch* and the finite verb and –in quintessence – to a target-deviant word order in the child language. Here are some examples from Nederstigt:

- |         |            |                    |                      |                   |                    |
|---------|------------|--------------------|----------------------|-------------------|--------------------|
| (31) a. | <i>ich</i> | <b><i>auch</i></b> | <b><i>muss</i></b>   |                   | (Caroline 2;03.02) |
|         | I          | also               | have-to              |                   |                    |
| b.      | <i>ich</i> | <b><i>auch</i></b> | <b><i>brauch</i></b> | <i>das</i>        | (Caroline 2;04.02) |
|         | I          | also               | need                 | this-one          |                    |
| c.      | <i>ich</i> | <b><i>auch</i></b> | <b><i>mach</i></b>   | <i>ein grünes</i> | (Caroline 2;04.08) |
|         | I          | also               | make                 | a green one       |                    |

The assumption of a positional conflict between *auch* and the finite verb could pose a possible explanation for learners' word order difficulties in finite *auch* utterances. Furthermore, it provides a reason for the omission of finiteness marking in structures with *auch*: in order to avoid the positional conflict, children produce infinite or verbless *auch* utterances.

A problematic point for Nederstigt's (2003) idea, however, results from the theoretical framework used: the syntactic analysis of the child utterances is carried out within the topological field model, a widely used descriptive model for German word order (Drach 1937). The disadvantage of this model – especially with respect to the description of dynamic processes such as language acquisition or language change – is its concentration on surface phenomena only. It seems questionable, whether this one-dimensional orientation is sufficient for the characterization of an interim system as we are dealing with in the case of child learner language.

Dimroth (this volume) investigates the phenomenon of restricted finiteness marking in ‘*auch*’ utterances from an information structural point of view. Data from Penner et al. (2000) and Winkler (2006) have shown that – in contrast to *auch* structures – negated utterances are frequently marked for [+finite]. Obviously, the particle *nicht* ‘not’ does not seem to have a limiting effect on finiteness marking. Dimroth (this volume) analyzes scope properties and relations of the particles *auch* and *nicht* in adult and in learner German. She comes to the conclusion that scope relations in *auch* structures are more complex than in *nicht* structures. Thus, the structural integration of a finite verb form is more difficult for the learner in the case of *auch* utterances. As a consequence, morphological finiteness marking is either suppressed in structures with *auch* or learners show problems in positioning the finite verb with respect to the scope particle.

In what follows, I will try to apply Dimroth's (this volume) idea of information structural complexity as the decisive factor for variation in learners' finiteness marking to the present syntactic approach. As a matter of fact, the more complex an information structure is, the more difficult it will be to map it on a syntactic system characterized by hierarchical organization. I want to argue that it is this difficulty in mapping information structurally complex expressions onto target syntax that prevents learners from making *auch* utterances finite. Instead, learners tend to employ economized production strategies and resort to syntactically more simple structures. Hence, they minimize production effort, but nevertheless produce linguistically effective – even if target-deviant – expressions.

Within the present syntactic approach the assumption of economized production strategies in the expression of finiteness means that learners do not project a whole CP tree, but fall back on the projection of smaller and less complex trees such as an AstP or a FpP-AstP, or even a simple merge relation. Accordingly, the child utterances in (29), (30), and (31) can be analyzed as follows:

(29) Merge relation

- |    |                 |                                    |                 |
|----|-----------------|------------------------------------|-----------------|
| a. | [ <i>nein</i> ] | [ <i>eindeigen mami</i> ]          |                 |
|    | no              | board                              | mommy           |
| b. | [ <i>nich</i> ] | [ <i>ausschneiden saatkrähne</i> ] |                 |
|    | not             | cut out                            | rook            |
| c. | [ <i>auch</i> ] | [ <i>kippen roller</i> ]           |                 |
|    | also            | topple                             | scooter         |
| d. |                 | [ <i>Mone ein butterbrot</i> ]     | [ <i>auch</i> ] |
|    |                 | Mone a buttered bread              | too             |

## (30) Projection of an AstP

a.	[ <sub>AstP</sub> <i>flugzeug</i> airplane	[ <sub>Ast</sub> <b><i>auch</i></b> also	[ <sub>VP</sub> <i>mitfahrn natürlich</i> ]]] with-go of course
b.	[ <sub>AstP</sub> <i>du</i> you	[ <sub>Ast</sub> <b><i>auch</i></b> also	[ <sub>VP</sub> <i>eine karte nehm</i> ]]] a card take
c.	[ <sub>AstP</sub> <i>papi</i> daddy	[ <sub>Ast</sub> <b><i>auch</i></b> also	[ <sub>VP</sub> <i>mit</i> ]]] with'
d.	[ <sub>AstP</sub> <i>ich</i> I	[ <sub>Ast</sub> <b><i>auch</i></b> also	[ <sub>VP</sub> <i>ein glückspilz</i> ]]] a lucky girl
e.	[ <sub>AstP</sub> <i>ich</i> I	[ <sub>Ast</sub> <b><i>nicht</i></b> not	[ <sub>VP</sub> <i>eine geschichte</i> ]]] a story
f.	[ <sub>AstP</sub> <i>Mone</i> Mone	[ <sub>Ast</sub> <b><i>auch</i></b> also	[ <sub>VP</sub> <i>eine latte habe</i> ]]] a batten have
g.	[ <sub>AstP</sub> <i>Maxe</i> Maxe	[ <sub>Ast</sub> <b><i>auch</i></b> also	[ <sub>VP</sub> <i>fische fang</i> ]]] fishes catch
h.	[ <sub>AstP</sub> <i>Tobias</i> Tobias	[ <sub>Ast</sub> <b><i>nich</i></b> not	[ <sub>VP</sub> <i>hauen</i> ]]] beat

## (31) Projection of a FpP-AstP

a.	[ <sub>FpP</sub> <i>ich</i> I	[ <sub>Fp</sub> <b><i>auch</i></b> also	[ <sub>AstP</sub> [ <sub>Ast'</sub> <b><i>muss</i></b> [ <sub>VP</sub> ]]]]] have-to
b.	[ <sub>FpP</sub> <i>ich</i> I	[ <sub>Fp</sub> <b><i>auch</i></b> also	[ <sub>AstP</sub> [ <sub>Ast'</sub> <b><i>brauch</i></b> [ <sub>VP</sub> <i>das</i> ]]]]] need this-one
c.	[ <sub>FpP</sub> <i>ich</i> I	[ <sub>Fp</sub> <b><i>auch</i></b> also	[ <sub>AstP</sub> [ <sub>Ast'</sub> <b><i>mach</i></b> [ <sub>VP</sub> <i>ein grünes</i> ]]]]] make a green one

From this point of view, the target-deviant order of *auch* and the finite verb as in (31) does not reflect a positional conflict between the scope particle and the inflected verb form as assumed by Nederstigt (2003), but can rather be seen as the result of an avoidance strategy: due to the information structural as well as syntactic complexity of finite *auch* structures, the child backslides to the projection of a structurally more simple FpP-AstP. Note, however, that the target-deviant pattern of 'auch-finite verb form' is not the rule in Caroline: as mentioned above, after the acquisition of a CP-IP-VP structure at age 2;03.02, only two, i.e. (31b) and (31c), out of the 13 utterances produced between 2;03.10 and 2;05.31 with *auch* and a finite lexical verb exhibit this aberrant constituent order. The other 11 utterances of Caroline with a finite lexical verb and *auch* show the target-like word order:

- |         |                        |                             |                                  |   |                    |
|---------|------------------------|-----------------------------|----------------------------------|---|--------------------|
| (32) a. | <i>ja,</i><br>yes      | <b>kenn</b><br>know         | <b>auch</b><br>also              | <i>nicht</i><br>not                       | (Caroline 2;03.12) |
| b.      |                        | <b>komm</b><br>come         | <b>auch</b><br>also              | <i>gleich wieder</i><br>soon back         | (Caroline 2;04.01) |
| c.      |                        | <b>hab</b><br>have          | <b>auch</b><br>also              | <i>ein luffalon mit</i><br>a balloon with | (Caroline 2;04.07) |
| d.      |                        | <b>brauch ich</b><br>need I | <b>auch</b><br>too               |   | (Caroline 2;04.16) |
| e.      | <i>ich</i><br>I        | <b>habe</b><br>have         | <b>auch</b><br>also              | <i>lämmchen</i><br>lambkin                | (Caroline 2;04.20) |
| f.      | <i>ähm,</i><br>ehm     | <b>weiß</b><br>know         | <i>ich</i> <b>auch</b><br>I also | <i>nicht</i><br>not                       | (Caroline 2;05.20) |
| g.      |                        | <b>find</b><br>find         | <b>auch</b><br>also              | <i>nicht</i><br>not                       | (Caroline 2;05.21) |
| h.      |                        | <b>hat</b><br>has           | <i>er</i> <b>auch</b><br>he also | <i>eine schokolade?</i><br>a chocolate?   | (Caroline 2;05.23) |
| i.      | <i>nein,</i><br>no     | <b>mach</b><br>do           | <i>ich</i> <b>auch</b><br>I also | <i>nich</i><br>not                        | (Caroline 2;05.30) |
| j.      | <i>ich</i><br>I        | <b>brauch</b><br>need       |                                  | <i>dis</i><br>this                        |                    |
|         |                        | <b>brauch</b><br>need       | <b>auch</b><br>also              | <i>den</i><br>this-one                    |                    |
|         | <i>den</i><br>this-one | <b>gib</b><br>give          |                                  | <i>mir</i><br>to me                       | (Caroline 2;05.30) |
| k.      |                        | <b>mach</b><br>do           | <i>ich</i> <b>auch</b><br>I also | <i>mal so</i><br>like this                | (Caroline 2;05.31) |

If the assumption of syntactic simplifications in the underlying structure of early infinite and structurally target-deviant *auch* utterances were true, there should hardly be found instances of topicalization or inversion or elements such as complementizers or wh-pronouns in the relevant learner utterances. Since all of these phenomena require the projection of a CP, their absence would provide evidence against the existence of a CP and would thus constitute an argument in favor of the employment of less complex structures such as an AstP or FpP-AstP. The following Caroline data contain the particle *auch* and an infinite lexical verb in (33) or the particle *auch* and a finite lexical verb with a target-deviant word order in (31b) and (31c):

- (33) a. *flugzeug* **auch** *mitfahrn natürlich* (Caroline 2;03.10)  
 airplane also with-go of course
- b. **auch** *besser sitzen* (Caroline 2;03.22)  
 also better sit
- c. **auch** *ein bisschen nadel was nähen* (Caroline 2;03.25)  
 also a bit needle something sew
- d. *ich* **auch** *zusammenädelt* (Caroline 2;03.25)  
 I also together-sewn
- e. *ich* **auch** *gradigen* (Caroline 2;03.25)  
 I also straighten
- f. *du* **auch** *eine karte nehm* (Caroline 2;04.16)  
 you also a card take
- g. *des vom Lena* **auch** *annemalt?* (Caroline 2;04.17)  
 this from Lena also painted?
- h. **auch** *ein kälbchen noch brate* (Caroline 2;04.20)  
 also a little calf still fry
- i. **auch** *kälbchen noch brate* (Caroline 2;04.20)  
 also little calf still fry
- j. *für'n Markus* **auch** *schinken kaufen?* (Caroline 2;05.26)  
 for Markus also ham buy?
- k. *da* **auch** *machen?* (Caroline 2;05.31)  
 there also make?
- (31) b. *ich* **auch** *brauch das* (Caroline 2;04.02)  
 I also need this-one
- c. *ich* **auch** *mach ein grünes* (Caroline 2;04.08)  
 I also make a green one

Except for (33j) and (33k) none of the relevant phenomena – topicalization, inversion, complementizers, wh-pronouns – can be found in Caroline's utterances. (33j) exhibits a non-obligatory dative complement in topic position, in (33k) we find the AP *da* 'there'. These utterances could thus be interpreted as instances of topicalization. There is, in turn, no subject realized in these structures. Hence, the appearance of the dative complement and the AP *da*, respectively, in first position, i.e. in SpecAst, is structurally unproblematic. Since syntactic movement is already active at this stage of development, the dative complement and the AP can either have been moved to SpecAst from their underlying position or they have (wrongly) been base-generated there.

In (33g) Caroline uses a structurally complex topic component in the form of [DP [D' des [PP vom Lena]]]. Since this expression forms only one (topic) constituent, the utterance in (33g) does not pose a problem for an AstP analysis.

In sum, the Caroline data support the assumption of syntactic simplification in early *auch* structures. The employment of economized production strategies can thus be defined as the reason for variation in early finiteness marking and the use of infinite verb forms and target-deviant patterns in *auch* utterances.

Above all, it seems necessary to address a more general issue here. The syntactic analyses as proposed in (30') and (31') imply that despite the use of functional items such as subject pronouns (30b'), (30d'), (30e'), (31a'), (31b'), (31c'), and [+finite] verb forms (31a'), (31b'), (31c') children employ syntactic projections with proto-functional characteristics. How can this be? I want to suggest that the immature syntactic apparatus of the child is – in a sense – multi-layered and flexible. This means that syntactic projections of earlier acquisition stages, i.e. intermediate solutions on the way to the target system, are still present in the child's syntactic apparatus and can be resorted to, even if a higher degree of structural complexity is already reached in the current child language. From a developmental point of view, this syntactic architecture serves as a kind of guarantee: granted that a child is wrong in its assumption about the underlying syntactic structure of its mother tongue, it still has the chance to recede to a previously established structure and to start anew with its endeavors to grasp the adult target system.

Furthermore, the assumption of a multi-layered syntactic apparatus could be one explanation for the fast and relatively effortless process of second language acquisition in young children as compared to adolescent, adult, and even L1 learners (see, for example, Dimroth and Haberzettl (2008) and Thoma and Tracy (this volume)). Being in the process of acquiring a first language, the very young second language learner is equipped with a multi-layered syntactic apparatus. He has available a number of – let's say – precast syntactic templates for the successful processing of the second language input and its correct reproduction in the output. Thus, the L2 acquisition process is remarkably facilitated. With maturation of the syntactic apparatus, its multi-structural character disappears and is finally replaced by a more or less fixed and unilayered syntactic system.

Summarizing the discussion in this subsection, I want to put forward the argument that variation in early finiteness marking in general and in *auch* structures in particular is the result of economized syntactic production

strategies: although there is clear evidence of the existence of a CP projection in the learner language, children avoid the mapping of complex information structure onto the target syntactic system. Instead, they frequently employ syntactically more simple projections of earlier acquisition stages. The aim of the child's linguistic behavior is the reduction of production effort. The kind of backsliding that we are dealing with here is made possible by the multi-layered architecture and flexibility of the immature syntactic apparatus.

#### **4. Conclusion**

The present study on the acquisition of syntactic finiteness in German child language provides further evidence for the cross-linguistic development of finiteness from a non-functional (i.e. lexical or proto-functional, respectively) to a functional category in the course of the L1 acquisition process. Obviously, learners employ universally similar strategies for the expression of finiteness in their early speech. The development of the finiteness category and its target-like syntactic representation in child language acquisition can be seen as the mixed result of language universals and language-specific characteristics of the input.

#### **Notes**

1. I wish to thank Christine Dimroth and Peter Jordens for the organization of the Arbeitsgruppe Functional elements: variation in learner systems at the 29. DGfS-Jahrestagung where the present paper was presented. Furthermore, my thanks goes to the members of the Arbeitsgruppe for their inspiring questions and comments and especially to Christine Dimroth and Peter Jordens for their detailed, sharp-sighted, and encouraging comments on earlier versions of this paper.
2. Within the framework of Klein (1998), it is important to distinguish between the topic time TT and the category of tense. Following Klein, tense can be described as the relation between the topic time TT and the time of utterance (TU). The function of tense is to mark whether TT precedes, contains, or follows TU.
3. At first glance this analysis might seem to be in contradiction to traditional approaches in so far as scope particles such as *auch* are usually assumed to have scope over the new or different pieces of information, not over the maintained ones. With other words: the addition in (5) should be between



[Mara] and [Sarah], not between the assertion [ins Kino gehen] (to go to the cinema). Note, however, that in the case of repeated assertion with *auch* being the focus of the utterance the maintenance of the asserted content itself is the new information, in contrast to the possibility that an assertion with a different content could be established. Thus, the elements that are added here are ASTa and ASTb, not their maintained content [ins Kino gehen] (to go to the cinema). Under this perspective, the present analysis is clearly in line with traditional approaches to additive scope particles such as *auch*.

4. Assertion and negation do not – of course – contradict each other within one utterance in the fully developed, hierarchically organized adult language system. In early child language, however – so the assumption of Dimroth et al. (2003) and Jordens and Dimroth (2006) – it is the utterance second position in which a certain assertive value and / or a certain assertive relation between topic and predicate is expressed. Given this assumption, the usage of positive and negative assertion markers within one and the same slot would be contradictory.

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# Stepping stones and stumbling blocks. Why negation accelerates and additive particles delay the acquisition of finiteness in German<sup>1</sup>

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## 1. Introduction

This paper deals with a crucial step in the early development of German as a first or a second language. First and (untutored) second language learners are known to develop early learner varieties that lack productive inflectional morphology as well as functional elements (Jordens and Dimroth 2006; Klein and Perdue 1997)<sup>2</sup>. The question of how learners move from this lexically-based utterance structure to a more target-like organization of sentence grammar is crucial for theories of language acquisition.

When learners first start to combine words into two- or multi-word utterances, there are no purely grammatical markers yet. However, some elements that differ from the prevalent group of lexical expressions are typically attested. These elements specify the relation between other pieces of information given in the utterance, or between information in the utterance and the (non)-verbal context. Several studies have found that for German, negative particles like *nein* ('no') and *nicht* ('not') and the additive particle *auch* ('also') are among the first elements of this sort (Dimroth 2002; Nelderstigt 2003; Penner, Tracy and Weissenborn 2000; Winkler, this volume). It has also been suggested that utterances containing these expressions are somehow more advanced and can help the child and the untutored L2 learner to develop from the lexical structure of their early utterances towards a more target-like finite utterance structure (Dimroth et al. 2003; Penner et al. 2000). But although *nicht* and *auch* have broadly comparable syntactic properties in German, they do not develop on a par in further stages of language acquisition.

In this paper, I will address the question of how these devices are integrated into elementary learner utterances, in particular when they are first combined with verb-like words, and what the consequences are for utterance organization. The role of information structure is invoked in order to explain why these particles do not develop in a parallel way.

This paper is organized as follows: Section 2 presents some basic observations concerning early learner utterances (L1 and L2) which contain negation or the particle *auch*. Section 3 summarizes different accounts that have been proposed for the structure underlying these simple learner utterances. In Section 4 it is shown that these particles show a very different behaviour when finiteness emerges in learner languages. Section 5 examines the information structure of utterances containing the particles in adult native speakers. The question of whether similar information-structural constraints are at work in learner language and if they could possibly explain the differences attested between *auch* and *nicht* are addressed in Section 6. Section 7 contains a discussion of the findings.

## 2. Basic observations: word order in non-finite learner utterances

The study of negation in the first and second language acquisition of German has a much longer tradition (Becker 2005; Clahsen 1988; Dietrich and Grommes 1998; Meisel 1997; Verrips and Weissenborn 1992; Wode 1977) than the study of the additive particle *auch* or its equivalents in other languages (Benazzo 2003; Berger et al. 2007; Dimroth 2002; Hulk 2003; Nelderstigt 2003; Penner et al. 2000; Schimke, Verhagen, and Dimroth 2008; Tracy 2002; Winkler, this volume).

For L1 development it has been shown that the negation particle *nein* is typically acquired earlier than the particle *nicht* (see Wode 1977; Clahsen 1988). In the target language *nein* is used anaphorically and often holistically, i.e. what is negated is not part of the utterance containing the particle. On the other hand, *nicht* is used for non-anaphoric negation, i.e. it is integrated into an utterance and affects (part of) it with its negative meaning. According to Wode (1977) however, in early child language *nein* can also be used non-anaphorically.<sup>3</sup> Furthermore, in the early stages of L2 acquisition of German a wider variety of negation particles is used. As early as in the so-called pre-basic variety<sup>4</sup>, Dietrich and Grommes (1998) attest *kein* (negative determiner), *niks* (nothing), *nein* (no), *nee* (colloquial version of *nein*), and *nicht(t)* (not) which often occur interchangeably.

The current study is not so much concerned with the type of negative particle, but with the way in which it is integrated into learner's utterances. With respect to both negation (be it spelled out as *nicht*, *nein* or *niks*) as well as the particle *auch*, I am not interested in their anaphoric or holistic use as sentence equivalents, but in the structure of utterances in which these elements occur with at least one other word that is affected by their

additive or negative meaning. In the remainder of this paper *nicht* is going to be used as a cover-term for the other negative items occurring with a similar function.

The particles *auch* and *nicht* can already be found in the earliest two word utterances in child German and also appear very early in the data of untutored learners of German as an L2. Compare the following example from L1 German (from Nederstigt 2003):

(1) Caroline1;10

- Mother: *nachher müssen wir mal die Großmutter anrufen?*  
 later we should call grandma  
 Child: *Großvater auch*  
 grandpa too

At this point in development, the learners' inventory mainly consists of lexical elements, or "content signs" (van Kampen 2005) that can fulfil referring or predicating function. Elements like *auch* and *nicht* are not used for reference or predication but rather they modify one of these operations. This is typically done in contexts that help identify what the child is talking about and often involves the implicit expression of the child's wishes or requests (see 1, above). Due to this function, these particles (amongst other elements) have been called *illocutionary operators* (Hulk and van der Linden 2005) or *pragmatic operators* (van Kampen 2005). In an early attempt to characterize their function as anchor points of an utterance Braine (1963) referred to these (and other) elements as *pivots*. There is no full agreement in the literature about the items that belong to this class of first operator-like elements.<sup>5</sup>

Authors studying the structure of early two-word combinations stress that these operator-type elements do not yet (or only partly) have the functional properties of their adult language counterparts. Jordens and Dimroth (2006) therefore speak about *lexical linking elements*, Hulk and van der Linden (2005) about *pseudo functional operators*, and Powers (2001) calls them *semi-lexical heads*. In the following section we look more closely at the focus particle *auch* and the negative particle *nicht* and the way they combine with referring and predicating elements.

In L1 data from the two-word stage, both word order possibilities are attested, i.e. the particles can precede or follow the 'other' word. Consider the following examples for *auch* and *nicht* in early two-word combinations from L1<sup>6</sup>:

(2) Julia, 1;07			word order:
J. puts blocks in a box	<i>darein</i>		
	there-in		
picking up another block	<i>auch darein</i>	<i>auch x</i>	
	also there-in		
(3) Julia, 1;11			
J. puts toys in a box	<i>einräumen</i>		
	put-in		
placing goat in the box	<i>ziege auch</i>	<i>x auch</i>	
	goat also		
(4) Inga, 1;11;2	<i>nein sauber</i>	<i>nicht x</i>	
	no clean		
(5) Juwal, 1;03	<i>ditsi nei</i>	<i>x nicht</i>	
	cookies no		

The structure of two-word utterances has been investigated more intensively in L1 than in L2 acquisition – probably because there is no clear stage in second language acquisition at which the maximal length of utterances corresponds to two words. Rudimentary utterances in adult language are often difficult to distinguish from ellipsis (relying on native speaker scaffolding, see Andorno 2008 and Perdue 1996). As in L1 acquisition, both word orders are attested in early L2 utterances. Evidence is presented in Dimroth (1998) for *auch* and Becker (2005) for *nicht*.

Interestingly, we do not seem to find the same flexibility in position when the particles show up in combination with verb-like words, that are, at that stage, not yet marked for finiteness. That is, the initial order seems to be fixed, as *auch* and *nicht* always precede the verbal element, as in examples (6) and (7) below<sup>7</sup>.

(6) Caroline, 1;09		word order
Mother:	<i>was kleines bauen?</i>	
	build something little?	
Caroline:	<i>auch baun</i>	<i>auch V</i>
	also build	
(7) Juwal, 1;08	<i>nei faffe</i>	<i>nicht V</i>
	no sleep	

Early second language learners equally tend to put these particles in a position preceding the non-finite verb (see e.g. Dimroth 2002, 2008; Meisel 1997; Schimke et al. 2008; Verhagen 2005).

### 3. Different accounts

The observation that particles like *auch* and *nicht* can in principle appear on both sides of content words involved in the construction of early two-word utterances has led to different accounts. Powers (2001) refers to *auch* as a “flipping pivot”. This terminology goes back to Braine’s (1963) proposal, in which two classes of pivot words were originally distinguished on the basis of their position in such two-word utterances. “While Braine defined two classes of pivots, initial and final, these classes were not exclusive: lexical items like *auch* (...) seem to belong to both classes.” (Powers 2001: 112).

Powers assumes that, in contrast to adult functional heads, children’s semi-lexical heads (like *auch* and *nicht*) do not occur in fixed positions relative to their complements. In order to ensure that they always project, semi-lexical heads must be represented as heads in the lexicon. Expanded representations with an empty position for an open class element (like the ones given in Figure 1) are also assumed to be stored lexically. The empty position can be situated on either side of the particle (as in (a) or (b) below).

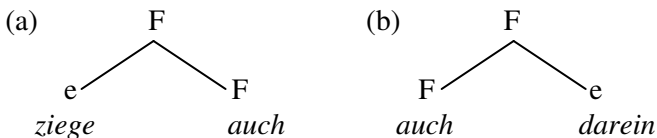


Figure 1. (adapted from Powers 2001)

The ‘flipping pivots’ problem only arises under Braine’s (1963) assumption that pivot elements fall into two distinct classes, that are associated with either the initial ( $P_{1\_}$ ) or the final ( $\_P_2$ ) position in two-word constructions of the type illustrated in examples (1)-(5). In order to avoid two different entries for a particle like *auch* ( $auch_{1\_}$  and  $\_auch_2$ ) Powers (2001) proposes a third class of pivot words that can appear as  $P_1$  or  $P_2$ . She does not assign systematic meaning differences to the two positions.

Learner utterances in which the particles precede a verb as in the following example (from Penner et al. 2000) have given rise to different analyses.



- (8) Florian, 2;08 (lies down and places toy man next to himself)  
*mann auch schlafte*  
 man also sleep

Penner et al. (2000) as well as Tracy (2002) consider these particles as syntactic precursors of finiteness and claim that *auch* and *nicht* project their own roots and take VP as their complement. Similar to the ‘flipping pivot’ analysis presented above, the particles are seen as heads of a Focus-Particle Phrase (FP). This additional layer is seen as a trigger for early scrambling. The authors observe that “constraints on scrambling are observed, i.e. (a) subjects raise; (b) definite objects may or may not raise, and (c) indefinite objects do not raise” (Penner et al. 2000: 138) as soon as the particle-verb-combinations co-occur with noun phrases (as in 8, above). The corresponding structure is depicted in Figure 2.

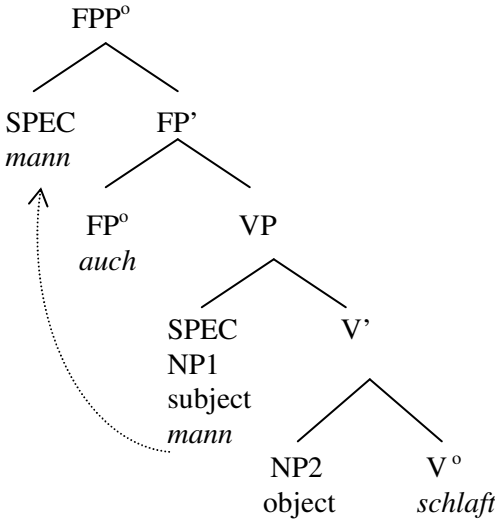


Figure 2. (from Penner et al. 2000)

Penner et al. (2000) conclude that these particles act like perfect bootstraps, helping the child to construct additional structural layers beyond VP. In the next developmental step then yet another structural layer is created to which the verb can raise. The same syntactic structure and the same bootstrapping function is proposed for negation with *nicht*. The particle *auch* is acquired earlier than *nicht*, presumably because the former occurs in only one form and is therefore more accessible in the input. Once dis-

covered, “the negation marker is assimilated to the scheme originally yielded by *auch*. In analogy with the *auch*-headed Focus-Particle Phrase, the negation marker is initially analyzed as a head, projecting a complement slot for the VP and a SPEC position” (155).

Dimroth et al. (2003) and Jordens and Dimroth (2006) have also investigated the role of such elements (and their Dutch equivalents) in early phases of first and second language acquisition. They claim that these particles are best analysed as functional rather than structural precursors of finiteness. When they first appear, learner utterances do not yet show syntactic movement as displayed in Figure 2. Rather, word order at that point in development (called “Conceptual Ordering Stage”) is determined by principles of information structure. Utterances consist of three structural positions, each of which goes with a particular informational function. Children and adult L2 learners put topic information (i.e. expressions identifying the situation they are talking about) in initial position. The final position is filled by expressions functioning as the predicate of their utterances, rendering what the speakers want to say about the utterance’s topic. Thus, the predicate functions as comment. These predicates can (but need not) contain verbs. Between the topic and the predicate so-called “lexical linking devices” can occur. Jordens and Dimroth (2006) identify a closed class of such linking items (including *nicht* and *auch* and their Dutch counterparts) which are used to qualify the relation between the predicate and the topic.

If no such linking device is present, the utterance expresses the default relation of assertion (see (9a) and (10a) below). Word order is not seen as a result of scrambling, but determined by a sequential ordering of positions related to information structure.

	topic	link	predicate
L1: (9a)	<i>ganze hase</i> total hare	<i>0</i>	<i>kaputt</i> (Benny 2;9) kaput
(9b)	<i>a</i> he	<i>auch</i> also	<i>asteigen</i> (Valle 1;11) in-step
(9c)	<i>mich</i> me	<i>net</i> not	<i>kitzele</i> (Benny 2;9) tickle
L2: (10a)	<i>Chaplin</i> Chaplin	<i>0</i>	<i>gehen strasse</i> (Janka 1.6) go street
(10b)	<i>jetzt mein bruder</i> now my brother	<i>auch</i> also	<i>zweiundzwanzig jahre</i> (Janka 2.1) twenty two years

(10c)	<i>meine kind</i>	<i>nix</i>	<i>in schul</i> (Angelina 1.1)
	my child	not	in school

Figure 3. (from Dimroth et al. 2003); L2 utterances from Janka (L1 = Polish; P-MoLL Corpus, MPI<sup>8</sup>) and Angelina (L1 = Italian, ESF-Corpus, MPI):

In more developed learner varieties and in the target language it is one of the functions of finiteness to express that an utterance makes an assertion about its topic (Klein 2006). The lexical linking words from the Conceptual Ordering Stage illustrated above are considered formal precursors of finiteness because they occupy the position between topic and predicate that is later filled by auxiliaries – the first elements to be productive carriers of features of finiteness (Jordens and Dimroth 2006). The particles are seen as functional precursors since they affect the relation between topic and predicate as assertion marking through finiteness does.

While both approaches share the idea that these particles are precursors of finiteness, the actual spell out differs. Penner et al. (2000) and Tracy (2002) assume that from early on the particles lead to the creation of new layers of syntactic structure, whereas Dimroth et al. (2003) and Jordens and Dimroth (2006) assume a more limited contribution to structure building, through the occupation of a slot following the topic constituent that is later taken over by the first functional carriers of finiteness, namely auxiliary verbs. In addition, they argue that it is the function of the early particles to lexically specify the relation between predicate and topic, i.e. for example to express that some predicate does or does not hold for a given topic - a function that is later taken over by morpho-syntactic finiteness marking.

Whatever the reason for considering such particles as precursors of finiteness – neither of the proposals makes explicit predictions about what happens when finiteness comes into play. Both claim that these particles promote the development of additional structure in the sense that this structure can be built by further developing the utterance pattern that was used with the particles. But what is expected for utterances that actually contain the relevant particles? Is finiteness marking in utterances that at the same time contain such precursor items different from finiteness marking in utterances that do not? And if so, does the presence of the precursor items push upcoming finiteness marking in such utterances or does it actually hamper it? The former scenario suggests itself because precursors are normally considered to be stepping stones and not stumbling blocks, but the latter is also not implausible. Instead of an alternative (and maybe functionally related) filling for an available structure, having both the particle

and finiteness marking in the same utterance somehow implies structure building *on top of* the existing structure and coding of a function *in addition to* the functionally similar existing one (which learners might find redundant).

Neither of the two approaches makes clear predictions about how particles and finiteness interact, but both seem to tacitly assume that *auch* and *nicht* behave similarly in that respect. As shall be shown in the following section, however, this is not the case. The particles *auch* and *nicht* behave very differently as soon as young children and adult L2 learners start marking their utterances for finiteness in a more target like way.

#### 4. Differences between *auch* and *nicht* with emerging finiteness

Let us first have a look at the distribution of morpho-syntactic markings of finiteness (mainly spelled out as subject-verb agreement and verb raising) in negated vs. non-negated utterances. It turns out that in first as well as second language acquisition finiteness is marked earlier in negated than in non-negated utterances<sup>9</sup>. Compare the following two concluding statements:

- L1: “The results show that (...) in German L1 the marking of finiteness is realized significantly more often in negated contexts” (Winkler 2006: 106).
- L2: “Die Verteilung zeigt deutlich, daß die Finitheitsmarkierung durch das Vorhandensein von Negation im Satz begünstigt wird...” (Dietrich and Grommes 1998: 200) [“The distribution clearly indicates that finiteness marking is promoted by the presence of negation in the sentence...”]

Winkler (2006) presents the longitudinal data from the Caroline Corpus summarized in Table 1.

Table 1. Negation and finiteness in L1 acquisition

Age	morpho-syntactic finiteness marking	
	<i>nicht</i> -utterances	other utterances
1;11–2;00	50,0%	7,2%
2;01	72,0%	18,5%
2;02	70,4%	41,8%
2;03 (till 2;03.10)	88,9%	82,8%

As soon as L2 learners start to use finiteness marking in a more systematic way, we note the same pattern as in L1 acquisition.<sup>10</sup> Finiteness is marked more frequently in negated utterances than in non-negated utterances produced at the same time. Table 2 summarizes longitudinal data from a study by Dietrich and Grommes (1998) involving three untutored adult L2 learners of German (L1 = Italian) from the ESF Corpus.

Table 2. Negation and finiteness in L2 acquisition

stage	Learner	morpho-syntactic finiteness marking	
		<i>nicht</i> -utterances	other utterances
stage 1	Angelina	62,5%	19,3%
stage 2	Tino	100%	42%
	Marcello	63,6%	59,3%
stage 3	Tino	100%	87,1%
	Marcello	88,9%	76,6%
stage 4	Marcello	100%	97,7%

These findings are in accordance with the idea that negative particles facilitate the acquisition of finiteness. The situation is different for the particle *auch*. Utterances containing this particle are apparently not developing in the same way when finiteness marking becomes more productive. Compare the following summarizing statements.

- L1: “Even after V2 has become productive, utterances with *auch* often drop the verb, the verb is non-finite, or it does not raise” (Penner et al. 2000, 138).
- L2: “Dans nos données, la finitude était plus souvent marquée dans les énoncés sans particules que dans les énoncés avec particules” (Schimke et al. 2008, 206). [“In our data finiteness was more often marked in utterances without particles than in utterances containing particles”]<sup>11</sup>

The claim by Penner et al. (2000) is based on child utterances like the ones in the following example.

(11) Julia 2;4 (talking about a bee sting)

*de hat ein ein biene reinstic*

there has a a bee pricked

*Julia Florian auch in nase stechen\*

Julia Florian also in nose prick-INF

In (11) an utterance containing no particle but a finite auxiliary is immediately followed by one containing the particle *auch* and the same lexical verb (*reinstechen*, ‘sting’) in non finite form (with infinitival suffix and in end position).

Even when verbs are morphologically finite, *auch* can be a stumbling block for the realization of verb raising. Penner et al. (2000) quote the child utterance in (12) as an example for *auch* occurring with a morphologically finite but non-raised modal verb and conclude “...even after V2 effects are productive in principle, structures with *auch* still behave conservatively” (136).<sup>12</sup>

(12) Benny (2;2)

*ich auch will fee*

I also want coffee

Penner et al. (2000) present quantitative evidence from two longitudinal child language corpora for their claim that utterances containing *auch* actually lag behind with respect to finiteness marking. In the Swiss German Corpus from Juwal up to age 2;4 only 11% of all utterances containing *auch* (total = 80 utterances) are marked for finiteness. Utterances without the particle *auch* show a much higher proportion of finiteness marking: between 1;11 and 2;0 53% of all verbs are inflected, and at 2;4 already 80-90% of all verbal constructions are finite.

On the basis of the data from the Simone Corpus a direct comparison between finiteness marking in utterances containing *auch* as opposed to *nicht* was carried out (Penner et al. 2000). The result is summarized in Table 3.

Table 3. Particles and finiteness in L1 acquisition (Simone Corpus)<sup>13</sup>

Age	morpho-syntactic finiteness marking	
	<i>auch</i> utterances	<i>nicht</i> utterances
1;10 – 2;04	41%	65%

total = 144 utterances

The tendency of *auch* to occur in non-finite utterances has also been observed in L2 data from German. The following examples from Dimroth (2002) illustrate the phenomenon. Learners tend to drop auxiliary verbs when *auch* is present (as in example 13 below), and series of utterances in which the same lexical verb occurs in its finite form without *auch* and in its non finite form when *auch* is present are equally attested (example 14).

- (13) Cevdet (L1 = Turkish, ESF Corpus, MPI)

*die sind runnergefallen*

they have fallen-down

*und der mann auch runtagefallen*

and the man also fallen-down

*die mädchen und der chaplin sind aufgestanden*

the girl and chaplin have gotten-up

*und die polizei auch aufgestanden*

and the police also gotten-up

- (14) L2 learner rg13 (L1 = Russian, Additive-Story Corpus, MPI)

*er sitzt und trinkt*

he sit-3sg and drink-3sg

*auch sitzen und/*

also sit-inf and/

Schimke et al. (2008) confirm this observation on the basis of a larger data base. They tested 49 beginning Turkish learners of L2 German in an experimental study and found a significant difference between finiteness marking in utterances containing *auch* as compared to utterances without particles that were used in a similar context. A summary of their data is given in Table 4.

*Table 4. auch and finiteness in L2 acquisition (cross-sectional data from 49 L2 learners)*

morpho-syntactic finiteness marking	
<i>auch</i> -utterances	other utterances
46%	63%
(31/68)	(47/75)

It seems, therefore, that *auch* is rather a stumbling block than a stepping stone for the acquisition of finiteness. This is confirmed, if we look at more advanced stages of L2 acquisition. When learners have developed to a

stage at which all utterances have a morphologically finite verb that is raised to V2, *nicht* is obligatorily post-finite (Dimroth 2008; Verhagen 2005), but *auch* still frequently occurs in pre-finite position. The utterances in (15) illustrate this point. Even finite verbs that raise over direct objects do not raise over *auch*. This is almost never the case with negation (compare the target-like position of *nicht* in 15b and 15f).

(15) Child/adolescent L2 learners (L1 = Russian; DaZ-AF Corpus, MPI)

- a *ich auch habe es gemacht* (Das 31)  
I also have it done
- b *ich auch wusst(e) das nich(t)* (Das 45)  
I also knew this not
- c *diese junge auch geht in elfte klasse* (Das 55)  
this boy also goes to 11<sup>th</sup> grade
- d *A. auch geht mit für schwimmen* (Nas 05)  
A. also goes with-us for swimming
- e *mama auch hat das* (Nas 08)  
mummy also has this
- f *mama auch weiss nicht, welches haus* (Nas 13)  
mummy also knows not, which house
- g *die auch haben ein haus* (Nas 19)  
they also have a house
- h *D. auch hat angst* (Nas 22)  
D. also is frightened

Schimke et al. (2008) show that this effect is independent of morphological finiteness (see Table 5 below). They compared lexical verbs with and without finite inflection (target-like subject-verb agreement) in production data from 49 Turkish learners and found that finite verbs do not raise significantly more often across *auch* than non-finite verbs.



Table 5. The position of *auch* in relation to morphologically finite and non-finite lexical verbs

	preverbal	postverbal
non-finite verbs	23	2
finite verbs	20	3

In L2 acquisition *auch* is thus clearly a hindrance to verb raising. The evidence presented in this section indicates that L1 and L2 learners show a similar tendency during the acquisition of finiteness. Negated utterances are more advanced than affirmative utterances without particles, whereas utterances containing *auch* are less advanced.

The syntactic as well as the more functional approach discussed in Section 3 assume that the early utterances containing *auch* and *nicht* in L1 and L2 have the same structure. The syntactic approach (Penner et al. 2000) sees both particles as heads of a projection above VP while the functional approach (Jordens and Dimroth 2006) claims that both particles occur in a mediating position between the utterance's topic and the comment that is claimed to hold for that topic.

If however both these particles behave alike syntactically or information structurally and play a pioneering role for the acquisition of finiteness – why do they behave so differently as soon as finiteness comes into play? Jordens and Dimroth (2006) do not address this question at all. Penner et al. (2000: 155) ask why finiteness marking in *auch* utterances lags behind utterances without particles. The answer is, however, more of a description than of an explanation: "...even in the period in which the inflected verb is regularly raised, *auch* constructions are preferably realized as infinitives. This trait can be accounted for if we assume that the underlying (...) configuration with a Focus Particle Phrase governing a VP tends to remain unchanged during early grammar" (Penner et al. 2000: 155).

There is, however, a crucial difference between the way in which *auch* and *nicht* are integrated in these early utterances when a second dimension of information structure is taken into account: the difference between given and new information. Before turning back to *auch* and *nicht* in learner language, let us first have a closer look at this dimension of information structure in the corresponding target language utterances.

## 5. *Nicht* and *auch* in adult native German

In his analysis of sentential negation in German, Klein (2007) distinguishes two main functions of negation. Independently of its position in a sentence, negation reverts the truth value of that sentence. The second function of negation is to indicate where the 'compatibility problem' is situated, i.e. which part of the negated sentence would have to be different in order to turn it into a true affirmative claim. It is only for this second function that the position of the negative particle in the sentence matters, and it matters in so far as the particle must precede the part of the sentence in which the sentence differs from its true counterpart. Consider the following example (from Klein 2007):

- (16) *Maria ist zum ersten mal nicht gekommen.*  
 Mary has for-the first time not come

Negation expresses that the corresponding sentence without the particle (*Maria ist zum ersten mal gekommen*) is false and the position of *nicht* indicates that the difference between (16) and a corresponding true sentence is to be found in the elements following negation, thus here *gekommen*, since there is only this one element. So in (16) it is undisputed that Mary did something for the first time. All that is negated is that the property that Mary had for the first time in this particular situation is 'coming'. If 'coming' were replaced by some predicative information different from it, the result could be a true statement.

Unfortunately, integration is not always as unequivocal as in example (16) above. Two additional problems make this simple analysis more complicated. The first one has to do with the particles being placed in a position where they precede more than just one constituent. Klein (2007) suggests that, depending on the distribution of new and given information in the part of the utterance following *nicht*, it is possible that only a set of the constituents in the particle's scope yield a compatibility problem with the sentence's positive counterpart. In the sentence in (17) it is unclear whether what is incompatible (and therefore felt to be negated) is the temporal adverbial *zum ersten mal*, or the property *gekommen*, or both.

- (17) *Maria ist nicht zum ersten mal gekommen.*  
 Mary has not for-the first time come

It is possible that only a set of the constituents following the particle expresses “different and incompatible” information. When uttered in a context in which it is clear that Mary came, the verb *kommen* is expressing given information and is therefore deaccented. This yields a reading in which it is not negated that Maria came, but only that this happened for the first time. When uttered in a context in which it is established that Mary, in the situation talked about, did something for the first time, then this is given information and deaccented. As a consequence what is “incompatible” and negated is only the property of coming.

The second complication does not have to do with the constituents following *nicht*, but with the ones preceding it. According to Klein (2007) the position of *nicht* helps to partition the sentence into two parts. In the part following the particle, the sentence is (at least partly, see above) incompatible with an affirmative counterpart, whereas the part preceding the particle is fully compatible. In other words, what is preceding the particle is not affected by negation. This non-negated part is often the topic of the utterance, as in the following example:

- (18) A:           *Was macht denn Maria?*  
                   What about Mary?  
       B:           *Keine Ahnung. Sie war nicht hier.*  
                   No clue. She was not here.

This little dialog is about the topic *Maria*. The pronoun referring to this topic entity precedes the particle *nicht* in B’s utterance and is unaffected by negation. I shall call this case the ‘neutral topic case’. Things can be more complicated, however. Consider the B-utterance in (19), which involves a special intonation pattern (raising accent (/) on *Hier*, falling accent (\) on *nicht*).<sup>14</sup>

- (19) A:           *Was macht denn Maria?*  
                   What about Mary?  
       B:           *Keine Ahnung. /HIER war sie NICHT\.*  
                   No clue. Here was she not.

In (19), speaker B makes a claim about a place, namely the one referred to by *Hier* and expresses that this was not the place where Mary was. In this case, the topic of the assertion is at the same time the negated element (i.e. the one where the sentence is not compatible with its positive counterpart) and thus in the scope of the negation. Such a topic is often felt to be in

contrast with other possible topics. I shall therefore call this the ‘contrastive topic case’. In this case, the information with respect to which the negated sentence differs from an affirmative counterpart is used as the topic of the assertion. The part following the negation particle contains only maintained information. This is deaccented and the particle itself carries the utterance’s main (falling) accent.

To sum up: Negation expresses that the sentence excludes the affirmative variant of the same sentence. The position of negation indicates where exactly the incompatibility problem is situated. In the ‘neutral topic case’, the locus of the incompatibility is situated in the part following the particle. In the ‘contrastive topic case’, the incompatible information has been selected as the topic of the utterance. In this case, the scope of assertion differs from the scope of the negative particle.

A similar analysis can be applied to the additive particle *auch*. In this case no truth value reversal is involved. The particle expresses that instead of being incompatible, the sentence - albeit different - is indeed compatible with relevant statements in the context. As with *nicht*, position helps identify the locus of such differences, but instead of indicating incompatibility, *auch* expresses that the statements do not exclude each other but are (or should become) both true.

Crucially, we are again dealing with two different types of integration, the ‘neutral topic case’ and the ‘contrastive topic case’. Consider the following example:

(20) *Maria kommt auch heute.*

Mary comes also today.

When (20) occurs in the context of an assertion that differs from the current one in the information following the particle (i.e. *heute* ‘today’), what is signalled is that this is where the sentence could in principle be incompatible with something that was established earlier, but is not. Both claims are meant to be both true, so the affected information in the scope of the particle is not negated but instead added to some already established information (e.g. ‘yesterday’). Here again, such an affected element can be topicalised. (21) exemplifies the ‘contrastive topic case’:

(21) */HEUTE kommt Maria AUCH.*

Today comes Mary also.

In this case the sentence (given an appropriate intonation contour) expresses that *kommen* and *Maria* are given information whereas its topic *Heute* is the part of the information that is different from, but compatible with what was established so far.

The idea that the affected element is used as the utterance's topic becomes particularly clear in connected discourse. The following French example shows that the element that is semantically affected by the particle (*le garçon*) and the focus expression, answering the interviewer's question (*dans une classe spéciale*) are clearly dissociated (from Benazzo 2008).

(22) Learner Berta (L1 = Spanish, ESF Corpus, MPI)

Int: *ah, elle est dans une classe spéciale*

ah, she is in a special class

B: *oui, la deux, marcela \*y\* ximena*

yes, both, marcela and ximena

Int: *hmhm dans une classe pour les non francophones (...)*

hmhm in a special class for non francophones (...)

*mais le garçon, il est où?*

but the boy, where is he?

B: *le garçon (...) /ele/ [en \*clase\* spéciale]<sub>F</sub> aussi*

the boy he-is in a special class as well.

If this analysis is correct there are, for both particles, two different integration possibilities<sup>15</sup> in the adult native language, resulting in target sentences with similar word order but different information structure and intonation contour (the 'neutral topic case' as opposed to the 'contrastive topic case'). As will be shown in the following, however, one is more likely to occur with *nicht*, the other with *auch*.

In the 'neutral topic case' we are dealing with comments that are marked as being compatible (*auch*) or incompatible (*nicht*) with other comments about the same topic. In many discourse types (e.g. narrations) different comments can be asserted for a given topic without explicitly marking the compatibility of the resulting sentences. In (23a), the particle *auch* (affected information in square brackets) does not make a difference and can easily be left out (23b).

(23) a. *Maria hat Pizza gegessen. Dann hat sie auch [ein Bier getrunken].*

Mary ate a pizza. Then she also drank a beer.

- b. *Maria hat Pizza gegessen. Dann hat sie ein Bier getrunken.*  
Mary ate a pizza. Then she drank a beer.

This is different in the 'contrastive topic case'. Two different topics occurring with the same predicate are easily interpreted as incompatible.

- (24) *Gestern hat Maria Pizza gegessen. Heute hat sie Pizza gegessen.*  
Yesterday Mary ate Pizza. Today she ate Pizza.

If the particle *auch* is added (as in 25 below), it signals that there is no incompatibility. The given comment is valid for both topics. The second claim is thus not a correction to the first one, but equally true. In this case, *auch* is accented and the constituents following it express maintained information and are deaccented.

- (25) *Gestern hat Maria Pizza gegessen.*  
*[Heute] hat sie auch Pizza gegessen.*  
Yesterday Mary ate Pizza.  
Today she ate Pizza, too.

Different comments can be made about the same topic without raising suspicion of incompatibility. Different topics for which the same kind of comment is made do more easily evoke such concerns. In these contexts, *auch* marks that both sentences are indeed compatible. This is why the particle has a bias for occurring in the constellation labelled here 'contrastive topic case'. The 'neutral topic case', on the other hand, is the default case for *nicht* (as reflected in the term 'sentence negation' that is used for *nicht* in the 'neutral topic case').

To sum up: Both integration types are possible and occur with both particles. Due to their meaning and the way they interact with the flow of information in discourse, however, the particle *auch* is more likely to occur in the 'contrastive topic case' in which the utterance's topic comes from within the scope of the particle, whereas *nicht* is frequently used in the 'neutral topic case' in which it has only scope over the elements following it.

It is possible, that the integration of *auch* and *nicht* into early non-finite learner utterances differs along similar lines. The unequal behaviour of *auch* and *nicht* during the acquisition of finiteness might have to do with the fact the early utterances containing them - albeit looking similar at the

surface - have different information structures and that making these initial structures finite involves operations of different complexity.

## 6. Same vs. different information in particle containing learner utterances

Klein (2006) demonstrates that it is the function of finiteness to express that a non-finite initial structure is turned into an assertion that is confined to a specific topic situation. What happens if such a non-finite initial structure contains a particle like *auch* and *nicht* before the application of the assertion operator turns it into a finite sentence may depend on the way in which the particle is integrated in the initial structures.

With respect to the learner language, the question arises as to whether *auch* and *nicht* are biased in a way similar to that described for the adult native language. If so, it might be possible to account for the different behaviour that utterances containing *auch* as opposed to *nicht* show during the acquisition of finiteness.

### 6.1. The information structure of early learner utterances containing *auch*

Let us reconsider the child language examples containing *auch* from Section 2, repeated here as (26) and (27). Particle utterances of this type have given rise to Powers' (2001) 'flipping pivot' analysis, since *auch* can either precede (26) or follow (27) a content word. A different picture emerges when the distribution of maintained vs. 'different' information is taken into account. In all cases it is the 'different' information (marked by square brackets in the examples below) that is directly affected by the particle's additive meaning. Compatibility is marked between this 'different' information and other elements for which the maintained information has been claimed to be valid. These other elements can either be mentioned in an earlier utterance or be present in the physical context (as in 26 and 27).

(26) Julia, 1;07

J. puts blocks in a box	<i>darein</i> there-in
-------------------------	---------------------------

picking up another block	<i>[<math>\emptyset</math>=other block] auch darein</i> also there-in
--------------------------	--

(27) Julia, 1;11

J. puts toys in a box

*einräumen*

put-in

placing goat in the box

[*ziege*] *auch*

goat also

In these utterances, the ‘different but compatible’ information is at the same time the topic of the relevant utterances, i.e. the part of the information about which the child makes a claim. We are thus dealing with the ‘contrastive topic case’. What does or should happen to this topic is specified in the comment part of the utterance. In the context a similar comment holds for a different topic. In this integration type the comment thus contains maintained information and can therefore be left implicit (as in 27).

Under an analysis that takes the distribution of different vs. given information into account, a ‘flipping pivot’ problem does not arise. In typical early learner utterances such as (26) and (27) *auch* always follows the ‘different’ element. Under the condition that it is present in the physical context (as in 26) reference to this new topic can be left implicit.

The way the maintained predicative information applies to the topic depends on the context. It can be a statement about a ‘different’ topic like in (27) or have modal/future meaning, expressing that the maintained predicative information will or should become true for a ‘different’ topic, like in (26).

In adult language the particle *auch*, when integrated in this kind of information structure, must carry the utterance’s main accent. Nederstigt (2003) finds that stressed *auch* in exactly this kind of information structure occurs in L1 acquisition much earlier than unstressed *auch*.<sup>16</sup>

In Section 5 it was shown that in this integration type (the ‘contrastive topic case’) the items referring to the ‘different’ information have been topicalized and appear to the left of the particle while still behaving as if they were in its scope. One possibility of accounting for this surface word order is by way of movement of the relevant constituent. Penner et al. (2000) claim that a similar kind of movement (scrambling) already holds for the non-finite utterances occurring in early child language. A child utterance like (27) above would thus be analysed as the result of raising the subject NP *ziege* (goat) across the particle to the specifier position of the focus particle phrase. This happens for purely syntactic, not for semantic reasons. The same kind of movement is assumed to apply to negation in the ‘neutral topic case’. Recall, however, that the particle *nicht* precedes the



‘different’ information in these cases such that for reasons of scope, no such movement is required (in neither child nor adult language). As we have seen, this purely syntactic account that treats both particles in a parallel way fails to predict the observed differences in development.

The alternative account by Jordens and Dimroth (2006) is based on the observation that word order in early learner utterances in L1 or L2 is mainly based on information structure. The topic tends to occur in initial position independently of the presence of scope particles or other structure building elements across which it could have been scrambled. Given that no movement is assumed to be involved in utterances without particles, the same information structure based analysis is applied to utterances containing these or other “lexical linking words”.

These linking words are seen as lexical, rather than syntactic precursors of finiteness, because they specify the way in which the information in the comment of the utterance relies to its topic. As we have seen above, however, this is often the case for negation, but not for the early *auch* utterances which typically belong to the ‘contrastive topic’ type, and this is why the account equally fails to predict any differences in the further development.

The particle *auch* is not used to express in which way a comment applies to a topic, it rather functions like an anaphor pointing back to an assertion involving a comment/predicate of the same type. Early uses of *auch* are in fact very much related to the anaphoric use of negation and assertion. Compare the following example. Instead of using *yes* or *no* in isolation as a sentence equivalent, adult L2 learners are able to reuse parts of their native interlocutors’ speech as the topic of their own utterances. They combine these topics with answer particles in order to indicate if the given predicate (here: learner repairing vehicles) does or does not apply to them.<sup>17</sup>

(28) Learner Marcello (L1 = Italian; ESF-Corpus, MPI; from Becker 2005)

Int: *reparieren sie selbst fahrrad oder auto?*

Do you yourself repair bicycle or car?

Mo: *auto nein, fahrrad ja*

car no, bicycle yes

The particle *auch* can be used in a very similar way. In (29), part of the comment from the interviewer's utterance is taken up by the learner as the topic of his utterance, followed by the particle. The maintained information (grandpa speaking languages) is left implicit.

(29) Learner Antek (L1 = Polish, P-MoLL Corpus, MPI)

Int: *hat dein grossvater polnisch gesprochen, oder nur deutsch?*  
 Did your grandpa speak Polish or only German?

An: *polnisch auch*  
 Polish as well.

Similar examples also occur in child language. Compare the following discourse, in which mother and child discuss to whom the maintained comment information (being allowed to sing a special song) applies.

(30) Caroline 2;00 (from Nesterstigt 2003)

Mother: *nur die Susanne darf dis singen?*  
 only Susanne may sing this?

Child: *ja*  
 yes

Mother: *ich nicht?*  
 not me?

Child: *mami auch*  
 mommy too.

Even when a (non-finite) verb is following, it typically encodes given information and *auch* functions as an anaphor of an earlier assertion.

(31) Caroline, 2;02 (from Nesterstigt 2003)

*Mami auch helfen*  
 Mummy also help  
 'Mummy has to help, too'

What has to be learned? Two major steps are involved when this kind of utterance is turned into a finite sentence during further development. First, learners have to figure out that they have to mark the new assertion in addition to the one that *auch* anaphorically points to.<sup>18</sup> A finite verb must be inserted in second position in order to express that an assertion is made about the topic. The topic is the topic of the finite assertion, but at the same time it is the information marked as 'different but compatible' by *auch*.

The second step consists of splitting up the early fixed cluster of 'contrastive topic + anaphoric assertion' in order to turn this into a finite sentence, where the particle is situated in a position following the finite verb. In such a finite sentence, assertion does not have the same scope as the particle.

The frequency of occurrence of 'topic + *auch*' in the early stages makes it hard to learn that the particle is not always adjacent to the topic. In L2, but sometimes also in L1, finite verbs, even auxiliaries, do not move to V2 at a time when they are systematically raised over direct objects (see the adjacency cases discussed in relation to examples (12) and (15) above). The following example (from Penner et al. 2000) illustrates the learner's difficulty:

- (32) Florian 2;8 (referring to himself as *Florian* or *Lo*. Looking at a picture book. Adult interlocutor asking what the policeman is doing)
- steine holt* \
- stones gets
- Lo auch steine* \
- Lo also stones
- Lo hat auch steine* \
- Lo has also stones
- Lo auch-.. hat auch*—
- Lo also- .. has also—
- Florian auch steine holt* \
- Florian also stones gets

Given the difficulties resulting from the dominant information structure in utterances containing *auch*, learners frequently resort to the non-finite utterance organization employed at earlier stages, even at a phase in development in which other utterances are productively marked for finiteness (compare also Winkler, this volume).

The particle *auch* can in principle equally occur in the 'neutral topic case' (compare example 23a, above), but it does not seem to do so in early first and second language acquisition. The reason might again be related to information structure. Whenever an utterance's comment part consists of new ('different') information, the fact that such a comment holds in addition to earlier comments that might have been made about the same topic does not have to be marked explicitly – it follows from the general rules of referential movement in discourse (Klein and von Stutterheim 1987), at least as long as relatively simple learner discourse is concerned.

6.2. The information structure of early learner utterances containing *nicht*

The negation particle *nicht* can occur in the same information structure, i.e. the 'contrastive topic case', and at least in early L2 acquisition it does so quite often. As in the case of *auch*, there seems to be a smooth transition from anaphoric/holistic use. Instead of answering with an isolated negation particle (*nein*, or *nicht*), the learners pick up part of the native speaker's utterance and use it as a topic to be negated (see Andorno 2008). Compare the following examples.

## (33) Learner Marcello (L1 = Italian; ESF-Corpus, MPI; from Becker 2005)

Int: *haben sie eine krankensversicherung jetzt?*  
do you have an insurance now?

Mo: *jetzt nein.*  
now not

## (34) Learner Angelina (L1 = Italian; ESF-Corpus, MPI; Dietrich and Grommes 1998)

Int: *und haben sie kein auto?*  
and don't you have a car?

An: *mein mann habe de auto. ich niks*  
my husband have the car. I not.

But for both, L1 and L2 the other integration type is also attested early. Here are two examples from the non-finite stage in L1 and L2 acquisition.

## (35) Julka, 2;4 (Julka Corpus, MPI) (looking for something)

*Julchi nich [findes]*  
Julchen not find-it

## (36) Learner Janka (L1 = Polish; P-MoLL Corpus, MPI)

*polizei nicht [guck-mal]*  
police not look

In these examples, *nicht* is followed by information in which the current utterance differs from its positive counterpart. The topic is maintained and not negated, i.e. we are dealing with the 'neutral topic case'. Making these utterances finite is less complicated, since the topic of the assertion is at the same time the part that is unaffected by *nicht*. The scope of both operators, assertion and negation goes to the right, and no dissociation between

the information structure underlying assertion and negation is required. This might indeed be the reason why finiteness marking in this utterance type, and as a consequence, with negation overall,<sup>19</sup> is acquired much faster than in the prototypical *auch* case.

But then why is finiteness with negation even more advanced than in utterances that do not contain particles at all? Researchers who have observed the fast development of negated utterances in their L1 or L2 learner data, have made a couple of proposals.

Dietrich and Grommes (1998: 199) assume that the differentiation of negation words (like *nein*, *nicht*, *nichts*, *kein*) promotes the construction of functional categories in negated utterances. Jordens (2002: 725f.) argues that at the initial stage the learner language has a set of unanalysed modal phrases - both positive and negative - in operator position, i.e. lexical elements that semantically specify in which way an utterance's comment part does or should hold for the topic. He assumes that the acquisition of finiteness profits from the learners having to dissociate these forms as belonging to different categories.

Whatever the additional helping mechanisms are – it is the property of 'having scope over the comment' that negation shares with the newly acquired assertion operator (finiteness) and apparently this makes finiteness marking easier. This is how negation is – at least predominantly – integrated in verb-containing learner utterances at the stage preceding the acquisition of finiteness. Early utterances containing *auch*, on the other hand, do not typically belong to this advantageous integration type. The following child learner utterance illustrates utterance structure at a stage in development at which *nicht* oscillates between its former non-finite position and the target like post-finite one, whereas there is only one position for the particle *auch* – adjacent to the topic constituent.

- (37) Simone 2;0 (from Clahsen 1988)  
*das auch nich schmeckt nich*  
 this also not be-tasty-3sg not

The particle *nicht* affects the predicate (*schmeckt*) and expresses that this is where the utterance is incompatible with a true counterpart. The particle *auch* affects the topic (*das*) and expresses that this is where the utterance differs from what was established so far (something else isn't tasty). This is also where (37) could be interpreted as incompatible, if *auch* didn't mark compatibility.

## 7. Summary and Discussion

The particle *auch* mainly occurs in the 'contrastive topic case'. In utterances with this information structure, the acquisition of finiteness is delayed because *auch* functions as an anaphor of an earlier assertion in the preceding non-finite stage of development. Learners take time to figure out that they have to mark the new assertion in addition to the one that *auch* anaphorically points to, and that they have to split up and reanalyse the fixed cluster of 'contrastive topic + anaphoric assertion' in order to turn this into a finite sentence. In such a finite sentence, assertion does not have the same scope as the particle.

This problem does not occur with particles like *nicht* which are mainly integrated in the 'neutral topic case'. In this case, the 'different' information is situated in the comment part of the sentence, i.e. following the negator. Assertion and negation have the same scope. The acquisition of negation might be pushed forward by the learners' need to analyse these operators in terms of a functional element carrying the properties of assertion and a lexical negative element which has scope over the information expressed in the predicate.

Early verb-containing learner utterances, be it from L1 or L2, typically show the same surface word order when they contain one of these particles: Topic - Particle - Predicate, often corresponding to S - Particle - V<sub>(nonfin)</sub>. In the majority of cases, however, utterances containing *auch* and utterances containing negation have different information structures, and different parts of the information is affected by the particle's negative or additive meaning (square brackets in Figure 4).

[Topic] - *auch* - Predicate (= 'contrastive topic case')

Topic - *nicht*- [Predicate] (= 'neutral topic case')

Figure 4. Dominant scope of *auch* and *nicht* in early learner utterances

As we have seen in Section 5, it is also the case in adult native German that *auch* often has scope over a constituent that is at the same time used as the utterance's topic. If we do not want to abandon the idea that the particles have scope over the elements following them, we have to assume that an additional movement has taken place, and that this movement is scope-conservative because the relevant element is situated to the left of negation in surface structure, but behaves as if it was to the right.

This assumption makes the analysis more complicated, because it means that the particle must precede the information in its scope (i.e. the information that has to be marked as 'different but compatible') on the level of some underlying initial structure. This, however, implies that some of the particle's surface positions can in principle be derived from two different initial structures. Consider a sentence like *Maria ist auch gekommen* (Mary has also come) and the two context dependent integration variants given in (38) and (39)<sup>20</sup>.

(38) 'Neutral topic case':

*Maria hat angerufen. Maria ist auch [gekommen].*

Mary has called. Mary has also come.

corresponding initial structure: *Maria auch [kommen]*

Mary also [come]

(39) 'Contrastive topic case':

*Peter ist dagewesen. [Maria] ist auch gekommen.*

Peter was there. Mary has also come.

corresponding initial structure: *auch [Maria kommen]*

also [Mary come]

In the initial structure corresponding to (38) the particle is integrated into a position similar to its surface position and has scope over the following VP that contains the information marked as 'different but compatible'. In order to arrive at the surface order from the corresponding initial structure, only a finite auxiliary has to be inserted in V2.

Example (39) corresponds to the 'contrastive topic case'. The particle *auch* has wide scope over the entire sentence including *Maria*. But it is possible that (39) occurs in a context in which *Maria* is the only piece of information that is different from some preceding assertion. If in addition, *Maria* is chosen as the topic, the subject NP has to be moved to initial position.

Two additional arguments speak in favour of the idea that *auch* is often integrated in a higher position than *nicht*. First, the order of both particles when they occur in isolation in an elliptical utterance like (40) vs. (41), and second the fact that *auch*, but not *nicht*, can occupy the position preceding the finite verb (*Vorfeld*) alone (42).

(40) A: *Johannes war also nicht da. Und Maria?*  
So John was not there. And Mary?

B: *Auch nicht.*  
Also not.

(41) A: *Johannes war also auch da. Und Maria?*  
So John was also there. And Mary?

B: *\*Nicht auch.*  
not also.

(42) *Auch ist Maria zum ersten mal gekommen.*

Also has Mary for-the first time come.

*\*Nicht ist Maria zum ersten mal gekommen.*

Klein (2007) points out that the position of negation indicates where the negated sentence is different from and incompatible with its affirmative counterpart. Very often, however, such an affirmative counterpart (the ‘other’ sentence, as it is called in Klein (2007)) is of no real contextual relevance. It is very natural to make a negated statement (Mary did not come) in the absence of an affirmative counterpart (specifying what Mary did instead) in the context. The particle *auch* differs from negation in that it expresses compatibility with another, partly different utterance. Signaling compatibility only makes sense if there is potential incompatibility, and this mainly occurs if the ‘other’ statement can be found in the preceding context.<sup>21</sup> This might reinforce the learners’ interpretation of *auch* as an anaphoric assertion operator.

## Notes

1. I wish to thank Sandra Benazzo, Peter Jordens, Wolfgang Klein, Leah Roberts, Sarah Schimke, and Josje Verhagen for helpful comments on an earlier version of this paper.
2. According to a different view such elements are there but not always visible on the surface (Prévost and White 2000).
3. See example (4) below.
4. For a definition, see Perdue 1996.
5. See the contributions to the volume “Semi-lexical Categories. The Function of Content Words and the Content of Function Words” (Corver and van Riemsdijk (eds.) 2001).



6. Examples (2), (3), and (5) from Penner et al. 2000; (4) from Wode 1977.
7. Example (6) from Nesterstigt 2003; (7) from Penner et al. 2000.
8. The L2 data used in this paper can be found under <http://corpus1.mpi.nl>. If not indicated otherwise, the examples from L1 are quoted from other papers.
9. This is in contrast to Bloom (1991: 146ff.) who found that negated L1 utterances (in English) were generally shorter and less complex than the corresponding affirmative utterances.
10. At first sight the developmental pattern looks a bit more confusing in L2. In very early varieties negation and finiteness markers tend to occur in complementary distribution (Becker 2005; Giuliano 2003). This looks like counter evidence to the claim that negative utterances are more advanced than affirmative ones with respect to finiteness marking, and is illustrated in the example from the Polish Lerner Janka (P-MoLL Corpus, MPI) below:
 

leute in kudamm spazieren  
*people in kudamm go-for-a-walk*  
*das is gut*  
 that is good  
*und leute **nich** zuhause*  
 and people not at-home'  
*und mädchen **nich** kochen*  
 and girls not cook  
 aber \*teatr\*, kino  
 but theatre, cinema  
*das is schön*  
 that is nice

The question arises, however, as to whether one can really say that finiteness is emerging at that stage in development, given that the only finiteness marker attested here is the copula in rather formulaic expressions of the form '*das is...*' ('that is...') and lexical verbs are absent or only show up in non-finite forms.
11. This statement summarizes results for the particles auch and wieder (again) and their Dutch counterparts, but Schimke et al. (2008) show that there also is a significant difference in finiteness marking for each particle alone.
12. Compare similar examples in Winkler (this volume).
13. While Penner et al. (2000, 157) acknowledge that "...auch-utterances tend to occur more often as non-finite than nicht-utterances", it is unclear why this observation does not seem to challenge their overall conclusion that "utterances containing nicht are equally conservative" (136).
14. See Bühring 1995, and Jacobs 1997.
15. In fact many more, but this doesn't matter here.
16. Berger et al. (2007) show in an eye tracking experiment that young children understand the difference between stressed and unstressed auch at age four.

- Participants reacted to utterances containing stressed *auch* by looking in the visual display for alternatives to the utterance's topic entity.
17. See Andorno 2008 for a similar analysis of L2 Italian.
  18. Compare Winkler (this volume) who assumes that the acquisition of the '*auch* + [NP]' structure (e.g. *auch* Mama) helps children to understand that *auch* does not express an assertion. Under this assumption it remains unclear, however, why the realization of finiteness in utterances concerning *auch* is slower than in utterances without this particle.
  19. There is a caveat insofar as most of the acquisition studies (at least in L2) have deliberately focused on the analysis of "sentence negation". An elicitation study focusing on negation in the 'contrastive topic case' might reveal that there is no head start for finiteness in this information structure.
  20. As stated before, both integration types are equally possible with *nicht*, but the 'neutral topic case' (also called "sentence negation") is probably the default for negation.
  21. There are clear exceptions, in which the presence of *auch* invokes a search for a similar statement that has not been made in the context. (A: *Liebst du mich auch?* B: *ja, dich auch.*)

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# Does finiteness mark assertion? A picture selection study with native speakers and adult learners of German<sup>1</sup>

*Sarah Schimke*

## 1. Introduction

This study is concerned with the function of finiteness in declarative main clauses in native speakers and beginning adult learners of German. Beginning learners often produce utterances which lack finiteness marking, as in (1), which was produced by a learner in the present study:

- (1) *herr grün noch schlafen*  
Mr. green still sleep-INF

This utterance is non-finite both morphologically and syntactically: the verb carries the infinitival suffix *-en* and is not marked for agreement or tense. Moreover, it appears in utterance-final position, which corresponds to the target-like placement of non-finite verbs. The predominance of non-finite utterances in the production of young children and beginning adult learners is a well-known phenomenon: Park (1971), Clahsen (1982) and Mills (1985) report their use in children acquiring German as a first language and Perdue (1993) in adult learners of German, and other studies confirm this observation (e.g. Behrens 1993; Clahsen and Muysken 1986; Meisel 1990; Vainikka and Young-Scholten 1996). All of these studies report that learners initially produce mostly non-finite utterances. They then acquire the present tense agreement paradigm and start marking the verb for agreement with the subject. Verb forms marked for agreement appear in target-like second position in the sentence. An example of such a target-like finite utterance is (2), which was produced by the same learner who produced (1). The verb carries the *-t* suffix marking agreement with the third person singular subject:

- (2) *herr grün geht ins bett*  
Mr. green go-FIN to bed

Utterances of type (1) and (2) co-occur in learner language for an extended period of development, although only utterance (2) corresponds to the target-language norm.

The co-occurrence of finite and non-finite forms has mainly been investigated from a formal perspective, as for example by Poeppel and Wexler (1993) in children and by Prevost and White (2000) in adult learners of German.<sup>2</sup> The aim of these studies was to investigate whether optional finiteness marking means that learners' syntactic knowledge differs from that of adult native speakers. In contrast, a study by Dimroth et al. (2003) takes a functional perspective. The aim of this study was to investigate whether the knowledge concerning the function (rather than only the form) of finiteness is different in native speakers and learners. Whereas studies taking a formal perspective have often come to the conclusion that the syntactic knowledge in learners is target-like (Poeppel and Wexler 1993; Prévost and White 2000, but see Meisel 1997 for a different view for second language learners), Dimroth et al. (2003) claim that the knowledge about the function of finiteness is not target-like in early phases of acquisition. According to them, finite forms are used for marking assertion by native speakers and advanced learners, whereas beginning learners have not yet discovered this function of finiteness and mark assertion with other means.<sup>3</sup> This entails that learners do not discriminate between the functioning of finite and non-finite forms in beginning stages of acquisition.

The aim of the present study is to test the claims made by Dimroth et al. (2003) about the function of finiteness in comprehension data from learners and native speakers. In a first step, the notion of assertion as used in the model by Dimroth et al. (2003) is summarized. The model is then presented in more detail, and it is motivated why it should be tested against comprehension data. Data from a picture selection experiment are presented, and it is concluded that they support the model proposed by Dimroth et al. (2003). Whereas (1) and (2) differ in assertion marking for native speakers and, to a lesser degree, for advanced learners, this is not yet the case for beginning learners. More precisely, the analysis reveals that beginning learners make a difference between the two utterance types, but that it does not yet correspond to the target-language distinction.

### 1.1. Finiteness and assertion in native German

The relation between assertion and finiteness has been developed in detail by Lasser (1997), who draws on work by Klein (1994; 1998). Klein argues

that a finite utterance contains an abstract assertion operator that links the lexical meaning of the utterance to the time span the utterance is about, termed 'topic time'. Linking thereby means claiming that the state of affairs expressed in the utterance holds at the topic time of the utterance. According to this analysis, utterance (2) expresses by virtue of its morphosyntactic form that it is true at a particular point in time that Mr. Green goes to bed.<sup>4</sup>

This does not mean that utterances that are not marked for finiteness could not be interpreted as assertions. Consider the example given in (3):

(3) *die nudeln noch ein bisschen zudecken*

The pasta still a little cover-INF

'I am (in the process of) covering the pasta for a short while'

(Lasser 1997: 50)

As indicated in the paraphrase, the speaker is describing his or her activity while performing it. The listener can conclude from the discourse context that the descriptive content of the utterance holds at the moment of uttering it, and will probably take the utterance as a statement of this fact, thus as an assertion. Utterances can thus be used and understood as assertions even if there is no formal marking of this, at least as long as the assertion is uncontroversial in the given discourse context, as is the case in example (3).

In sum, Lasser proposes that finite and non-finite utterances can both be used to make assertions, but that they differ in whether the assertion is marked by the form of the utterance. Utterance (2) is marked for assertion, whereas utterances (1) and (3) are not specified in this respect.

## 1.2. Finiteness and assertion in learner language

Dimroth et al. (2003) present a stage-model of assertion marking in the acquisition of Germanic languages. According to this model, assertion is marked with other means than morphosyntactic finiteness in early learner language. This idea is based on the observation that utterances of beginning learners follow a strict word order: the first part of the utterance specifies the topic, understood as the entity, time or place for which a certain state of affairs is claimed to hold. This state of affairs is expressed in the second part of the utterance, the 'predicate'. Dimroth et al. (2003) claim that this utterance structure expresses, by default, that the information expressed in the predicate holds true for the topic at the topic time of the utterance. In addition, the relation between the topic and the predicate can



be further specified by elements appearing between the topic and the predicate, in a so-called 'linking position'. The following examples illustrate that the linking position can be left empty (4) or filled with modal verbs (5). Other possible linking elements are the negator, particles and certain adverbials.

Topic	Linking	Predicate
(4) <i>chaplin</i> chaplin	∅	<i>gehen strasse</i> go-INF street
(5) <i>kind</i> child (Dimroth et al. 2003: 79-83)	<i>will</i> want-FIN	<i>telefonieren</i> telephone-INF

Dimroth et al. (2003) consider the described stage a lexical stage of assertion marking. They assume that the elements in the linking slot are used as assertion markers because their meaning (as opposed to their form) specifies the relation between the topic and the predicate. Learners then have to learn that assertion is expressed by morpho-syntactic means in the target-language. This requires a reanalysis of the lexically-based system. Following Jordens (2002), Dimroth et al. (2003) assume that this reanalysis is triggered by the acquisition of the auxiliary system, that is, structures which contain the auxiliaries *haben* or *sein*, as in (6):

- (6) *der charlie hat auch gemacht*  
the charlie have-FIN also make-PP  
(Dimroth et al. 2003: 87)

The auxiliaries *haben* and *sein* are used to express completed aspect and reference to the past. The auxiliary that appears in the linking slot therefore differs from the verbal linking elements acquired earlier in that it does not express a modal, but an aspectual or temporal meaning. According to Jordens (2002) and Dimroth et al. (2003), this changes the analysis of the linking slot from a lexical to a grammatical category, thereby leading to a shift in the way assertion is marked. The authors assume that learners associate assertion with finiteness from this point on, first with respect to auxiliaries, and subsequently also with respect to lexical verbs. It can be concluded that as long as the association between finiteness and assertion marking has not been understood by learners, they should not interpret

finite and non-finite utterances differently. There might be reasons why certain verbs tend to appear in a non-finite and others in a finite form in early learner language, but the presence or absence of finiteness should not change the meaning of the utterance at this stage of acquisition.

### 1.3. Aim of the present study

The model presented by Dimroth et al. (2003) explains the optional finiteness marking in early learner language and also suggests a trigger for the change to a more native-like use of finiteness, namely the acquisition of the auxiliary-system.

However, as the model is based on production data only, it necessarily relies on researchers attributing functions to certain elements in learners' and native speakers' utterances. It has not been tested yet whether the assertion marking function of finiteness can also be evidenced in the way in which language learners and native speakers interpret finite and non-finite utterances. If native speakers and advanced learners, but not beginning learners, can be shown to associate finiteness with assertion, this would support the model proposed by Dimroth et al. (2003). If native speakers do not interpret finite and non-finite utterances as differing in assertion, this would cast doubt on the relevance of this function for the acquisition process. The present study therefore aims at testing the assumptions made by Dimroth et al. (2003) about the function of finiteness in comprehension data from native speakers and learners. In comprehension, it is possible to compare the understanding of finite utterances with the understanding of otherwise identical utterances not marked for finiteness. Moreover, in an experimental setting, these utterances can be presented such that the function of finiteness is not inferrable from the context. Differences in finiteness marking should lead to differences in the interpretation of the utterances by native speakers and advanced learners. More precisely, if finiteness is indeed the formal marker of assertion for native speakers of German and for learners who have acquired the use of the auxiliary system, prediction (1) should be borne out:

- (1) If the function of assertion can not be inferred from the discourse context, native speakers and learners using auxiliaries should interpret a finite utterance more often as an assertion than a non-finite one.

If moreover finiteness is indeed not yet a marker of assertion for learners of German who have not yet acquired auxiliaries, prediction (2) should be borne out:

(2) In learners who do not yet use auxiliaries, there should be no difference in the interpretation of finite and non-finite utterances with respect to assertion in any discourse context.

In the present study, native speakers and learners were presented with finite and non-finite utterances to test the above-given predictions. The interpretation of these utterances was assessed by means of a picture selection task (see Gerken and Shady 1996 for an overview of this task). In the following paragraph, the logic of the task as used in the present experiment is discussed in detail.

#### 1.4. Logic of the task

In the following, relevant methodological decisions in the design of the task will be discussed in turn. This concerns the assumed interpretation of non-finite utterances, the context in which they were presented in the experiment, and the design of the pictures from which participants could choose in order to indicate their interpretations.

##### *1.4.1. The interpretation of non-finite utterances*

According to the analysis of finiteness summarized above, a non-finite utterance merely refers to a certain state of affairs, without asserting that this state of affairs is true for any particular topic time. As has been shown above when discussing example (3), if speakers choose to leave out formal markings of finiteness, the asserting function can usually be inferred from the discourse context. However, if the discourse context does not encourage such an inference, what would then be the interpretation of an utterance in which the lexical content of a sentence is expressed, but not marked as being asserted? In Standard German, constructions of this type are not infrequent (Fries 1987). Typically, they are used to express doubt or incredulity with respect to something that was just said (Klein 2006; Lasser 1997). In a way, they function like echo-questions; but in contrast to

those, no question function is marked, and they need not be understood as questions. The following two examples collected by Lasser illustrate this:

(7) *ich (und) ins studio gehen?!*

I (and) to-the gym go-INF

'What! Me go to the gym?'

(Lasser 1997: 40)

(8) *Henry (und) heiraten ?! wirklich nicht*

Henry (and) marry-INF ?! really not

'Henry getting married? I don't think so.'

(Lasser 1997: 40)

Such utterances "may, but need not involve rising intonation", and they presuppose that "from the point of view of the speaker, the proposition expressed is false or at least debatable" (Lasser 1997: 40). The idea that the absence of finiteness marking in these sentences *contributes* to the expression of doubt is straightforward if it is assumed that a core function of finiteness is the marking of assertion. In the present experiment, it was therefore assumed that if non-finite utterances are interpreted as expressing doubt more often than finite utterances, this supports the analysis of finiteness as assertion marker.

#### 1.4.2. *The context of presentation*

Crucially for the design of the task, the assumed interpretation of non-finite utterances is only obtained in certain discourse contexts. More precisely, a non-finite utterance can be used to express doubt only if the speaker and his or her interlocutor do not take the truth of the assertion for granted. The expectations built up in the discourse context are thus essential for the interpretation of non-finite utterances. For this reason, the utterances that had to be interpreted by the participants of the experiment were embedded in a dialogue. An example of the type of dialogue used is given in (9). Answer B1 represents the finite utterance that is expected in the given discourse context, and utterance B2 the corresponding non-finite utterance.

(9) A: *Glaubst du, dass Peter einen Tisch baut?*

'Do you think that Peter constructs a table?'

B1: *Peter baut einen Tisch*

Peter construct-FIN a table

'Peter constructs a table'

B2: *Peter einen Tisch bauen*

Peter a table construct-INF

'Peter construct a table'

The yes/no question in the first part of this dialogue makes clear that the truth of the sentence content cannot be taken for granted. It is for this reason that finiteness marking is expected in the answer, and that the absence of it in the second version of the dialogue can be taken to mean that B doubts whether Peter constructs a table at the relevant time span.

However, using a non-finite utterance is not the standard way of expressing doubt. It asks for some pragmatic reasoning to come to the conclusion that if a speaker leaves out the marking of assertion, he or she might want to express doubt. An alternative interpretation of a non-finite utterance might be that the form was not produced intentionally, but that the speaker made a performance error. This is conceivable in particular because non-finite utterances are usually considered ungrammatical in German. To make the first interpretation more readily available for the participants in the experiment, two trigger conditions were created which consisted of finite and non-finite utterances respectively, but with a rising intonation both on the topic and the predicate part of the utterance (in contrast to all other utterances in the experiment which had a falling intonation contour). It was assumed that a rising intonation contour enhances the likelihood that hearers interpret an utterance as expressing doubt, and that this interpretation should be attributed relatively easily to the utterances in the trigger conditions. This would make this meaning more available for participants also for other utterance types in the experiment. In addition, expressing doubt via intonation is unique to spoken language. It should make it easier for participants to understand that they can take the utterances in the experiment as spontaneously spoken utterances. As a consequence, non-finite utterances should more likely be taken as meaningful choices rather than as performance errors. The trigger conditions were included for both non-finite and finite sentences in order to avoid introducing a bias for non-finite sentences only.

### 1.4.3. The pictures

In the experiment, participants heard dialogues of type (9), which always began with a yes/no-question. They then had to indicate their interpretation of speakers B's answer by selecting one out of three pictures. One of the pictures represented B's belief that the content of the utterance was true ("assertion picture" in the following), and another one depicted B's doubt about whether the content of the utterance was true ("open picture" in the following). The third picture was a distractor picture. If only two pictures had been presented, it would have been impossible to know whether a picture was chosen because it matched the presented utterance, or because the remaining picture did not match the presented utterance. This problem is attenuated if participants can choose from three pictures. The three pictures for the item "Peter constructs a table" are shown in Figure 1:

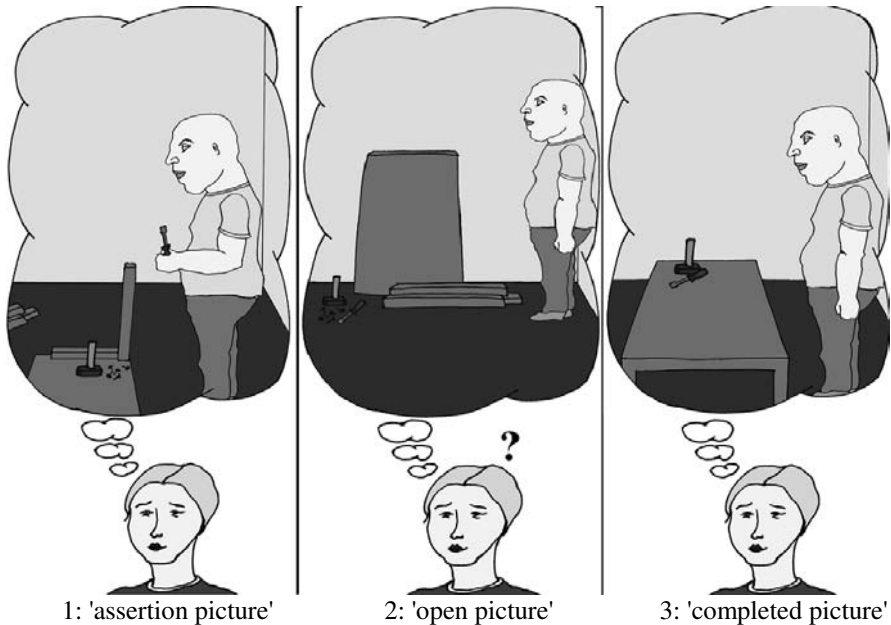


Figure 1. Pictures for item "Peter constructs a table"

Note that not only the performance (or lack thereof) of the activity is depicted, but also the speaker of the critical sentence (speaker B in the example dialogue above). The inclusion of B in the pictures was meant to highlight B's thoughts about the activity rather than the activity itself. This was

done because the meaning difference between finite and non-finite utterances does not so much concern the activity in itself, but rather what the speaker thinks about the activity. Picture 1, the assertion picture, depicts B and the fact that she thinks about Peter constructing a table (as represented in the thought balloon). As there is no sign in the picture that B doubts about this activity taking place, this picture is expected to be chosen when hearers interpret B's answer as making the claim that this is true. On picture 2, the open picture, B doubts whether the construction of a table indeed takes place. Depicting doubt about an activity is hardly possible without still depicting at least part of that activity. Therefore, all the elements necessary for the performance of the activity are depicted in the thought balloon of the open picture, but, in contrast to the assertion picture, the performance of the activity itself is not depicted. In addition, there is a question mark above B's head. This picture is compatible with an interpretation of an utterance as expressing doubt about whether the expressed state of affairs holds at the relevant topic time. Doubting about whether an activity takes place is, however, not incompatible with thinking about it as taking place. A picture in which B thinks about an activity being performed, as the assertion picture, is therefore always compatible with both an 'assertion' and a 'doubt' interpretation. In sum, while the assertion picture (1) is compatible with both an 'assertion' and a 'doubt' interpretation, the open picture (2) is only compatible with a 'doubt' interpretation. If two utterances differ in whether they express an assertion or not, the utterance that does not express an assertion should more often be associated with the open picture, but not necessarily in all cases.

The distractor picture shows the activity as completed. It was assumed that both the finite and the non-finite utterance do not match this picture, as even the non-finite utterance is marked for non-completedness. This is the case because infinite forms as *bauen* contrast with the likewise infinitival past participle *gebaut*, such that *bauen* is specified as 'not-completed' and *gebaut* as 'completed' (Hoekstra and Hyams 1998).

Finally, it seemed important to introduce conditions which clearly matched picture 2 or picture 3, which is not the case for the conditions enumerated so far. For this reason, two additional control conditions were included. In one of these conditions, speaker B explicitly states that she does not know whether the activity under consideration takes place. Utterances were of the type *Ich weiß nicht, ob Peter einen Tisch baut* ('I don't know whether Peter constructs a table'). This was expected to lead to choices of the open picture. The other control condition included the use of an auxiliary construction which suggests completion - the perfect. Utter-

ances in this condition were of the type *Peter hat einen Tisch gebaut* ('Peter has constructed a table'), and were expected to lead to choices of the completed picture.<sup>5</sup> In the following, information about the participants as well as an overview of all materials and the procedure of the experiment is given.

## 2. Method

### 2.1. Participants

Participants were 46 adult native speakers of Turkish<sup>6</sup> (29 female, 17 male) and 18 native speakers of German (10 female, 8 male). The Turkish speakers were acquiring German in an immersion setting. They had emigrated to Germany in order to work there or join their family. The average time of residency was 9 years, and the average age 33.3 years. Learners had received limited language teaching prior to the time of testing (5.4 months on average). The educational background of the learners was low in general (8.76 years of schooling on average, including primary school). Despite the relatively long average time of residency, learners' use of morphosyntax clearly corresponds to a low level of proficiency. The native speakers of German had a level of education comparable to that of the learners and very little knowledge of foreign languages. The average number of schooling years was 9.6. The average age in the control group was 41.5 years.

#### 2.1.1. Production measures

Learners' production was assessed using a series of short picture stories developed by Verhagen (2005) for the elicitation of the auxiliary *hebben* in learners of Dutch.<sup>7</sup> As *haben* is used in similar contexts in German as *hebben* in Dutch, it was possible to use the same stories for the learners of German. Learners first saw each story from the beginning till the end and then again picture by picture. They were asked to describe what happened on each picture. In addition, learners were asked to retell a short silent movie (*The finite story*, Dimroth 2005). The movie was presented in short scenes and after each scene participants retold what had just happened. All retellings were recorded and transcribed.<sup>8</sup> Following Verhagen (2005)<sup>9</sup>, learners were classified in a group not producing auxiliaries (no-aux group, n=22) and a group in which each learner produced at least one instance of



the auxiliary *haben* (aux group, n=24). Moreover, it was assessed whether and how frequently learners used the two utterance types presented in the experiment. To this end, all third person singular present tense utterances containing a lexical main verb ending on *-t* or *-en* and a complement were selected from the transcripts.<sup>10</sup> The data revealed that learners used both finite and non-finite utterances. In most cases, morphologically finite utterances (verb ending on *-t*) were also syntactically finite (the verb appeared in second position), and non-finite verbs were mostly placed clause-finally. However, there were also utterances in which morphological and syntactic finiteness did not go together. Examples of all four utterance types are given in (10) to (13), all taken from retellings of a scene in which one person (Mr. Blue) knocks at the door of another protagonist of the film (Mr. Red):

(10) verb ending on *-t* , second position:

*herr blau klingt aeh schlägt noch herrn rots tür*

Mr. blue ring-FIN ehm hit-FIN still Mr. red's door

(11) verb ending on *-en*, final position:

*blau tür klopfen*

blue door knock-INF

(12) verb ending on *-t* , final position:

*herrn rots tür schlägt*

Mr. red's door hit-FIN

(13) verb ending on *-en* , second position:

*schlagen der tür*

hit-INF the door

The distribution of these four utterance types in the two groups is displayed in Table 1.

*Table 1.* The distribution of utterance types in the learner groups (absolute numbers)

	<i>-t</i> , second	<i>-en</i> , final	<i>-t</i> , final	<i>-en</i> , second
no-aux	26	107	10	44
aux	170	63	13	26

These data show that all utterance types appear in both groups, even though there are clear differences between both groups. The presence of both finite and non-finite utterances in learners' production makes it a relevant question whether or not the different utterance types are associated with different meanings in learners' comprehension. The number of occurrences of each utterance type for each learner can be found in Appendix 1.

## 2.2. Materials

There were twenty different items in the task, each appearing in a dialogue as outlined above. To construct these items, seven simple and depictable activities were chosen, each involving a protagonist (e.g., *Peter* in the example given above), an object (e.g., *the table*), and a lexical main verb (e.g., *construct*). Each activity occurred in three different items, each time with a different protagonist performing the activity.<sup>11</sup> Each item could occur in one of the six different conditions introduced above: conditions 1 and 2 correspond to finite and non-finite utterances, as in (10) and (11) above. They are the critical conditions in the experiment: testing for a difference between them allows to confirm or reject the hypothesis stated above. Conditions 3 and 4 were the two trigger conditions involving rising intonation, and conditions 5 and 6 were the control conditions which gave participants the opportunity to choose the open and the completed picture respectively. An overview of all items and conditions is given in Appendix 2.

Items were pre-recorded: a male native speaker of German read out the questions, and a female native speaker of German read out the answers in the different conditions. For each item, three types of pictures as in the example presented above were created. One of the six possible orders of the three pictures was then chosen for each item and kept no matter in which condition the item appeared. This procedure assured that differences between conditions could not be due to a different order of the pictures and that overall, each order appeared equally often in the experiment.<sup>12</sup> In addition to the experimental items, six warm-up items were created that were used to familiarize participants with the task. In the warm-up trials, speaker A asked *An wen denkst du?* ('Who are you thinking of?'), and speaker B answered by giving the name of one of the three protagonists occurring in the items. The series of pictures used for the warm-up trials displayed B thinking of one of the protagonists on each picture. Note that the warm-up

trials did not make use of a verb in order to avoid any training effect for the verb-containing utterances in the experimental trials.

### 2.3. Procedure

Six different experimental lists were created, such that each item appeared in another condition in each of the lists. As the trigger conditions 3 and 4 are expected to influence the interpretation of conditions 1 and 2, the different conditions appeared in a pseudo-random order: there always was a trigger condition within the three items preceding each critical condition.<sup>13</sup> In addition, to control for an effect of the order of the items (as opposed to the order of conditions), an additional version was made of every list which started with the second half of the same list and administered to half of the participants.

The experiment was run on a laptop computer. Participants saw the pictures on the screen, heard the dialogues via headphones, and could indicate their choices by pressing buttons on a button-box. The experimenter was present during the whole experiment, but could not hear the dialogues. Before the experiment started, the experimenter showed a picture of the three protagonists that appeared in the dialogues to the participant and indicated their names. The experimenter then gave the the following instruction to the participants (in German)<sup>14</sup>:

You are going to hear a question and an answer to that question. Please decide what is meant with that answer by choosing one of the three pictures. In the beginning, the pictures and the sentences will be very easy, they get more complicated later on. Please think carefully about what the woman on the pictures wants to say, and look at the pictures carefully to choose the right one!

Participants could then start the experiment by pressing any button. This started the six warm-up trials. During each trial, participants heard the question of speaker A (who was not depicted on the pictures), and then an answer of speaker B (who was depicted). They listened to this dialogue and then indicated their choice of a picture by pressing a button that was labeled with the same number as the picture in question. If they were unsure of their choice, participants could listen again to the dialogue as often as they wanted, and the experiment only continued when they had chosen a picture. During the warm-up trials, the experimenter repeated the above

instruction or gave further explanations when participants showed difficulties of understanding. If they had any questions after the warm-up trials, these were answered. Participants then went through the 20 experimental trials in the same way as in the warm-up trials. Again, they could listen to the utterances several times and the experimenter encouraged them to think about the meaning of each utterance, but no further indications were given as to what this meaning might be. No further explanations concerning the pictures were given either.

### **3. Results**

An overview of the number of choices of each picture in each condition in the three different groups is given in Appendix 3.<sup>15</sup>

#### **3.1. Trigger and control conditions**

The results for the trigger conditions 3 and 4 show that participants indeed chose the open picture relatively frequently for these utterance types (between 20 and 56 percent of the time). Recall that it is not expected that the open picture is always chosen when an utterance expresses doubt, as the assertion picture is also compatible with this interpretation. The observed amount of choices of the open picture therefore seems sufficient to suggest that these conditions indeed enhanced the availability of a 'doubt' interpretation. The results for the control conditions 5 and 6 reveal that in general, the pictures were interpreted as anticipated: in participants of all groups, the open picture was chosen more frequently than the other two pictures when an utterance in condition 5 (the 'doubt' condition) was presented, indicating that it matches well the expression of doubt. The completed picture was chosen in the majority of cases in which the utterance contained an auxiliary (condition 6) in the aux-group and the native speakers group. This is not true for the no-aux group. However, this is probably not due to a misinterpretation of the picture, but to a failure to understand the meaning of the auxiliary in condition 6. This is not surprising, given that auxiliaries are not yet produced in this group.

3.2. The interpretation of finite versus non-finite utterances

The hypothesis to be tested concerns the contrast between finite and non-finite utterances. Whereas these two types of utterance should not lead to different interpretations in the no-aux group, finite utterances should more often be interpreted as making an assertion than non-finite ones one by the other two groups. This should be visible in a difference in preferences for the assertion and the open picture: the proportion of choices of the assertion picture compared to the open picture should be higher in the finite than in the non-finite condition. The distractor picture was not expected to be chosen to a different degree in the two conditions. The choices of the three pictures in conditions 1 and 2 for all three groups of participants is displayed in Figure 2.

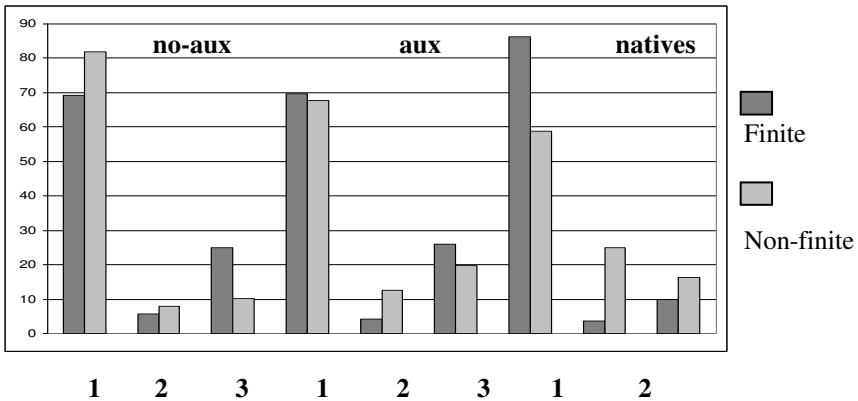


Figure 2. Choices of each of the three pictures in percentage of all trials of each condition. 1 = assertion picture, 2 = open picture, 3 = completed picture

Whereas a difference between the conditions is only predicted for the assertion and the open picture, the results show that the completed picture is also chosen to different degrees in the two conditions, in particular in the no-aux group. To test whether this effect is significant, logit mixed-effect models with subjects and items as random factors, condition as the predictor of interest, and picture 3 (whether the completed picture was chosen or not) as the dependent variable were used for every group separately using the statistical software R (R development core team 2008, see Bates and Sakar 2007 and Jaeger in press, for the analysis used). That is, it was tested for every group whether the condition (whether the stimulus sentence was

finite or non-finite) had a significant influence on whether the distractor picture was chosen or not. The analysis revealed that the condition significantly influenced the number of choices in the no-aux group (wald  $z = 2.82$ ,  $p < 0.01$ ). This effect is due to the no-aux group choosing the completed picture more often for finite than for non-finite utterances. In the two other groups, there was no effect of condition on the choices of the distractor picture (wald  $z = 1.16$ , ns for the aux group and wald  $z = 0.83$ , ns for the native speakers' group).

Subsequently, the analysis was repeated for every group with the same predictors and picture 1 vs. 2 (whether the assertion or the open picture was chosen) as the dependent variable. For this analysis, only those trials were taken into account in which either the assertion picture or the open picture was chosen. When only those trials are considered, the assertion picture was chosen in the majority of cases in both conditions in all three groups, but this preference was stronger for finite than for non-finite utterances. This pattern of preferences is depicted in Figure 3.

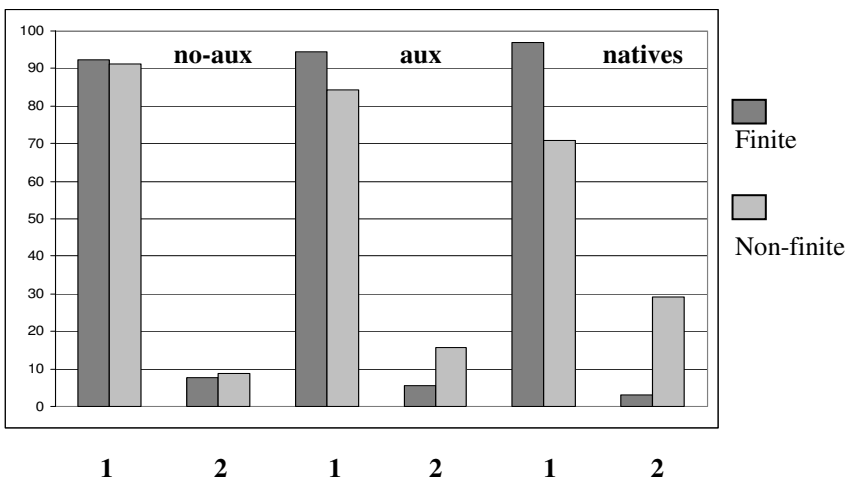


Figure 3. Choices of the assertion picture (1) and the open picture (2) in percentage of all trials in which one of these two pictures was chosen

The condition significantly influenced the pattern of choices in the aux-group (wald  $z = 2.01$ ,  $p < 0.05$ ) and in the native speakers group (wald  $z = 3.54$ ,  $p < 0.001$ ), but it was not a significant predictor in the no-aux group (wald  $z = 0.28$ , ns).

The relatively small effect found in the aux-group raises the question whether there are subgroups in this group that have different preferences. As shown in Appendix 1b, the learners in the aux-group differ strongly in how often they used finite and non-finite utterances of the type tested in the experiment in the production task. There are two learners who have not used a single finite utterance containing a lexical main verb and a verb-complement, whereas others exclusively used utterances of this type (out of the four utterances types investigated here). It might be that a change in the interpretation of finite and non-finite utterances only takes place when the use of finiteness has become systematic, and that the effect in the aux-group is therefore carried exclusively by a more advanced sub-group within this group. To test whether this is the case, the percentage of finite utterances out of all four relevant utterance types was added as a covariate to the model for the aux-group. That is, it was tested whether in addition to the influence of the condition, the percentage of finite utterances used by each learner contributed to predicting the choices of the assertion versus the open picture. The analysis revealed that this covariate had no significant influence (wald  $z = 0.89$ , ns).

#### **4. Discussion**

The results are first discussed separately for the three groups of participants. In the final paragraph, it is discussed which conclusions concerning the changing interpretation of finite and non-finite utterances during the course of acquisition are suggested by the results of all groups taken together.

##### **4.1. Native speakers**

Native speakers chose the assertion picture more often for finite than for non-finite utterances, and the open picture more often for non-finite than for finite utterances. This is in line with the predictions and supports the assumption that finiteness marks assertion.

However, the results reveal as well that the assertion picture was still the preferred picture even for non-finite utterances. These choices of the assertion picture are presumably due to the fact that this picture is also compatible with the interpretation that speaker B doubts about the performance of the activity under consideration. This is reflected by the fact

that the assertion picture was chosen in 30 percent of the cases even for utterances appearing in condition 5 (of the type 'I don't know whether Peter constructs a table'), which unambiguously express doubt. In addition to that, some of the choices of the assertion picture in the non-finite condition might also be due to participants having failed to draw the pragmatic implication that the absence of assertion indicates the expression of doubt in the discourse context as it was set up in the experiment.

As for the cases in which native speakers chose the open picture for non-finite utterances, it seems likely that speakers have indeed drawn this implicature. The absence of finiteness seems to be interpreted as possibly expressing doubt. It has to be noted however that there are alternative explanations for the choice of the open picture for non-finite utterances. This is because non-finite utterances are not only unspecified for assertion, but also for other aspects of sentence meaning that are usually expressed by the form and position of finite verbs, such as modality and sentence mode. The non-finite utterance might therefore not only be interpretable as an expression of doubt, but also of a certain modality, such as a *wish* or an *obligation*, or of a non-declarative sentence mode, such as a *question*. In addition, whereas the open picture was designed to express doubt about whether an activity takes place, it might well be interpreted as depicting a modal, interrogative or imperative meaning. One can imagine that the protagonist *wants* to complete the activity on this picture, as it is clear that its performance has not yet started. It is also conceivable to interpret the picture such that speaker B thinks that the protagonist *should* or *must* perform the action. As for other sentence modes, one could imagine that on the open picture, speaker B *asks* whether the activity under consideration is taking place, or that she wants to give the protagonist the *order* to perform the activity. These interpretations of non-finite utterances can therefore also explain the pattern of results. The fact that it is hard to pin down the exact interpretation that participants made of the non-finite utterance seems unavoidable due to the unspecified nature of this utterance type. What is more important than the exact interpretation is the fact that this utterance type is significantly less often matched on the assertion picture than finite utterances, showing that, as predicted, the finite utterance type is better compatible with an assertion interpretation for native speakers.

These results for the native speaker group thereby set a point of comparison for the analysis of the learner data: choosing the open picture in about a quarter of the cases for non-finite utterances, and the assertion picture in about 87 percent of the cases for finite utterances<sup>16</sup>, can be taken as



a native-like understanding of finiteness as far as it can be measured in the present task.

#### 4.2. The no-aux group

Beginning learners show a pattern of results that is very different from native speakers: they almost never chose the open picture, neither for finite, nor for non-finite utterances. The preferred picture for both utterance types was the assertion picture, which was chosen even more often for non-finite than for finite utterances. Finally, the distractor picture, on which the activity was depicted as completed, was significantly more often chosen for finite than for non-finite utterances.

A misanalysis of the present tense third person singular agreement morpheme *-t* as a marker of completed aspect has reported before for German child language by Tracy (1991) and Behrens (1993). Apparently, the present learner group makes the same misanalysis. For at least some learners in this group, the finite form is understood as expressing that the activity under consideration is completed. This is not the case for the non-finite utterance, which was rarely associated with the completed picture in this group. This finding is interesting because it reveals that learners perceive the difference between the two forms, even though they predominantly produce the non-finite form.

With respect to the main research question of this study however, one might wonder whether the misanalysis of *-t* as an aspectual marker might have covered a difference in assertion marking between the two utterance types. It can not be excluded that learners would have chosen the assertion picture for the finite utterance more often had they not had the opportunity to choose the completed picture instead. However, even if all the choices of the completed picture in the finite condition had been choices of the assertion picture, there would still be no clear difference between finite and non-finite utterances with respect to the assertion picture. This is the case because in the present data, the assertion picture is chosen even more often for non-finite than for finite utterances. The overall pattern in the data therefore strongly suggests that learners who have not yet acquired auxiliaries make no difference in assertion marking between finite and non-finite utterances. This is in line with the predictions and the model proposed by Dimroth et al. (2003).

### 4.3. The aux group

Learners who have acquired auxiliaries behaved differently from learners who have not yet acquired auxiliaries. Finite utterances were more often matched on the assertion picture than non-finite utterances, whereas non-finite utterances were more often matched on the open picture than finite utterances. This pattern of results is in line with the predictions and supports the assumption that the acquisition of the auxiliary system leads to a change in the interpretation of finiteness.

However, several elements in the data in the aux group make it necessary to attenuate this conclusion. First, whereas learners' proficiency in production other than the acquisition of auxiliaries could not be shown to influence the interpretation of finiteness, it can also not be excluded on the basis of the present data that such an influence exists. The effect that was found in the aux group is so small overall that not all learners in this group can have contributed to it. It is not surprising that it is difficult to detect systematic influences on such an unstable pattern. Further research is desirable in which the impact of the acquisition of the auxiliary system should be disentangled from the impact of other developments in proficiency by using more sensitive measures.

More importantly for the present study, the small size of the effect casts doubt on whether it is justified to conclude that the learners in the aux group have a native-like understanding of finiteness. On the one hand, one might argue that there is more evidence for an association of finiteness and assertion in this group than is visible on first sight. This is because the presence of the completed distractor picture has the potential to blur the expected pattern of results, a potential already discussed for the no-aux group above. In the aux group, the distractor picture was chosen in 26 per cent of the cases when a finite utterance was presented, suggesting that a misanalysis of the *-t* morpheme is widespread also in this group. The distractor picture might therefore have attracted finite utterances away from the assertion picture, so that a difference in the choices of this picture between finite and non-finite utterances that might otherwise have appeared was not detectable. This means that the pattern of results might have looked more native-like if the distractor picture had not been presented.

On the other hand, it is unclear what choices would have been made for the non-finite picture had the distractor picture not been presented. If all the choices of the completed picture would then have been choices of the assertion picture, this would again result in a non-native like pattern. If they had been choices of the open picture, this would result in a more na-

tive-like pattern. I would like to suggest that the second possibility is more likely, because the fact that learners in the aux group chose the completed picture for non-finite utterances to a considerable degree at all can be taken as an indication that they hesitated to match this utterance with the assertion picture. At least, this seems to be a more plausible explanation than assuming that choices of the completed picture are due to an understanding of the non-finite utterance as being marked specifically for completed aspect. Rather, learners in this group might interpret the non-finite utterance as being unspecified both with respect to assertion and with respect to aspect. The latter suggests that these learners have not yet understood the opposition between infinitival forms marked as completed (past participles) and infinitival forms for which this is not the case, as the ones tested in the present experiment.

All in all, the results therefore suggest that learners in the aux group differ from native speakers in their knowledge about how completed aspect is marked. However, they seem to be similar to native speakers in making an association between finiteness and assertion, as suggested by Dimroth et al. (2003). Whereas in the no-aux group, the non-finite utterance is interpreted as at least as suitable as the finite utterance for marking assertions, this is not longer the case in the aux-group. This conclusion will be discussed in more detail in the following final paragraph.

#### 4.4. The development in the interpretation of finite and non-finite utterances

In the following, it is discussed in how far the present data can be reconciled with suggestions in the literature about the development in the interpretation of finite and non-finite forms.

As for the interpretation of finite utterances, they clearly are understood as one possible way of making an assertion in all three groups. At least for part of the learners of both groups, finite utterances can in addition be understood as meaning that an activity is completed. This does however not contradict the association of finiteness and assertion marking, as the aspectual distinction is a more specific one and the expression of completed as well as ongoing aspect presupposes an underlying assertion. To my knowledge, the interpretation of the agreement morpheme *-t* as marking completed aspect has not been reported before for second language learners of German. It is interesting that it persists even after learners have acquired auxiliaries. Apart from this deviant interpretation however, the main inter-

pretation of finite utterances as making assertions is not surprising on any account of language development. In particular, it is also expected according to the model in Dimroth et al. (2003) that was tested in the present study. According to this model, finite utterances are interpreted as assertions by beginning learners because for them, every juxtaposition of a topic and a predicate does so by default. For more advanced learners and native speakers, finite utterances are interpreted as assertions because they occur with a finite verb form in a finite position.

As for the interpretation of non-finite utterances, there is an extensive debate in the literature on this topic. A common suggestion is that non-finite utterances are used by learners in order to express a modal meaning (Ingram and Thompson 1993 for German; see also Hoekstra and Jordens 1994 and Wijnen 1996 for Dutch and Meisel 1990 and Ferdinand 1996 for French child language). Researchers differ in the explanations they give for this effect (see Hoekstra and Hyams 1998, and Blom 2007, for overviews), but very often, they point out that the origin of non-finite utterances such as (9b) (taken from above) in learner language might be modal sentences such as (9c):

(9b) *Peter einen tisch bauen*

Peter a table construct-INF

(9c) *Peter will einen tisch bauen*

Peter want-FIN a table construct-INF

The proposal is that children and adult learners derive utterances like (9b) in some way or another from utterances in the input that have the form of (9c). As these input utterances have a modal meaning, learners could come to associate this meaning with the infinitival form of the thematic verb (rather than with the modal verb) and subsequently use infinitives to express modal meanings. One might wonder whether this was also the reason for the choices of the open picture for non-finite utterances in the present experiment. As shown above, this picture might be understood as expressing a modal meaning. However, the data speak against the idea that learners in particular associate non-finite utterances with modality. If this were the case, the open picture should be chosen more often in the learner groups than in the native speaker group, as infinitival main verbs are not a common way of expressing modality for the native speakers. However, the reverse pattern was found. Learners associate non-finite utterances more often with simple assertion and less often with a modal interpretation than

native speakers do, as evidenced by the different number of choices of the open picture in the two groups.

A related proposal in the literature is that learners only come to associate non-finite forms with modality when they have acquired finite forms. The idea of this proposal is that non-finite forms function as default or "elsewhere forms" in early learner language (Ferdinand 1996; Prevost and White 2000) and can be used to express different meanings. As soon as the more specific finite forms replace the non-finite forms in their function of expressing simple present tense declarative sentences, the meaning that is left for non-finite forms would then be that of expressing modality (Blom 2003). This proposal is not supported by the present data either. It does not seem to be the case that the more advanced learners in the aux group necessarily associate modality with the non-finite utterances. This would have predicted more choices of the open picture, and less choices of the completed picture in the aux group. In contrast to this prediction, learners in this group take both of these pictures about equally often, suggesting that they do not achieve to map any specific meaning (from the ones presented on the pictures) on the non-finite form.

The most convincing interpretation of the data thus seems to be that learners change their preference for simple declarative utterances from non-finite forms (as preferred in the no-aux group) to finite forms (as preferred in the aux group). This is compatible with the idea that learners come to understand the association of finiteness and assertion marking. However, they then do not know how to interpret a non-finite form. Most likely, they perceive this form as being compatible with different meanings, and even with completed aspect, as reflected in the choices of the completed picture.

Finally, in the native speakers, the non-finite form is more often mapped on the open picture than on the completed picture. This can be explained by the assumption that infinitival forms that are no past participles are considered to be marked for non-completedness by native speakers, and that for native speakers, the meaning of the non-finite form therefore corresponds better to the open picture. As discussed above, the exact meaning of non-finite utterances for native speakers is hard to pin down, due to the fact that these utterances are unspecified for many semantic features. The present experiment should be considered as a first attempt to depict a likely interpretation following from this underspecified nature. Further research could investigate the possible interpretations of non-finite utterances in more detail by expressing more fine-grained distinctions of different mo-

dalities or sentence modes in the set of pictures that participants can choose from.

## Appendices

### Appendix 1a. Overview of learners' production, no-aux group

Participant number	-t, second	-en, final	-t, final	-en, second	% -t, second	"hat"
20	0	2	0	3	0	0
39	0	7	0	1	0	0
44	0	7	0	0	0	0
45	0	15	0	0	0	0
48	0	1	0	0	0	0
53	0	10	0	2	0	0
55	0	1	0	0	0	0
57	0	3	0	1	0	0
61	0	5	2	0	0	0
72	0	3	0	0	0	0
73	0	9	0	1	0	0
50	0	7	2	0	0	0
60	0	1	0	1	0	0
26	1	0	1	12	7	0
62	1	10	0	2	8	0
42	1	3	0	7	9	0
51	1	9	1	0	9	0
52	6	4	2	9	29	0
71	1	2	0	0	33	0
58	4	4	0	3	36	0
37	5	3	2	0	50	0
65	6	1	0	2	67	0
<b>Sum</b>	<b>26</b>	<b>107</b>	<b>10</b>	<b>44</b>		<b>0</b>
<b>Average</b>	<b>1.44</b>	<b>4.73</b>	<b>0.49</b>	<b>2.29</b>	<b>14</b>	<b>0</b>

Use of the four utterance types and of the auxiliary 'haben' in learners of the no-aux group: absolute numbers

*Appendix 1b.* Overview of learners production, aux-group

<b>Participant number</b>	<b>-t, second</b>	<b>-en, final</b>	<b>-t, final</b>	<b>-en, second</b>	<b>% -t, second</b>	<b>"hat"</b>
33	0	12	1	4	0	1
43	0	5	2	0	0	1
40	2	6	0	3	18	2
34	4	9	2	1	25	9
49	2	0	2	2	33	1
67	5	7	1	1	36	1
47	3	5	0	0	38	2
32	3	2	0	2	43	1
66	3	0	0	4	43	5
63	3	4	0	0	43	9
70	2	1	0	1	50	12
24	11	5	1	1	61	3
22	10	2	1	3	63	7
64	8	3	0	0	73	1
31	3	0	0	1	75	8
41	6	0	0	2	75	1
27	13	2	0	1	81	1
23	16	0	2	0	89	2
25	34	0	1	0	97	2
30	9	0	0	0	100	1
36	15	0	0	0	100	2
59	8	0	0	0	100	5
29	8	0	0	0	100	7
69	2	0	0	0	100	6
<b>Sum</b>	<b>170</b>	<b>63</b>	<b>13</b>	<b>26</b>		<b>90</b>
<b>Average</b>	<b>6.73</b>	<b>2.78</b>	<b>0.56</b>	<b>1.13</b>	<b>58</b>	<b>3.77</b>

Use of the four utterance types and of the auxiliary 'haben' in learners of the aux group: absolute numbers

## Appendix 2. List of conditions and items

Condition		Utterances	Expected picture
	A:	Glaubst du, dass Peter einen Tisch baut? 'Do you think that Peter builds a table?'	
1: finite, falling intonation	B1:	Peter baut einen Tisch. Peter build-t ( <i>fin</i> ) a table.	1
2: infinite, falling intonation	B2:	Peter einen Tisch bauen. Peter a table build-en ( <i>inf</i> ).	?
3: finite, rising intonation	B3:	Peter? baut einen Tisch? Peter? build-t ( <i>fin</i> ) a table?	?
4: infinite, rising intonation	B4:	Peter? einen Tisch bauen? Peter? a table build-en ( <i>inf</i> )?	?
5: uncertain	B5:	Ich weiß nicht, ob Peter einen Tisch baut. I know not, if Peter a table build-t ( <i>fin</i> ).	2
6: completed	B6:	Peter hat einen Tisch gebaut. Peter has a table <i>ge-build-t</i> ( <i>PP</i> ).	3

All conditions for the item "Peter baut einen Tisch"

- Items 1-3: Peter / Jan / Anne malt eine Blume.  
Peter / Jan / Anne paints a flower.
- Items 4-6: Peter / Jan / Anne schreibt einen Brief.  
Peter / Jan / Anne writes a letter.
- Items 7-9: Peter / Jan / Anne liest einen Brief.  
Peter / Jan / Anne reads a letter.
- Items 10-12: Peter / Jan / Anne stellt die Gläser auf den Tisch.  
Peter / Jan / Anne puts the glasses on the table.
- Items 13-15: Peter / Jan / Anne baut einen Tisch.  
Peter / Jan / Anne constructs a table.
- Items 16-18: Peter / Jan / Anne öffnet eine Dose.  
Peter / Jan / Anne opens a can.
- Items 19-20: Jan / Anne nimmt ein Bad.  
Jan / Anne takes a bath.



## Appendix 3. Overview of all results in the picture selection task

Group	no-aux			aux			natives		
Condition	Pic1	Pic2	Pic3	Pic1	Pic2	Pic3	Pic1	Pic2	Pic3
<b>1: Finite, falling</b>	<b>69.32</b> <i>61/88</i>	<b>5.68</b> <i>5/88</i>	<b>25.00</b> <i>22/88</i>	<b>69.79</b> <i>67/96</i>	<b>04.17</b> <i>4/96</i>	<b>26.04</b> <i>25/96</i>	<b>87.5</b> <i>63/72</i>	<b>2.78</b> <i>2/72</i>	<b>9.72</b> <i>7/72</i>
<b>2: Non-finite, falling</b>	<b>81.82</b> <i>72/88</i>	<b>7.95</b> <i>7/88</i>	<b>10.23</b> <i>9/88</i>	<b>67.71</b> <i>65/96</i>	<b>12.50</b> <i>12/96</i>	<b>19.79</b> <i>19/96</i>	<b>61.11</b> <i>44/72</i>	<b>25.00</b> <i>18/72</i>	<b>13.89</b> <i>10/72</i>
<b>3: Doubt</b>	<b>35.23</b> <i>31/88</i>	<b>48.86</b> <i>43/88</i>	<b>15.91</b> <i>14/88</i>	<b>10.42</b> <i>10/96</i>	<b>65.62</b> <i>63/96</i>	<b>23.96</b> <i>23/96</i>	<b>30.88</b> <i>21/68<sup>x</sup></i>	<b>57.35</b> <i>39/68<sup>x</sup></i>	<b>11.76</b> <i>8/68<sup>x</sup></i>
<b>4: Completed</b>	<b>51.14</b> <i>45/88</i>	<b>9.09</b> <i>8/88</i>	<b>39.77</b> <i>35/88</i>	<b>30.21</b> <i>29/96</i>	<b>09.38</b> <i>9/96</i>	<b>60.42</b> <i>58/96</i>	<b>20.00</b> <i>14/70<sup>x</sup></i>	<b>5.71</b> <i>4/70<sup>x</sup></i>	<b>74.29</b> <i>52/70<sup>x</sup></i>
<b>5: Finite, rising</b>	<b>59.09</b> <i>26/44</i>	<b>29.55</b> <i>13/44</i>	<b>11.36</b> <i>5/44</i>	<b>39.58</b> <i>19/48</i>	<b>43.75</b> <i>21/48</i>	<b>16.67</b> <i>8/48</i>	<b>52.78</b> <i>19/36</i>	<b>33.33</b> <i>12/36</i>	<b>13.89</b> <i>5/36</i>
<b>6: Non-finite, rising</b>	<b>61.36</b> <i>27/44</i>	<b>20.45</b> <i>9/44</i>	<b>18.18</b> <i>8/44</i>	<b>35.42</b> <i>17/48</i>	<b>52.08</b> <i>25/48</i>	<b>12.50</b> <i>6/48</i>	<b>41.67</b> <i>15/36</i>	<b>55.56</b> <i>20/36</i>	<b>2.78</b> <i>1/36</i>

Percentages of picture chosen per condition (absolute numbers of choices in italics)

Pic1 = assertion picture, Pic2 = open picture, Pic3 = completed picture.

<sup>x</sup> Cases missing from 72 were excluded because there was an error in one of the presented pictures.

## Notes

1. I would like to thank Christine Dimroth, Josje Verhagen, Barbara Hemforth, Wolfgang Klein, Leah Roberts, Laura de Ruiter and Peter Jordens for very helpful discussions, Holger Mitterer, Jan-Peter de Ruiter and Juhani Järvi­kivi for advice on statistics, and Tilman Harpe for drawing the pictures for the experiment.
2. Apart from the research on German reviewed in the text, the so-called "optional infinitive phase" (Wexler 1994) has also been described in the (first) language acquisition of other languages, among others French, English and Dutch (e.g. Pierce 1989; Harris and Wexler 1996; Haegeman 1994). This research as well has mostly taken a formal perspective on the phenomenon.
3. Note that this concerns the function of finiteness in the target language. Dimroth et al. (2003) do not discuss the fact that second language learners presumably have discovered the function of finiteness in their first language. It might therefore be that a more adequate description of the learning task is that learners merely have to find out how finiteness is *formally expressed* in the target language before they can use it in their production and comprehension of this language. In this case, the knowledge about the *function* of finiteness, as it is available in the first language, could not be used in the L2 until learners have gained enough knowledge about its surface realization in the target language. On the other hand, it is also possible that the knowledge

about the function of finiteness is not transferred from the source language. As it is unclear how these two possibilities could be distinguished empirically, at least in the data collected here, the question will be left open.

4. One might wonder whether finiteness has the same function in non-declarative utterances, in particular, interrogatives. According to Lasser, an abstract assertion operator is present also in non-declarative sentences, so that the distinction between assertion and non-assertion making utterances is not the same as the distinction between declarative and other sentence modes. Whether this can be shown in speakers' interpretations is not investigated in the present study which is restricted to declarative utterances. The point is however taken up in more detail in the discussion.
5. There is a vivid discussion on the precise analysis of the German (and similarly the Dutch) perfect, as in *Er hat angerufen/hij heeft gebellt*, lit. 'he has called'(see, e.g., Klein 2000; Thieroff 1992). In contrast to the English present perfect, it can combine with past tense adverbials, and it is often used in contexts in which English would use the simple past. It is not possible to go into this discussion here. In the test sentences, it only matters whether the action shown on the picture is interpreted as being over, as 'completed', when the sentence is interpreted.
6. Nine of the learners were bilingual speakers of Turkish and Kurdish, and another one a bilingual speaker of Turkish and Arabic. One other subject reported to have acquired Azerbaijani and Russian while living in Azerbaijan. Knowledge of other foreign languages was very scarce in the learners as well as in the native control group, except for limited language instruction (mostly concerning English) during schooling.
7. See Verhagen (2005, this volume) for a detailed description of the picture stories.
8. One third of the data of three subjects (subjects 44, 57 and 69) and half of one subject (subject 60) were lost or could not be obtained, so that their production measures are based on a smaller number of utterances.
9. In Verhagen (1995), learners are classified into two groups according to whether they produce *hebben* or not, and it is shown that only the so-called aux-group, in which *hebben* is used, shows knowledge of verb raising for lexical verbs in Dutch. This finding supports the hypothesis tested in the present paper that the acquisition of auxiliaries constitutes a turning point in the acquisition process.
10. Imitations of utterances of the experimenter, self-corrected utterances as well as repetitions were excluded. Also excluded were utterances in which the ending was not clearly identifiable.
11. The activity "to take a bath" occurred only with two different protagonists, because only 20 and not 21 items were needed.
12. Again, there were two orders (132 and 231) which appeared four and not three times to reach the number of 20 items.

13. Note that conditions 1, 2, 5 and 6 appeared 4 times in each list, whereas the trigger conditions appeared only twice each. This was done in order to limit the overall length of the experiment and the number of trials which are presumably hard to interpret (conditions 2, 3 and 4, occurring in 8 trials all together) compared to trials in which the interpretation should be straightforward (conditions 1, 5 and 6, occurring 12 times all together). This unequal number does not present a problem for the analysis, as predictions only concerned the critical conditions 1 and 2 and only those were directly compared to each other.
14. The instruction was given in a spoken form in German. If the Turkish participants showed problems of understanding, they could also read a written Turkish version of the instruction.
15. Note that 6 cases had to be excluded in the native speaker group because there was an error on one of the pictures: the question mark appeared in the assertion instead of the open picture.
16. There is no obvious explanation for why the finite utterance is not matched on the assertion picture in all cases by the native speakers. In the remaining about 13 %, it is more often matched on the completed picture (about 10 % of the cases ) than on the open picture. This indicates that this picture might not be completely incompatible with an "ongoing" interpretation of the utterance. One can imagine that a sentence of the type 'Peter constructs a table' is still an acceptable description of a picture of Peter and a constructed table. Obviously, the assertion picture is a better match of that utterance type, but it is possible that participants did not always pay attention to the differences between the pictures in all trials, so that they sometimes might have chosen just a fitting picture instead of the most fitting picture. Note that this can clearly not explain all choices of the completed picture in the learner groups, as their number is too substantial. Moreover, the difference to the non-finite utterance in the no-aux group, which is not matched on the completed picture, would remain unexplained when taking this approach.

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this volume Light verbs and the acquisition of finiteness and negation.



# Light verbs and the acquisition of finiteness and negation in Dutch as a second language<sup>1</sup>

*Josje Verhagen*

## 0. Introduction

Contrary to what has been observed for first language acquisition, the development of finiteness and negation in adult second language learners is a slow and gradual process that does not necessarily result in a stable target-like system. It is not unusual to find variability in the use of agreement marking and the placement of finite verbs, even in the speech of L2-learners who have reached a certain level of proficiency.<sup>2</sup> To account for the complexity of the task in L2 acquisition, several explanations have been proposed that range from UG-based theories concerning the availability of functional categories (Herschensohn 2001; Prévost and White 2000) to functional accounts that stress the importance of scope marking in L2 acquisition (Becker 2005; Jordens and Dimroth 2006).

Despite these diverging explanations there is surprisingly little disagreement on the empirical data that describe learners' acquisition of finiteness marking and negation. Most researchers agree that light verbs such as copulae, modals, and auxiliaries are used in finite constructions earlier than lexical verbs. Parodi (2000) investigated data from Romance L2-learners of German and found that these learners used correct subject-verb agreement with auxiliaries, modals and the copula, while agreement marking on lexical verbs was absent or highly variable. Furthermore, Parodi looked at the position of the negator to find out whether verbs had been raised and found that learners consistently used post-verbal negation with light verbs, whereas they used pre-verbal negation with lexical verbs. Very similar results were obtained for L2 learners of other target languages (Giuliano 2003; Ionin and Wexler 2002; Lardiere 1998 for L2 English and Meisel 1997; Giuliano and Véronique 2005 for L2 French).

Although many researchers observed that light verbs become finite before lexical verbs in adult L2 acquisition, studies in which the precocious finite appearance of light verbs is in the focus of attention are scarce. This paper aims at filling part of this gap by presenting an experimental study



on the precise role of light verbs, in particular of non-modal auxiliaries, in the acquisition of finiteness and negation.

The organization of the paper is as follows: Section 1 presents earlier findings on finiteness and negation in L2 acquisition and considers how different theoretical approaches have dealt with these findings. Subsequently, Section 2 zooms in on the robust observation that light verbs appear as finite forms earlier than lexical verbs in L2 acquisition and addresses the question how this should be explained. In Section 3, the acquisition of finiteness and negation is described for L2 German, a language that is typologically very close to the target language under investigation: Dutch. Based on these data for L2 German, a number of research questions are formulated in Section 4. Section 5 briefly outlines the expression of finiteness and negation in Dutch. Subsequently, Section 6 describes the experimental tasks that were presented to the subjects and Section 7 provides the results. Finally, the findings are summarized and discussed in Section 8.

## **1. Finiteness and negation in L2 acquisition**

### **1.1. Form-oriented studies**

As early as in the 70s and 80s, the acquisition of negation constituted an important topic in studies on L2 acquisition (Cancino et al. 1978; Schumann 1979; Stauble 1984). The main outcome of these studies was that there appeared to be a fixed order of acquisition, irrespective of learner characteristics and language background. Consider the following developmental sequence, which was found by Cancino et al. (1978) for untutored learners of English:

1. no + V                    ‘I no see’
2. don’t + V                ‘He don’t like it’
3. AUX + not                ‘Somebody is not coming in’/‘I haven’t seen all of it’
4. analyzed don’t        ‘It doesn’t spin’/‘We didn’t have a study period’

The examples show that the negator initially precedes lexical verbs (stage 1), while there is no such stage for auxiliaries: these verbs immediately occur with post-verbal negation (stage 3). Such differences in the placement of negation depending on whether the verb is an auxiliary or lexical verb were attested in almost all early negation studies, but no attempt was

made at the time to explain the acquisition order in terms of finiteness of the verb.<sup>3</sup>

During the 90s, research on the acquisition of finiteness in L1 acquisition suggested that there was a strong contingency between agreement marking and verb placement (Clahsen and Penke 1992; Poeppel and Wexler 1993). More precisely, children consistently placed verbs that were finite before the negator, while they placed non-finite verbs behind the negator.

Departing from this finding in L1 acquisition as well as generative theory, researchers became occupied with the question of whether a similar relationship could be found for L2 acquisition. If so, this would suggest that L2 learners have still access to UG once they have already learnt a first language, in particular to functional categories such as INFL. In UG-terms, languages with verb-raising such as German and French have 'strong' verb features in INFL and since inflected verbs have to be checked against these features, they are raised to INFL. Thus, the finding that L2 learners raise finite verbs (to a position preceding negation) while they leave non-finite verbs unraised (in a position following negation) implies that learners have access to the functional category INFL and its verb features, while a random positioning of finite and non-finite forms entails that access is 'impaired'.

The empirical evidence on this issue is far from conclusive, however. On the one hand, researchers found that there is no relation between agreement and negation placement in L2 acquisition. Meisel (1997) looked at L2 German and L2 French, for example, and found that finite and non-finite verbs could both follow the negator. Therefore, he concluded that unlike in L1 acquisition, the development of negation (or verb-raising) in L2 acquisition is not related to agreement. Vainikka and Young-Scholten (1994) studied L2 data from German and made a similar observation: verbs could appear on either side of negation independently of whether they carried correct agreement marking. The authors proposed that learners do not have access to functional categories but only project lexical categories such as VP. Closely related ideas were formulated by Eubank (1993/94, 1996) and Beck (1998), who both assumed that functional categories transfer from the L1 into the L2 but crucially, the feature values associated with these categories do not transfer. Since these values are supposed to determine verb-raising the fact that features are neither strong nor weak results in non-finite verbs occupying both raised and unraised positions.

Opposed to the view that there is no relation between agreement marking and verb placement and hence that L2 learners do not have access to

UG, scholars claimed that L2 learners have access to functional categories. Lardiere (1998) investigated data from a fossilized Chinese learner of English (a non-raising language) and found that agreement marking was virtually absent (apart from the copula and auxiliaries) and that verbs were not raised. She concluded that the learner had set the verb features to weak and therefore, did not raise the verb. Prévost and White (2000) investigated data from L2 learners of French and German and found that these learners consistently raised finite verbs over negation while non-finite verbs occurred on either side of negation. To explain this differential behavior of finite and non-finite verbs, the authors proposed that finite forms are ‘truly finite’ whereas non-finite forms may occur as ‘substitutes for finite forms’. This argument that has become known as the ‘missing surface inflection hypothesis’ holds that learners have sometimes problems accessing the correct morphological form. Rather than suffering from grammatical impairment, learners are sometimes unable to map abstract features to concrete morphological forms.

In sum, UG-oriented studies have mainly dealt with the accessibility of functional categories and their corresponding feature values. On the one hand, researchers found that the distribution of finite and non-finite with respect to negation is random in early L2 acquisition and therefore they concluded that functional categories are no longer available to the L2 learner. On the other hand, researchers argued that verbs preceding the negator are finite whereas verbs following the negator are not, leading to the conclusion that access to functional categories and features is intact.<sup>4</sup> In the latter view, the incidental occurrence of non-finite verbs in raised position is assumed to be due to ‘missing surface inflection’, rather than grammatical impairment.

## 1.2. Function-oriented studies

Apart from studies that concentrate on the question of whether L2 learners have access to UG, a number of studies have appeared that look at the acquisition of finiteness and negation from a functional perspective (Becker 2005; Bernini 2003; Dimroth 2008; Giuliano 2003). The central idea in these studies is that negation bears scope and that it is scope relations that, together with the special semantic properties of light verbs, steer learners’ acquisition of finiteness marking.

An important assumption in such studies is that verb morphology is not very informative at early stages of acquisition. Based on an analysis of L2

data from over 40 learners of different target languages, Klein and Perdue (1997) showed that inflectional marking becomes functional only at later stages of development. Although even beginning learners sometimes use inflected forms, these forms do not bear any functional inflectional marking. The following illustrates this view (Klein and Perdue 1997: 311):

‘...lexical items typically occur in one invariant form. It corresponds to the stem, the infinitive or the nominative in the target language; but it can also be a form which would be an inflected form in the target language. Occasionally, a word shows up in more than one form, but this (rare) variation does not seem to have any functional value...’

Assuming that there is a stage in early L2 acquisition at which verbal morphology cannot inform us about the finiteness of the verb, the relative placement of verb and negator becomes the only diagnostic tool that can be used to determine whether verbs are finite or not. To avoid circularity but still enable investigations of finiteness and negation in L2 acquisition, an extra dimension has been added to the morphological and syntactic dimensions of finiteness. This extra dimension is a semantic one. Following Klein (1994, 1998), it has been assumed that finiteness is a carrier of two semantic features. First, it is a carrier of the topic time of the utterance: the time span about which the utterance makes a claim. Second, it carries the feature ‘assertion’ which means that it validates the state of affairs expressed in the utterance with respect to the topic. These two functions can best be illustrated with the following example from Klein (1994: 226)

(1) The book was on the table

Klein argues that when contrastive stress is put on the copula, two contrasts are provoked, that illustrate the two semantic functions of finiteness. First, there is a tense contrast that becomes clear when the above sentence is opposed to ‘The book **IS** on the table’. What is contrasted here is the time span about which the utterance makes a claim: the topic time. Second, a contrast regarding the claim becomes apparent when (1) is opposed to ‘The book was **NOT** on the table’. Now, the assertion component is stressed, holding that the book’s being on the table is true for a given topic time.

Several researchers have shown that L2-learners express the semantic function of finiteness from the very onset of acquisition (Dimroth et al. 2003; Jordens and Dimroth 2006), however, beginning learners do not yet

use verbal morphology to do so. Rather, they employ lexical devices such as adverbials and particles to mark the topic time and assert that a state of affairs is true of a given topic. At this early stage, the position of the negator (as well as other scope-bearing elements) is determined by a clear scope principle: the negator directly precedes the domain over which it has scope. Since the negator usually bears scope over a predicate and predicates often contain verbs, negation is typically pre-verbal at this stage. This can be illustrated with the following example, taken from Dimroth et al. (2003: 79):

(2) <i>Ik</i>	<i>niet</i>	<i>hapis</i> <sup>5</sup>	<i>gaan.</i>
I	not	prison	go

Thus, unlike what we have seen in the previous section for UG-based theories, functionalist theories assume that morphosyntactic principles such as subject-verb agreement and raising do not yet determine word-order at the early stages. At the onset of acquisition, the presence of inflection does not imply the mastery of inflection and the placement of negation is determined by scope marking. Only later in the acquisition process do learners abandon these semantic-pragmatic principles in favor of subject-verb agreement and verb-raising. In Section 4, we will look in more detail at the development of finiteness and negation along these lines. Before we proceed to that section, however, let us take a closer look at the well-attested finding that light verbs appear as finite forms earlier than lexical verbs in L2 acquisition.

## 2. Light verbs versus lexical verbs in L2 acquisition

Meisel (1983) already noted that, even at a stage where ‘negator-verb’ seems to be the dominant pattern, the negator tends to be placed to the right of modals, auxiliaries and the copula. Nevertheless, the precocious finite appearance of light verbs did not become an important topic of interest in the literature since the focus in most studies was on the morphosyntactic behavior of lexical verbs.<sup>6</sup>

An exception to this is Parodi (1998, 2000) who investigated the acquisition of subject-verb agreement and negation in longitudinal data from Romance learners of German, distinguishing between light verbs such as modals, auxiliaries, and possessive ‘have’, on the one hand, and lexical verbs, on the other. Her results indicated that agreement with lexical verbs

showed a slow development towards the target system, while agreement with light verbs was sudden and correct. Regarding negation, Parodi observed that learners used post-verbal negation with light verbs, while post-verbal negation with lexical verbs was only used in cases of target-like subject-verb agreement. When agreement was not correct, pre-verbal negation turned out to be the dominant pattern. On the basis of these findings, Parodi concluded that there is a relation between morphology and syntax (negation) in L2 acquisition that becomes especially clear when one looks at light verbs and lexical verbs separately. Namely, at early stages of acquisition, there is a 'division of labor' between both verb classes: 'lexical verbs are responsible for lexical information, while light verbs are the main carriers of syntactical information' (Parodi 2000: 373).

In order to account for the different timing of light verbs and lexical verbs with respect to finiteness, Parodi proposed that light verbs spell out the functional category INFL, and specifically its AGR component. However, her account does not make clear why light verbs would do so in the first place and it also leaves implicit whether all light verbs are 'spell-outs of INFL' to the same extent or whether some verbs are better carriers of syntactic information than others.

A more comprehensive account of how light verbs and lexical verbs behave differently with respect to negation has been provided by Becker (2005) for L2 German. In the next section, a summary is given of the main findings of this study.

### 3. Finiteness and negation in L2 German

Becker (2005) studied the development of finiteness and negation in L2-learners of German with Italian as their L1. Becker distinguishes four stages but for the present purpose, the first two stages can be collapsed: (1) Pre-verbal negation with lexical verbs, (2) Post-verbal negation with auxiliaries, and (3) Post-verbal negation with lexical verbs.

At stage 1 the ordering of elements is determined by a pragmatic principle: the topic precedes the predicate. When utterances are negated, the negator is placed between topic and predicate since it has scope over the predicate:

(3) <i>Mein</i>	<i>vater</i>	<i>nicht</i>	<i>schlafen.</i>	
My	father	not	sleep-inf	(Becker 2005: 287)

As can be seen in (3), lexical verbs do not yet show functional use of inflection and are positioned in the predicate part of the utterance. Since the negator precedes the predicate, negation is pre-verbal at this stage. However, in copula sentences the negator follows the copula verb:

- (4) *Deutschland*        *is*        *nich*        *patria.*  
 Germany                be        not        home country (Becker 2005: 288)

Becker notes that the copula initially appears in affirmative contexts only such that there is a complementary distribution between copula sentences and sentences containing a negator. She argues therefore that the copula is an early assertion marker and not yet a marker of tense (there are no contrastive tense forms) at the current stage.

The second stage is characterized by the emergence of auxiliaries. As opposed to the earlier utterances that were unspecified for finiteness, the ‘auxiliary-past participle’ complex spells out the finite and non-finite part of a sentence: auxiliaries typically appear as morphologically finite forms, whereas past participles are overtly marked for non-finiteness by means of a *ge*-prefix. Due to their semantic ‘emptiness’ and topic time marking function, auxiliaries consistently precede the negator:

- (5) *Er hat nicht die zug gesehen.*  
 He have-3sg not the train see-pp (Becker 2005: 293)

An important point to be stressed here is that auxiliaries change the organization of utterances at the surface level only. That is, the auxiliary construction still conforms to the information-structural principles of topic-focus that determined word order at the previous stage, even though it looks target-like. As such, auxiliary sentences have a clear advantage for L2 learners: they bring them closer to the utterance organization of the target-language, while at the same time, they allow them to keep the lexical (non-finite) information in topic and focus positions and the functional (finite) information in the middle, in between topic and focus.

The final stage involves a reorganization of the earlier structure, caused by the fact that auxiliaries lack a clear lexical meaning. Due to their semantic ‘emptiness’ and co-occurrence with non-finite forms (past participles), the formal properties of auxiliaries (i.e., subject-verb agreement) become visible to the learner. As put by Becker: ‘morphological marking of finiteness first appears on auxiliaries in aux-V constructions, i.e., in cases where the separation between FIN and INF is transparent’ (p. 293). Consequently,

agreement marking is acquired and extended to lexical verbs. These verbs are then raised to a position higher up in the sentence. This is a complex step because the separation of functional and lexical information that characterized the previous stages can now no longer be maintained: the finite lexical verb expresses both lexical and functional information in one fused form that occurs in a finite position. In negated sentences, lexical verbs are raised over *nicht*, resulting in post-verbal negation:

(6)	<i>Er</i>	<i>arbeit</i>	<i>nicht</i>	<i>gut.</i>	
	He	work-0	not	well	(Becker 2005: 298)

Unlike negation, which is now generally correct, agreement marking on lexical verbs remains variable for some time: '[T]here is an extended phase in which correct and incorrect [verb] forms coexist' (Becker 2005: 298).

In sum, the stage-model can best be characterized as a series of successive stages that are marked by the emergence of a certain verb or verb form. The various verb(s) (forms) appear at different points in time and serve different functions. The copula emerges first and marks assertion: initially, it does not yet express tense and it appears in complementary distribution with the negator. When the copula is used in negated sentences, it consistently precedes the negator. Somewhat later, auxiliaries are added to the system and these light verbs enable the learner to stick to an information structure-based word order, while at the same time allowing a structure that comes close to that of the target language. Auxiliaries lead to the acquisition of subject-verb agreement. The final step involves the extension of agreement marking to lexical verbs and the raising of such verbs over negation to a finite position.

When we compare the stage-model with the UG-based approaches to finiteness that were discussed in the previous section, it seems that the model can best be subsumed under the view that syntax develops dependently on morphology. Namely, Becker assumes that the acquisition of agreement marking on lexical verbs entails verb-raising of such verbs. At the same time, however, early light verbs such as the copula are considered carriers of the finiteness features assertion and/or tense. It is only after the acquisition of auxiliaries that all functions of finiteness become fused within one verb form and learners organize their utterances according to morphosyntactic principles, rather than information-structural ones. In this sense, the stage model is radically different from UG-based theories that assume that functional categories determine utterance organization from the earliest stages onwards.



#### 4. Research questions

The main purpose of this study is to investigate the role of light verbs, in particular of auxiliaries, in the acquisition of finiteness and negation in L2 Dutch. Based on earlier findings, it can be hypothesized that L2 learners of Dutch place the negator behind light verbs such as the copula, modal verbs and auxiliaries before they do so with lexical verbs. Therefore, the first research question of the study is the following:

1. Do learners produce post-verbal negation with light verbs before they do so with lexical verbs?

If this is true, the question arises when learners produce post-verbal negation with lexical verbs as well. Becker argued for L2 German that post-verbal negation with lexical verbs is only attested after the acquisition of auxiliaries. Based on this, the following question can be formulated for L2 Dutch:

2. Do learners only produce post-verbal negation with lexical verbs after they have acquired auxiliaries?

The prediction here is that that learners who do not use auxiliaries never produce post-verbal negation with lexical verbs, whereas learners who produce auxiliaries do place the negator post-verbally with such verbs. Crucially, the idea that there is a relation between the acquisition of auxiliaries and post-verbal negation (verb-raising) hinged on the assumption that auxiliaries entail the acquisition of subject-verb agreement. Auxiliaries co-occur with verb forms that are clearly non-finite (past participles) and therefore, the finite/non-finite distinction becomes clear to the learner. Furthermore, the fact that auxiliaries lack a clear lexical content makes the learner aware of subject-verb agreement on such verbs. Along these lines, post-verbal negation could be considered a by-product of the acquisition of agreement marking since, as soon as learners start to inflect verbs, they are expected to raise these verbs over negation. Unfortunately, Becker does not provide information about agreement marking in her data. However, the assumption that verb-raising is dependent on subject-verb agreement is an important one that has received enormous attention in the literature (see Section 1.1). Therefore, the two final questions address the possible relation between agreement and verb-raising (negation) in L2 Dutch:

3. Do learners acquire subject-verb agreement only after they have acquired auxiliaries?
4. Do learners more often mark subject-verb agreement on raised verbs than on verbs that are not raised?

The prediction for question 3 is that learners who have acquired auxiliaries more accurately mark subject-verb agreement on lexical verbs than learners who have not acquired auxiliaries.<sup>7</sup> Regarding question 4, the assumption is that learners produce correct agreement on verbs that occur with post-verbal negation (raised verbs) but not – or less so – on verbs that occur with pre-verbal negation (non-raised verbs).

As we saw above, studies have provided mixed results regarding the last question. While some studies pointed to a clear correlation between raising and agreement, with possible overgeneralizations of non-finite forms in raising contexts ('missing surface inflection'), others showed no correlation at all. Since no systematic studies on Dutch have been conducted thus far, it is interesting to see what patterns are found for this language. Evidence that the negator follows finite verbs in the data of learners who have acquired auxiliaries, but precedes non-finite verbs in the data of learners who have not yet done so, would moreover support the idea of the acquisition of auxiliaries as an important step towards finiteness.

## 5. Finiteness, negation and light verbs in Dutch

This section outlines the expression of (sentence) negation<sup>8</sup>, subject-verb agreement and the use of light verbs in Dutch. Only declarative main clauses in the present tense will be considered.<sup>9</sup>

### 5.1. Negation

Dutch is a V2 language, which means that in declarative main clauses the finite verb occurs in second position. In such clauses the negator *niet* precedes the non-finite verb. This is illustrated in example (7):

- (7) *Peter*            *heeft*            *niet*            *gelopen.*  
       Peter            have-3sg        not            walk-pp

When the sentence does not contain a modal verb or an auxiliary, the lexical verb is raised to the V2 position, leaving the negator behind. This results in constructions of the type in (8).

- (8) *Peter loopt niet.*  
 Peter walk-3sg not

## 5.2. Subject-verb agreement

Verbal suffixes mark person and number of the grammatical subject in Dutch. Table 1 lists the forms for the present tense as well as the infinitive and past participle for the verb *werken* ‘work’.

*Table 1.* Agreement paradigm for the Dutch verb *werken* ‘to work’

	Non-finite	Finite (present)
Infinitive	werk -en	
Past participle	ge- werk -t	
1sg		werk -Ø
2sg/3sg		werk -t
1pl/2pl/3pl		werk -en

## 5.3. Light verbs

Dutch has a number of light verbs. First, there is an obligatory copula *zijn* ‘be’ that expresses a state or property.<sup>10</sup>

- (9) *Hij is aardig.*  
 He be-3sg nice

There is also a series of modal verbs expressing, among others, volition, obligation, and permission. These modal verbs combine with infinitives that are placed sentence-finally, as shown in the following example that contains a form of *willen* ‘want’:

- (10) *Hij wil vandaag een film zien.*  
 He want-0 today a movie watch-inf<sup>11</sup>

Moreover, there is a light verb *gaan* 'go' that is commonly used to mark (near) future and, like modal verbs, occurs in periphrastic constructions with the infinitive<sup>12</sup>:

- (11) *Hij*            *gaat*            *boodschappen doen*.  
       He            go-3sg            shopping            do-inf

Finally, Dutch has two auxiliary verbs that co-occur with past participles and mark perfective aspect: *hebben* 'have' and *zijn* 'be'. Of these forms, *hebben* is by far most frequent, since *zijn* is only used with unaccusative and ergative verbs.

- (12) *Hij*            *heeft*            *vandaag*            *een film*            *gezien*.  
       He            have-3sg            today            a movie            watch-pp

- (13) *Hij*            *is*            *gisteren*            *thuis*            *gekomen*.  
       He            be-3sg            yesterday            home            come-pp

## 6. The study

### 6.1. Participants

57 Moroccan learners and 46 Turkish learners of Dutch participated in the study. All subjects were recruited at schools where they took language courses that are obligatory for new immigrants in the Netherlands. They were at a beginner level<sup>13</sup> and had been categorized as 'slow' learners in a special assessment procedure.<sup>14</sup> The average length of residence in the Netherlands by the time of the experiment was 3:5 years for the Moroccan and 5:2 for the Turkish learners. Apart from these learners, 10 native speakers of Dutch participated in the study. The main purpose of including these subjects was to test whether the tasks actually elicited the intended (auxiliary) constructions from native speakers.

### 6.2. Tasks

The tasks that were used involved two film-retelling tasks and two picture stories. The first film-retelling task was a 10-minute film fragment from Charlie Chaplin's *Modern Times*. This fragment was chosen because it

provided some good contexts for the use of auxiliaries. One of the scenes, for example, showed a woman who talked about a previous scene in which a girl had stolen a loaf of bread. For Dutch native speakers, it is natural to describe this scene by making use of an auxiliary, as in *Zij heeft het brood gestolen* ‘She has stolen the loaf of bread’. In fact, the control data showed that all native speakers produced forms of *hebben* in their retellings at this point. The second film-retelling task involved a video that had been designed to elicit scope particles and negation in learner language (The finite story, Dimroth 2005).

Apart from these film-retelling tasks, two picture stories were administered to the participants. These consisted of a series of pictures that together formed a simple story, of which the main aim was to elicit the auxiliary *hebben* (see Appendix A). The control data indicated that all native speakers used at least one form of *hebben* in their story tellings.

The procedure for both tasks was the same: the experimenter and the participant together watched a film fragment (or picture in the case of the picture stories) and subsequently, the participant retold what had happened in the fragment.<sup>15</sup>

### 6.3. Analyses

After all recordings had been digitized, the data were transcribed and coded for type of verb (auxiliary, lexical verb etc.) and agreement marking using CLAN.<sup>16</sup> In the remainder of the paper, verbs ending in *-en* will be glossed ‘-inf’. However, the reader should keep in mind that this form is homophonous with the plural ending in Dutch. Likewise, verbs ending in a null morpheme will be glossed ‘-0’ although this form is also used for 1sg (see Section 3). For an illustration, consider the following example:

- |                 |             |           |             |            |             |                                      |
|-----------------|-------------|-----------|-------------|------------|-------------|--------------------------------------|
| (14) <i>Dan</i> | <i>hond</i> | <i>##</i> | <i>trek</i> | <i>nog</i> | <i>niet</i> | <i>+/ niet trekken</i> <sup>17</sup> |
| Then            | dog         | ##        | pull-0      | yet        | not         | +/ not pull-inf                      |

## 7. Results

### 7.1. Results for negation

The first two research questions of Section 4 concerned the acquisition of negation and the possible link between auxiliaries and negation in L2 acquisition. These questions are here repeated as 1' and 2':

- 1'. Do learners produce post-verbal negation with light verbs before they do so with lexical verbs?
- 2'. Do learners only produce post-verbal negation with lexical verbs after they have acquired auxiliaries?

All utterances containing *niet* and a verb were extracted from the data. This yielded a total of 492 and 485 negated utterances for the Moroccan and the Turkish learners respectively. Table 2 presents how often the negator occurred in pre- and post-verbal position with respect to the different verb types. Note that a distinction is made between 'light verbs', 'auxiliaries', and 'lexical verbs'. That is, here the category termed 'light verbs' does not include auxiliaries since these will be considered independently. It only contains the copula, modal verbs, *gaan*, and the verb form *is* that is further described below.

Table 2. Post- and pre-verbal negation with light verbs, auxiliaries, and lexical verbs

	Moroccan learners		Turkish learners	
	V - NEG	*NEG - V	V - NEG	*NEG - V
Light verbs (no aux.)	192	6	88	7
Auxiliaries	25	0	22	0
Lexical verbs	146	123	77	291

The data show that negation nearly always follows light verbs: there are some instances of pre-verbal negation but the negator predominantly occurs post-verbally in the data of both the Moroccan and the Turkish learners. With the auxiliary *hebben*, negation is consistently post-verbal. Finally, negation with lexical verbs shows a mixed pattern: 123 out of all 269 negations are pre-verbal in the data of the Moroccan learners and the same

holds for 291 out of 368 negations in the data of the Turks. Thus far, the results are thus in line with earlier findings in the literature.

A closer look at the data reveals that the different light verbs are acquired in a fixed order. More precisely, the following implicational scale could be defined:

copula > modals/*gaan* > *is* > auxiliaries

The copula appears to be acquired first, followed by modal verbs, the verb form *is* that co-occurs with lexical verbs and finally, auxiliaries. Evidence for this scale comes from the finding that all learners who used modal verbs also used the copula, but not vice versa. Likewise, all learners who produced auxiliaries produced all other light verbs whereas the reverse did not hold: not all learners who produced modal verbs also produced *is* and auxiliaries. For modals and *gaan*, it could not be determined which light verb was acquired first, as some learners produced either one of these verbs and others produced both.

Most importantly, however, the data show that the auxiliary *hebben* is acquired last. Since we are interested in what happens when auxiliaries are acquired, let us compare the data of the learners who did not produce auxiliaries and those who did. First, Table 3 presents how often negation was pre- and post-verbal with respect to the different verb types in the data of the learners who did not produce *hebben*. From now on, we will term these learners –AUX group.

*Table 3. Post- and pre-verbal negation with different verb types for the –AUX group*

	Moroccan learners		Turkish learners	
	V - NEG	*NEG - V	V - NEG	*NEG - V
Copula	13	0	8	0
Modals/ <i>gaan</i>	43	3	8	5
<i>is</i>	30	3	16	2
Lexical verbs	8	85	6	170

The data show that negation with the copula is always post-verbal. Moreover, the results indicated that the copula was often left out in negated utterances. This is in line with what was found for L2 German and suggests that the copula may function as an early assertion marker. The following utterance illustrates this pattern of complementary distribution of the cop-

ula and the negator. It was used to express that one of the protagonists of the finite story task should not be afraid of jumping out of the house but rather of the fire in his room.

- (15) *De bang*                      *niet*    *daar,*                      *is*        *daar.*  
 The scared (=danger)    not    there,                      be-3sg there

As for modal verbs, the data in Table 3 show that the negator predominantly occurs in post-verbal position but incidentally also precedes the modal.<sup>18</sup> The below utterances, that were produced by the same learner, illustrate these two patterns:

- (16) *Meneer*    *rood*    *ook*    *wil*    *niet*    *springen.*  
 Mister    red    also    want    not    jump-inf

- (17) *Groene*    *man*    *niet*    *wil*                      *springen.*  
 Green    man    not    want                      jump-inf

Apart from modal verbs, the verb *gaan* 'go' was also produced. Interestingly, the Moroccan learners produced this verb much more often than the Turkish learners: 210 versus 25 instances, respectively. As with modal verbs, the negator followed *gaan* in the vast majority of cases:

- (18) *De man*    *gaat*                      *niet*    *pakken*                      *telefoon.*  
 The man    go-3sg                      not    take-inf                      telephone

The light verb that appeared to be acquired after the copula and modals/*gaan* is a form of 'be' and has been reported on in earlier studies on L2 acquisition (Haberzettl 2003; Starren 2001; Van der Craats to appear). For an illustration of this light verb, consider the utterances in (19) and (20):

- (19) *Hij*                      *is*                      *slapen.*  
 He                      is                      sleep-inf

- (20) *Charlie chaplin*    *is*                      *steel*                      *de*    *brood.*  
 Charlie chaplin    is                      steal-0                      the    bread

In the literature, the question of how this structure should be interpreted has led to different proposals. Starren (2001) looked at data from Turkish



and Moroccan learners of Dutch and suggested that *is* marks perfective or durative aspect. However, Van der Craats (to appear) concluded that *is* does not carry a temporal meaning in the data from Turkish learners of Dutch but rather, constitutes a structural device that helps these learners acquiring finite syntax. For reasons of space, the possible function of the construction will not be further discussed in the present paper. However, one remark seems noteworthy, that is, it seems safe to assume here that the form *is* is not yet an instantiation of the aspectual auxiliary *zijn* that marks perfective aspect with unaccusatives and ergative verbs in the target language. First, there are many occurrences where a perfective reading does not seem plausible.<sup>19</sup> Moreover, *is* was frequently produced by learners, who did not yet use *hebben*, but much less so by learners who produced *hebben*. This suggests that *is* and *hebben* do not constitute cases of the same type of auxiliary, at least not at the current stage of development.<sup>20</sup>

When *is*-constructions are negated, the negator nearly always appears in post-verbal position. Sometimes however, negation also preceded the verb form *is*.<sup>21</sup> Consider (21) and (22) for examples:

(21) *Een meisje is niet krijgen een brood.*  
 A girl is not get-inf a loaf of bread

(22) *Die man niet is stolen maar die vrouwtje.*  
 That man not is steal-11<sup>22</sup> but that woman-dim

Considering negation with lexical verbs, it appears that negation is most often pre-verbal. In the data of the Moroccan learners, *niet* appears post-verbally in only 8 out of all 93 negations and for the Turkish learners, even fewer post-verbal negations are found: 6 out of 176. Hence, pre-verbal negation is clearly the dominant pattern. Moreover, a close look at the few instances of post-verbal negation that are found reveals that learners may not have used these productively. In (23), for example, the negator has narrow scope over *boven* 'up', instead of over the entire sentence. Interestingly moreover, the learner who produces this utterance uses the pre-verbal construction in (24) to refer to the exact same scene a few utterances later.

(23) *Maar hij kijkt niet boven, alleen achter.*  
 But he look-3sg not up, only behind

- (24) *Niet*            *kijken*            *boven*.  
 Not                look-inf            up

While some post-verbal negations looked target-like, the total number of post-verbal negations in the –AUX group makes up only a very small proportion of all negations (only 3%). Therefore, it can be safely concluded that post-verbal negation is not yet productive for the learners in this group.

Now let us consider the data of the learners who did produce auxiliaries, the so-called +AUX group, and see whether these learners' use of negation differs from that of the –AUX group.<sup>23</sup> Table 4 presents how often negation was pre- and post-verbal with the different verb types that were produced by the +AUX group.

Table 4. *Post- and pre-verbal negation with different verb types for the +AUX group*

	Moroccan learners		Turkish learners	
	verb-NEG	*NEG-verb	Verb-NEG	*NEG-verb
Copula	31	0	14	0
Modals/ <i>gaan</i>	69	0	22	0
<i>is</i>	6	0	20	0
Auxiliaries	25	0	22	0
Lexical verbs	138	38	71	121

When we look at these data, two clear differences with the data of the –AUX group can be observed. First, negation with light verbs is now always post-verbal. Second, and in line with the hypothesis, learners quite often produce post-verbal negation with lexical verbs, too. In the data of the Moroccan learners, 138 out of 176 negations have post-verbal negation, which amounts to 78% of all negations. For the Turkish learners, the proportion of post-verbal negations is somewhat lower: 71 out of 192 negations (37%). Post-verbal negation has thus become the dominant pattern for the Moroccan learners, while for the Turkish learners, it has clearly increased, albeit not exceeded the number of pre-verbal negations. The utterances in (25) from a Turkish learner illustrate that pre- and post-verbal negation may alternate, even in very short stretches of discourse:

- |  |                             |
|--|-----------------------------|
| (25) <i>De groene meneer niet horen.</i>   | The green man not hear-inf  |
| <i>Blauwe meneer ook komt rode meneer.</i> | Blue man also comes red man |
| <i>Rode meneer ook slapen.</i>             | Red man also sleep          |
| <i>Hij slapen maar horen niet.</i>         | He sleep but hear-inf not   |

On the basis of the data presented, the research questions that were formulated at the beginning of the section can be answered. Concerning the first question, the prediction is borne out that light verbs appear with post-verbal negation from the beginning, whereas lexical verb are initially used with pre-verbal negation. While the negator was incidentally found in pre-verbal position in sentences with modal verbs and with *is*, post-verbal negation was clearly the dominant pattern. Furthermore, a positive answer can be given to the second question: the data showed that, with very few exceptions, only those learners who used *hebben* productively produced post-verbal negation with lexical verbs. In the next section, it will be investigated whether the use of subject-verb agreement is also related to the production of *hebben*.

## 7.2. Results for subject-verb agreement

The following research questions were formulated concerning the acquisition of subject-verb agreement:

- 3'. Do learners acquire subject-verb agreement only after they have acquired auxiliaries?
- 4'. Do learners more often mark subject-verb agreement on verbs that are raised over negation than on verbs that are not raised?

Now that we have seen evidence that the use of post-verbal negation correlates with the acquisition of auxiliaries it becomes interesting to test the claim that auxiliaries lead to the acquisition of subject-verb agreement, and in turn, to verb-raising. Thus, two predictions have to be tested. First, does the +AUX group more correctly mark subject-verb agreement than the –AUX group? Second, do learners mark subject-verb agreement more often on raised verbs than on verbs that are not raised? In the below subsections, these two questions are dealt with in turn.

## 7.2.1. Subject-verb agreement on lexical verbs

Table 5 presents absolute and relative frequencies of correct agreement marking for the learners that did not produce auxiliaries, the –AUX group and the learners that did do so, the +AUX group. For this analysis, only lexical verbs were analyzed.<sup>24</sup>

Table 5. Agreement marking on lexical verbs for –AUX and +AUX group

	Moroccan learners.		Turkish learners	
–AUX group	56%	(879/1569)	38%	(392/1031)
+AUX group	70%	(1341/1916)	53%	(682/1287)

Clearly, the –AUX group produces less correct agreement marking than the +AUX group and this holds for both the Moroccan and the Turkish learners. The Moroccan learners in the –AUX group only mark 56% of all lexical verbs with the correct suffix, while the Moroccan learners in the +AUX group do so in 70% of all cases. A Pearson's Chi-square test shows that this difference is highly significant:  $\chi^2(1) = 72.771$ ,  $p < .000$ . Similarly, the Turkish learners who have acquired *hebben* significantly more often mark agreement on lexical verbs than the Turkish learners who have not yet acquired *hebben*:  $\chi^2(1) = 51.591$ ,  $p < .000$ .

## 7.2.2. Agreement in negated utterances

Let us now take a closer look at negated contexts to see whether there is a difference in agreement marking between lexical verbs that are raised over the negator and those that are not. Table 6 presents for the –AUX and +AUX group how often verb agreement was marked on verbs that were raised over negation (verb-NEG) and verbs that were not raised (\*NEG-verb).

Table 6. Agreement marking in negated utterances for –AUX and +AUX group

	Moroccan learners.		Turkish learners	
	verb-NEG	*NEG-verb	verb-NEG	*NEG-verb
–AUX group	50% (4/8)	4% (3/85)	33% (2/6)	8% (14/170)
+AUX group	86% (118/138)	18% (7/38)	66% (47/71)	7% (8/121)

When we look at the data of the –AUX group and leave aside the low absolute frequencies for post-verbal negation, it appears that very few verbs occurring with pre-verbal negation bear correct agreement: 4% and 8% for the Moroccan and Turkish learners in this group respectively. A chi-square shows that the differences for the Moroccan learners in the –AUX group are significant:  $\chi^2(1) = 22.686$ ,  $p = .001$ . This indicates that these learners mark agreement significantly more often on raised verbs than on verbs that are not raised. For the Turkish learners, a Fisher's exact test was performed due to low numbers and this turned out not to be significant ( $p = .083$ ), but this is probably due to the low values. The data from the +AUX group show a clear contingency pattern, however: verbs that are raised over negation much more often correctly agree with the subject than verbs that are not raised. For both language groups, clear effects were obtained:  $\chi^2(1) = 65.157$ ,  $p < .000$  for the Moroccan learners and  $\chi^2(1) = 77.722$ ,  $p < .000$  for the Turkish learners.

In short, it can therefore be concluded that there is a correlation between the position of the verb with respect to negation, on the one hand, and the presence of correct agreement, on the other. This can be nicely illustrated with the following excerpt from a film retelling from a Turkish learner, who uses the same verb with different verbal markings, depending on whether the verb is raised or not:

(26)

<i>Charlie chaplin gaat naar cafeteria.</i>	Charlie chaplin goes to cafeteria
<i>dan ### hij koopt eten +/- pakt eten.</i>	then he buys food +/- takes food
<i>dan veel eten.</i>	then much eat (or: food)
<i>maar hij betaalt niet he?</i>	but he pay-3sg not right?
<i>betaalt nie.t</i>	pay-3sg not
<i>en hij roept de politie .</i>	and he calls the police
<i>zegt 'ik betaal niet'.</i>	says 'I pay-0 not'
<i>dan hij geeft chocolade tegen kinderen.</i>	then he gives chocolate to children
<i>maar nog niet betalen ofzo.</i>	but still not pay-inf or so

## 8. Conclusion and discussion

This study shows that Moroccan and Turkish L2 learners of Dutch acquire finiteness and negation in a systematic way. It supports earlier findings that light verbs appear with post-verbal negation earlier than lexical verbs. Importantly however, the data also indicate that one should not only distin-

guish between light verbs and lexical verbs when studying learners' acquisition of finiteness, but that it is warranted to split up the class of light verbs: these verbs show up at different stages of acquisition and behave differently with respect to finiteness. While negation is sometimes pre-verbal with modal verbs and *gaan*, it is consistently post-verbal with the copula and the auxiliary *hebben*.

This finding is important as it provides evidence for the role of scope in learner language. More precisely, it supports the idea that scope marking determines negation placement during early stages of acquisition: the copula and *hebben* have less semantic content than modal verbs and *gaan* and therefore more clearly fall outside the scope of the negator. In particular, modal verbs are not as poor in lexical content as auxiliary verbs and the copula. This also becomes apparent from the fact that they can occur in isolation in Dutch, that is, without a lexical verb (e.g., *Dat kan* 'That can', meaning 'That is possible').

Most importantly, however, the study corroborates the earlier finding for L2 German that auxiliaries are of crucial importance in the acquisition of finiteness and negation: it is only after the acquisition of these light verbs that learners produce post-verbal negation with lexical verbs. Similar observations have been made for L1 Dutch (Jordens 2002). The present data suggest that this is due to the acquisition of subject-verb agreement, that is first instantiated on auxiliaries and later also on lexical verbs. Learners significantly more often marked agreement on verbs that were raised over negation than on verbs that were not raised. Hence, the findings provide evidence that subject-verb agreement on lexical verbs leads to the acquisition of verb-raising.

Interestingly, the Moroccan and Turkish learners acquired finiteness and negation in a remarkably similar way, despite the fact that there are some fundamental typological differences between their native languages. First, Moroccan Arabic makes use of light verbs, whereas Turkish does not. Second, verbs raise in Moroccan Arabic but not in Turkish, that is, they consistently occur in sentence-final position in this language. It is interesting, then, that the Moroccan and Turkish learners in the current study showed a similar development. They did not only acquire the different Dutch light verbs in the same order, but also first produced pre-verbal negation with lexical verbs and only acquired finiteness marking after the acquisition of *hebben*. This suggests that the acquisition of finiteness and negation may follow universal tendencies.

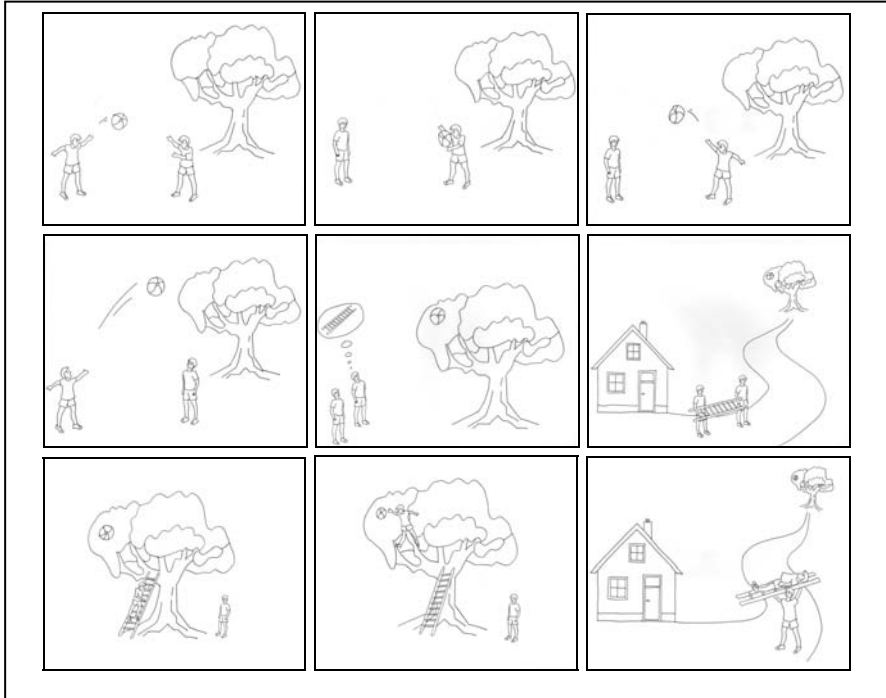
Nevertheless, some (minor) differences between Moroccan and Turkish learners were also observed. One clear difference was that the Moroccan

learners made more frequent use of light verbs, in particular of *gaan*, than the Turkish learners. As for *gaan*, Van der Craats (to appear) suggests that this is due to direct transfer from the Moroccan light verb *ġa(di)* which expresses near future and is therefore almost identical to the Dutch light verb, both in form and meaning. Moreover, the Moroccans were slightly more advanced in the use of post-verbal negation than the Turkish learners as well as in the marking of subject-verb agreement. This is an important finding as it presents additional evidence for the relation between syntax and morphology in L2 acquisition. Namely, the fact that the Moroccans were more accurate in the domain of morphology as well as in the syntactic domain when compared to the Turkish learners supports the idea that verb-raising is related to agreement marking in L2 acquisition. Such a relation would have been more difficult to maintain if the Moroccan learners had been clearly ahead in morphology but not in syntax.

The differences between the two language groups could be explained in terms of the so-called Alternation Hypothesis (Jansen, Lalleman and Muijsken 1981). This hypothesis holds that Moroccan and Turkish learners of Dutch choose a particular form as their 'default' verb form out of two alternative forms as a function of the basic word order of their L1. More precisely, Moroccan learners are hypothesized to look for verbs in sentence-middle position in the L2 because their native language has SVO/VSO word order. As they focus their attention on the middle part of Dutch sentences, they mainly encounter verb forms ending in *-o* and *-t* (and to a lesser extent *-en* with plural forms). This explains why they are relatively fast in acquiring subject-verb agreement and concomitantly, verb-raising when compared to Turkish learners. In contrast, Turkish learners of Dutch 'look for' the verb in final position, based on the basic word order of Turkish (SOV). Consequently, these learners mainly attend to infinitives. Since these verbs do not inform them about agreement marking, Turkish learners acquire this phenomenon somewhat later (when compared to Moroccan learners) and consequently, verb-raising is also delayed. Taken together, the results of the study indicate that the native language does not influence the stages that learners with typologically different native languages pass through in acquiring finiteness and negation in Dutch. However, the specific properties of the L1 may come into play in the rate at which learners proceed from one stage to the next.

## Appendix A

### Ball Story





Cake Story



Notes

1. I would like to thank Christine Dimroth, Peter Jordens and Sarah Schimke for their helpful comments on earlier versions of this paper.
2. The obligatory placement of the finite verb in V2 position in topicalized sentences, for instance, has been shown to remain problematic, even for advanced learners of Dutch and German (Dimroth et al. 2003, Becker 2005, Klein and Perdue 1992).
3. An exception to this is Klein (1984), who reviews the early studies on negation and explains the attested patterns in terms of finiteness.

4. It should be noted that, in fact, the variation is mainly due to non-finite verbs occurring on either side of negation, as finite verbs predominantly precede the negator.
5. The word *hapis* is a case of transfer from Turkish *hapishane* 'prison'.
6. This is not to say that no mention was made of the different behaviour of light verbs. For example, Clahsen (1988) noted that modals and auxiliaries regularly preceded the negator but took this as evidence against transfer, since post-verbal negation was not an option in the learners' native language.
7. A problem with this idea is that learners usually become more accurate over time in several domains. Consequently, in case a correlation is found between auxiliary acquisition, on the one hand, and verb-raising or agreement marking, on the other, it is hard to disentangle whether this correlation is indeed a causal relationship or whether both the acquisition of auxiliaries and verb-raising/agreement are due to a higher overall proficiency in the L2.
8. Sentence negation differs from constituent negation, which has 'narrow scope' in that only affects one constituent.
9. In Dutch subordinate clauses, the finite verb is placed in final position. Negation precedes the finite verb in such clauses, e.g., *Ik heb gezien dat hij niet heeft gewerkt* 'I have seen that he not has worked'.
10. Apart from this copula, there is a copula *worden* 'become' that denotes a change of state (e.g. *hij wordt oud* 'he becomes old'). Since the learners in the present study did not use this copula, it will not be further discussed.
11. As can be seen in this example, modal verbs are not marked for 3rd person singular.
12. The verb *zullen* 'shall/will' is also used to mark future tense, but this verb is mainly used in contexts where it has a strong modal meaning (i.e., that of a promise) and is much less frequent than *gaan*.
13. This level roughly corresponded to the A2/B1 level of the Common European Framework of Reference (Council of Europe 2001).
14. In this procedure, a prediction was made about the amount of time learners would need to reach a certain level in the L2 on the basis of their educational background and knowledge of other languages. The current subjects had only been at primary school or passed a few years at secondary school and in general they did not have extensive knowledge of other languages (except for some basic knowledge of French in the case of the Moroccan learners).
15. In between the production tasks, the subjects performed a number of comprehension tasks that will not be described in the present paper.
16. See MacWhinney (1991).
17. The +/ symbol in the glosses indicates a new start and a # signals a short pause.
18. Sentences that contained a modal verb but no lexical verb, such as *Dat kan niet* 'That can not' (lit. That is not possible), are not included in this table.

19. Consider, for example, the following utterance in which the experimenter asks the learner to tell what happened in a film fragment and the learner verifies whether she has understood this right by using *is*:  
 Kan je vertellen wat er is gebeurd? Is praten?  
 Can you tell what happened? Is talk-inf?
20. Evidently, when they come closer to the target language system learners start using forms of 'be' in auxiliary constructions.
21. The ordering in (36) might be a case of narrow scope: according to this idea, 'niet' would have narrow scope over 'niet stolen' and mark a contrast with the woman that has stolen in the following way: *die man niet [is stolen] maar die vrouwtje [is stolen]* 'the man not [is stolen] maar die vrouwtje [is stolen].
22. The gloss 'll' means 'learner language' and refers to a form that does not occur in the target language.
23. Auxiliary forms in the construction *Ik heb vergeten* 'I have forgotten' were not counted, as this construction is likely to be rote-learned.
24. Only verbs that occurred with an overt subject were taken into account for this analysis.

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# **Finiteness in children with SLI – a functional approach**

*Anke Jolink*

## **1. Introduction**

It is a well-known fact that children with Specific Language Impairment (SLI) have difficulties with the acquisition of finiteness. SLI children acquiring languages like Dutch and German, for example, are found to have severe and long lasting problems with the morpho-syntactic expression of finiteness, i.e. with verb movement and the use of verbal morphology (De Jong 1999; Leonard 1998; Lindner 2002). Recent studies, however, take the position that finiteness involves functional properties as well as formal ones; it is argued that finiteness plays an important role in the information structure of utterances and that it is essential for the realization of pragmatic operations. The question that arises, therefore, is: how does the acquisition of these *functional* properties of finiteness proceed in children with SLI?

This study presents longitudinal speech data of two Dutch SLI children and four normally developing children. It describes the children's development of finiteness from both a functional and a formal perspective and discusses the extent to which SLI children's development differs from that of normally developing children.

## **2. Finiteness in acquisition**

### **2.1. Finiteness and SLI**

The acquisition of finiteness has been the topic of many studies addressing the development of a first language. As a result of that, we have a clear picture of how the acquisition process normally proceeds. It is known, for instance, that children acquiring languages such as Dutch and German initially produce non-finite verbs predominantly and that they only start to acquire finiteness markings around the age of 2;0. The development to-



wards a system with morphological finiteness usually proceeds rapidly and without difficulties: most children acquire the target-adequate grammatical means to express finiteness between the age of 2;0 and 3;0 (Jordens 2002).

This is different, however, for one particular group of learners: children with Specific Language Impairment (SLI). Children with SLI are defined as having a language problem in the absence of any other type of impairment. This means that they have problems with language production (and may have problems with comprehension as well) but, at the same time, have an IQ that is within the normal range, normal hearing and no neurological or social-emotional problems that are severe enough in order to account for their language problem (Lindner 2002).

The impairment these children have may influence many different aspects of their language system, but typically affects morphology and syntax. As a consequence, children with SLI experience problems with the structural properties of language such as basic word order and verb movement, as well as the use of complementizers, determiners, plural markers and verbal morphology. One feature that is known to be especially problematic for them, is the expression of finiteness. SLI children acquiring languages like Dutch and German, for instance, have severe and persistent problems with the acquisition of verb placement and the use of verbal morphology, i.e. with the morpho-syntactic marking of finiteness. In Dutch and German, non-elliptical declarative utterances are required to have an inflected verb in the second (V2) position. However, SLI children are found to produce uninflected verbs (also referred to as “root infinitives”) in sentence final position. In addition, they are known to produce incorrect agreement markings on the verbs that do appear in the ‘correct’ V2 position: verbs in V2 often appear as bare stems or with the wrong person- or number marking. (De Jong 1999; De Jong 2003; Leonard 1998; Lindner 2002).

In short, it can be said that children with SLI have problems with the formal expression of finiteness in the language. It has been proposed in recent studies, however, that finiteness involves *functional* properties as well as formal ones. This raises the question whether these functional properties of finiteness are equally impaired in children with SLI.

## 2.2. What is "finiteness"?

Finiteness is traditionally considered to be a morpho-syntactic category that establishes tense- and agreement marking on verbs. As such, the term

"finiteness" is used to explain the difference between forms such as *walks* and *walked* in examples (1a) and (1b), that are marked for person, number and tense, and forms such as *walking*, *walk* and *walked* in examples (2a) to (2c), that are invariable with respect to these features. Note that in utterances (2a) to (2c) the other verbs in the utterance, the auxiliaries, *are* marked for these features and, therefore, are considered finite.

Finite:

- (1) a. John walks across the street
- (1) b. John walked across the street

Non-finite:

- (2) a. John is walking across the street
- (2) b. John will walk across the street
- (2) c. John has walked across the street

The use of the term "finiteness" in this way suggests that it is the form of the verb that makes finite constructions different from non-finite ones. Recent studies, however, have taken a different approach to finiteness. Klein (2006) argues that, for a number of reasons, it is important to differentiate between the morpho-syntactic marking of finiteness on the one hand and its function on the other. First, the difference between finite and non-finite verbs is present even if there is no difference in form. The verb form *left*, for instance, is considered to be finite in the utterance *he left* and non-finite in *he has left*. Thus, in spite of the fact that the form of the verb is the same in both cases, it is considered finite in one utterance and non-finite in the other. The second point is that finiteness is not an isolated feature, but rather a phenomenon that interacts with many other aspects of language. This influence is reflected in syntactic phenomena as well as semantic ones: finiteness is found to interact with the syntactic ordering of utterances, the licensing of grammatical subjects and the use of expletives. In addition, it is claimed to influence the interpretation of indefinite noun phrases.<sup>1</sup> Clearly, these findings cannot be explained from the formal properties of finite verb forms alone. Klein states, therefore, that any discussion on finiteness should involve reflections on its function as well as its form.

This view is shared by Lasser (1997), who refers to the two different properties of finiteness by the terms "S-finiteness" (for semantic finiteness) and "M-finiteness" (for morphological finiteness). Lasser emphasizes that it is important to differentiate between the formal and functional properties of finiteness, because these features do not go together in all lan-

guages. First, not all languages of the world mark finiteness on the verb: Chinese and Burmese, for instance, use lexical elements such as particles and adverbs to mark S-finiteness. Second, even languages that typically do express finiteness through verbs, do not do so in all cases: in languages like German and Dutch, where finiteness is commonly expressed through verb movement and verb affixation, constructions with uninflected verbs in sentence final position (i.e. root infinitives) are found to occur as well. Third, even languages that are very much alike and that in principle do mark finiteness on the verb, can do so in different ways. For example, English, Afrikaans, Dutch and German all express finiteness through verbs but English uses verbal morphology whereas Afrikaans uses verb movement and Dutch and German use both verbal morphology and verb movement.

It seems, therefore, that there is no one-to-one relationship between the form and function of finiteness that can be claimed to hold for all languages.

If we want to adopt the assumption that finiteness has functional properties as well as formal ones, the question that arises is: what is this so-called “function” of finiteness? According to Klein (2006) the function of finiteness can be made clear by prosodically stressing the finite element in the sentence. By stressing an element, its meaning is emphasized and contrasted with something else. As a consequence, the semantic content of the stressed element becomes clear. In an utterance like *John bought THREE books*, the stress on *three* marks the fact that John bought three, as opposed to two or twenty books.

If the prosodic stress is placed on another element in the sentence, for instance, on the subject, then this element is contrasted with something else. *JOHN bought three books* emphasizes that it was John, and not someone else, who bought three books.

What does this contrastive intonation test tell us about the meaning of finiteness when the finite element in an utterance is stressed? What is this feature contrasted with?

There appear to be two possibilities. In sentence (3b) the finite verb *was* is emphasized and here it seems to mark a tense-contrast: it is claimed that the event of John reading a book is situated in the past, rather than the present.

- (3) a. John is reading a book
- (3) b. - Actually, he WAS reading a book

In sentence (4b) the same verb is emphasized, but here something else is being contrasted: the claim that John was reading a book, as opposed to the possibility that he was *not* reading a book. In this case, the finite element emphasizes the claim that is expressed through the utterance.

- (4) a. I don't think John was reading a book  
 (4) b. - Well, he WAS reading a book

How can this claim-marking feature of finiteness be explained? Klein states that this is due to an interaction of elements on the level of information structure.

If we look at the information structure of finite declarative sentences (like the example in (5)), we see that it consists of three components: the topic, the predicate and the finite element FIN.

- |          |     |                |
|----------|-----|----------------|
| (5) John | was | reading a book |
| topic    | FIN | predicate      |

The topic component in the utterance contains information about the entity, time or place 'talked about', whereas the predicate expresses a certain state of affairs (i.e., a situation, state, event or property) that is claimed to hold for the topic. In example (5), John is the entity 'talked about', and the predicate *reading a book* is the state of affairs that is claimed to hold for John. The finite element FIN, that appears in between the topic and predicate in the surface structure of the utterance, is the component that establishes a semantic 'link' between the predicate and the topic: it marks the fact that the state of affairs mentioned in the predicate is claimed to hold for the topic.<sup>2</sup>

The linking element can be used to express different types of illocutionary force: in case of an imperative utterance, for instance, it marks the fact that the speaker *requests* a certain state of affairs to become true in relation to the topic. In a declarative utterance, the type of utterance the present study focuses on, the link marks the *claim* that the state of affairs mentioned in the predicate holds for the topic and, in doing so, establishes the pragmatic operation of assertion marking.

As we saw in example (3b) above, the finite element FIN has a temporal anchoring function in addition to the function of assertion marking: it anchors the utterance to a certain point on the time line. In this example, it expresses the fact that the utterance makes a claim about a time in the past. It is argued, therefore, that finiteness is the carrier of two features: tense

and assertion marking. In sum, the studies by Klein and Lasser show that there is more to finiteness than mere verb morphology. What does this imply for the language learning task?

### 2.3. Previous studies on assertion marking

Previous acquisition studies that have taken the functional properties of finiteness as a starting point, have found clear and comparable patterns in the development of finiteness for first and second language learners of Dutch and German (Jordens 2002; Dimroth et al. 2003; Jordens and Dimroth 2003). One of the main findings in these studies is that the assertion marking property of finiteness is acquired relatively early by all learners, whereas tense is acquired only later in the development. The acquisition of assertion marking (or ‘linking’) is found to occur in three consecutive stages, referred to by the authors as the Holistic Stage, the Conceptual Ordering Stage and the Finite Linking Stage.

Since the findings with respect to these stages were the basis for the design of the present study, I will provide a brief overview of the phenomena that are characteristic of these steps in development. Please note that not all phenomena characterizing the different stages are discussed here; for a complete overview cf. Jordens (2002), Dimroth et al. (2003) and Jordens and Dimroth (2003).

#### 2.3.1. *The Holistic Stage*

During the Holistic Stage, learners produce constructions consisting of a predicate only, or of a predicate and topic in juxtaposition, in which case the link between these two elements is not yet overtly marked through the use of linking elements. Instead, the assertion that is being expressed through these utterances is marked by intonation and/or by clausal ‘operators’ that are placed in sentence final or sentence initial position and have scope over the entire utterance:

- |     |                  |       |           |                        |
|-----|------------------|-------|-----------|------------------------|
| (6) | nee              | Peter | da zitte  | (‘no Peter there sit’) |
|     | clausal operator | topic | predicate |                        |

Examples of these clausal operators are particles like *nee* (‘no’) and *ja* (‘yes’) that express a negative and positive assertion respectively, or by

modal operators that, in most cases, express volition. Examples of utterances that are produced during the Holistic Stage, are: *nee Cynthia afpakke* ('no Cynthia away-snatch'); *ikke die* ('me that one'), *hunne Mijnie die sijfe* ('want Jasmijn that one write').

### 2.3.2. *The Conceptual Ordering Stage (COS)*

At this stage, the surface order of elements in the utterances reflects their underlying information structure, resulting in the presence of three structural positions; one for the topic, one for the predicate and another one for the link between these elements. The topic occupies the first position in the sentence (but is optional), the predicate is in last position.

During this period in development, topic and predicate are often found to be overtly linked by lexical elements: e.g. by additive particles such as *ook* ('too'/'as well') and *weer* ('again') or by frozen constructions with modal verbs such as *kanniet* ('cannot') or *wille* ('want'). These modal constructions differ from the ones used by adult native speakers of Dutch in the sense that they are invariable, morphologically fixed forms; they appear as chunks, independent of the other elements in the sentence.

The lexical linking elements are placed in clause internal position, between topic and predicate, and validate the relation between these elements. They can express a number of features, like for instance repetition (in case of the particle 'again'), addition ('too'/'as well') or modality ('want to'/'can'). During this stage, the number of modal operators increases: learners now express obligation ('must'), possibility ('may') and ability ('can'), as well as volition ('want to'). The default meaning of 'assertion' is expressed when there is no modal operator (i.e. a modal phrase or particle) in linking position. Examples of utterances produced at this stage are: *ik wél hard rije* ('I indeed fast drive'), *die weer op* ('this one again on'), *da kanniet sitte* ('over there cannot sit').

At this point in development, however, language learners have not yet acquired any grammatical means to link topic and predicate. This becomes clear from the fact that aspectual auxiliaries, which are purely grammatical elements without a semantic content, are still absent at this stage.

### 2.3.3. *The Finite Linking Stage (FLS)*

At this (final) stage, there is a transition from a lexical to a grammatical validation of the utterances. The link between topic and predicate is now overtly marked, according to the standards of the target language: the linking position is filled by grammatical elements. This transition is claimed to be a consequence of the acquisition of auxiliary constructions: at this point in the development, learners start to produce finite forms of the auxiliaries *hebben* ('to have') and *zijn* ('to be') in combination with a past participle, or finite forms of *doen* ('to do') and *gaan* ('to go') in combination with an infinitive. The acquisition of these constructions coincides with an increase in the number of constructions with a finite modal verb in combination with an infinitive, and with a decrease in the percentage of utterances with only an infinitive. In addition, the percentage of finite lexical verbs that are used in linking position increases as well during this phase in development.

In general it can be said that, during this stage, the system of lexical linking is being replaced by a target-like system with grammatical assertion marking. As a consequence, particles can no longer be used as lexical linking elements, as was the case during the Conceptual Ordering Stage (cp. (7));

(7) *ikke ook pakken* ('I also take')

They are now used to modify the VP and therefore follow the finite verb (8):

(8) *ik ga die ook pakken* ('I go that one also take')

Other examples of utterances produced during this stage, are: *die heeft allemaal opgedrinkt* ('that-one has all drunk'); *ik ga eve die glije* ('I go shortly that-one slide').

These findings show that there are clear patterns in the development of assertion marking, that hold for learners acquiring Dutch and German. The finding that is most essential for the purposes of the present study, is that all learners initially adopt a system of lexical linking to express assertion marking, and only during a later stage acquire the target-like grammatical means to express the relation between topic and predicate. This raises the question of what the development is like for learners with SLI who are claimed to have problems with the 'end-point', i.e. the grammatical expression of finiteness. How does their acquisition of assertion marking pro-

ceed? Is it similar to or different from the development found for normally developing learners?

### **3. This study**

#### 3.1. Aims and research questions

The present study has the design of a longitudinal case study. It aims to provide an overview of the development of finiteness in two SLI children over a period of one year and to examine their acquisition process from two different perspectives: a formal and a functional one.

In discussing SLI children's development and comparing it to that of normally developing children (henceforth also referred to as "ND children") who are approximately at the same point in the acquisition process, I aim to describe the extent to which SLI children's development of finiteness varies from that of ND children. The central questions in this study are the following. With respect to the formal properties of finiteness:

*Do SLI children indeed produce more root infinitives and agreement errors than ND children do (as is expected on the basis of previous findings reported in the SLI literature)?*

With respect to the functional properties of finiteness:

*Is SLI children's development different from that of ND children with respect to the expression of assertion, or is it merely delayed?*

#### 3.2. Method

In order to pursue these questions I created a longitudinal corpus, consisting of both elicited and spontaneous production data from two Dutch-speaking children with SLI and four normally developing Dutch children.

##### *3.2.1. Selection of subjects*

Both the SLI children and the ND children participating in this study were acquiring Dutch as their first (and only) language. The normally develop-



ing children were recruited from a day-care center, the SLI children from a special nursery school for children with language and speech difficulties, that was located in the same area.

*Table 1.* Subjects participating in the study

Name:	Sex:	Profile:	Age:
Alisha	F	ND	1;08.18
Jasmijn	F	ND	1;10.09
Jorick	M	ND	1;11.15
Lars	M	ND	1;11.23
Joël	M	SLI	4;03.10
Jordy	M	SLI	4;04.11

The subjects were not matched for chronological age: the SLI children were two years older than the normally developing children. I selected subjects with this particular age difference because, in the literature, children with SLI are often described as having a delay of two years with respect to the development of the morpho-syntactic properties of their language. Consequently, studies on SLI and normal development usually involve controls who are two years younger than the SLI subjects (Rice 1991; Rice, Wexler and Cleave 1995; Hanssen and Leonard 2003; Ser-ratrice, Joseph and Conti-Ramsden 2003). Since normally developing children usually start to acquire finiteness around age 2;0 (Jordens 2002), I selected SLI children who were approximately two years older.

In order to make sure that neither the normally developing children nor the SLI children had already reached the stage where finiteness is mainly expressed through grammatical means, test recordings of their speech were made before starting the actual data collection. These recordings were made at the day-care centre and the school, while the children were looking at picture books and playing with toys. The data from the test recordings showed that none of the subjects had already acquired the 'auxiliary + past

participle' construction that is taken to be a marker for the later stages of acquisition where finiteness is marked grammatically (Jordens 2002).

The SLI subjects were selected according to the traditional criteria. They had an IQ score that was within normal range (a score of 94 for both children), a normal hearing and no neurological impairments or social-emotional problems. Their language comprehension was measured by the Dutch version of the Reynell test for language comprehension (Van Eldik et al. 1995); for one of the children, Jordy, the score was 0,5 standard deviations below the normal score for the relevant age group, for the other child, Joël, this score was 1,2 standard deviations below normal. This means that these children had a delay in language comprehension of 0;3 and 1;0 years respectively. Their language production was measured by the Schlichting Test for Language Production (Schlichting et al. 1995), and this test revealed a score that was 1,2 standard deviations below normal for both children, which equals a delay in production of approximately 1;0 to 1;3 years.

Both SLI children had speech therapy at school, for a couple of times per week. Aspects of their language that received special attention during these therapy sessions were pronunciation, lexical knowledge and sentence structure in general. Inflectional morphology and auxiliary constructions were not specifically addressed.

There were no test scores available for the normally developing children. It was made sure, however, that these children met the following elementary criteria: they had not experienced shortage of oxygen during birth, did not have a history of recurrent ear infections (a condition that might have influenced their linguistic intake) and were not known to have any disorders or delays.

### *3.2.2. Data collection*

In order to examine the acquisition of finiteness longitudinally, I recorded speech data from the two SLI subjects and four ND subjects for a period of one year. I made (video) recordings of approximately 30 minutes, twice a month, for each child. The recordings were made over two different types of sessions: free-play sessions and structured elicitation sessions. During the free-play sessions the children were playing with toys, looking at pictures or just talking about things they had done or wanted to do. For these sessions, the children were put together in pairs (always the same pairs) and were recorded while interacting with each other and with the experi-

menter. During the elicitation sessions I engaged the children in discourse that was designed to ‘trigger’ the use of certain construction types, i.e. finite constructions. With these two session types I collected both spontaneous speech data as well as data from situations in which the possibility to produce finite constructions was encouraged by the use of elicitation tools and specific discourse contexts.

The elicitation tools used for this study were specifically designed to trigger descriptions of ongoing events; descriptions for which adult speakers of Dutch would use full assertions, containing a topic, a predicate and a finite verb in the second position of the sentence. The stimuli used for this purpose were a series of short video clips, a carton board with moving objects and a picture book with short stories – all depicting people and animals involved in different types of events and actions. The children’s responses to the test items were used to study the lexical or grammatical means they adopt to express assertion in the course of the acquisition process.

## 4. Analysis

### 4.1. Utterance selection and coding

The video recordings of the sessions were transcribed and all intelligible child utterances involving declaratives were selected for analysis. Questions and imperatives were not coded for further analysis since this study focuses on the ways in which learners mark assertions. Utterances containing self repetitions, imitations and non-speech sounds were excluded as well. Utterances that were intelligible, but unclear or ambiguous with respect to verb form, syntactic structure, semantic structure, temporal reference or illocutionary force, were not coded either, and excluded from further analysis.

Coding was established on four different tiers representing the linguistic levels of verb morphology (coded as "VRB"), syntax ("SYN"), information structure ("INF") and pragmatics ("PRG"). The verb morphology-tier contained information about the morphological markings on the verb(s) in the utterance. On the information structure-tier utterances were coded for the lexical realization of a topic time ("TT"), topic place ("TP") or topic entity ("TE"), a predicate ("Pred") and a linking element. In the case of utterances without an explicit link, the structure was coded as: “topic-0-predicate”. The criteria for labeling elements as topics, predicates and link-

ing elements were based on the definitions by Klein (2006), described in section 2.2.

To give a few examples of the coding system; utterances like *die was omgefalleh* ('that one had fallen over') and *plu weer op grond* ('umbrella again on the ground') were coded as follows (please note that the abbreviation "TI" on the utterance-tier stands for "response to a Test Item"):

- JAS : TI *die was omgefalleh* ('that one had fallen over')
- JASVRB : 3sing past pastpart
- JASSYN : S Vaux Vlex
- JASINF : TE V Pred
- JASPRG : past ass
  
- JOE : TI *plu weer op grond* ('umbrella again on the ground')
- JOEVRB : 0
- JOESYN : S Part A
- JOEINF : TE Part Pred
- JOEPRG : pres ass

## 4.2. Analysis

The coded data were further analyzed on the two levels of form and function.

### 4.2.1. Form: agreement errors and root infinitives

I adopted two different sets of criteria for the analysis of agreement errors:

- 'Lenient' criterion: all non target-like verb forms in V2 position were considered as agreement errors. This includes person/number mismatches as well as cases of phonological reduction and other non target-like forms.
- 'Strict' criterion: only clear cases of a mismatch between the person and number features of the grammatical subject and the person and number markings on the verb in V2 position were considered 'real' agreement errors. This excludes all other non target-like forms, such as phonologically reduced verb forms or cases where learners 'pasted' an

–e onto a verb form (resulting in forms like *kanne* instead of *kan* ‘can’).

In order to compare the percentage of agreement errors of the ND subjects and SLI subjects, I calculated the relative frequency of the two types of agreement errors from the total number of obligatory contexts of use of agreement markings (i.e. all utterances with a finite verb).

For the analysis of root infinitives I selected all the non-finite verb forms in sentence final position, that is: all infinitives, bare past participles and bare verb stems.<sup>3</sup> Subsequently, the percentage of RI’s was calculated from the total number of utterances where children had the opportunity to use a non-finite verb, i.e. all utterances containing a verb.

#### 4.2.2. *Function: assertion marking*

In order to examine the development of assertion marking, all declarative utterances containing both a topic (i.e., a topic entity, topic time or topic place) and a predicate were selected. Utterances containing only a predicate were not considered for this part of the analysis, since only utterances with both a topic and predicate were taken to provide a clear obligatory context of use for linking elements. The topic-predicate utterances were then analyzed for the presence of linking elements. The relative frequencies of the linking elements were calculated from the total number of utterances with a topic and predicate.

## 5. Results

### 5.1. Form: agreement errors

The first question to be answered is: *Do SLI children indeed produce more root infinitives and agreement errors than ND children do (as is expected on the basis of previous findings reported in the literature)?*

The data first of all show that there are no clear developmental patterns with respect to the relative frequency of agreement errors over the one-year recording period. Although the percentage of agreement errors varies over time for all subjects, there is no evidence of any particular phase in development, nor of any clear increase or decrease in the relative frequency of these errors over time. This holds for both the agreement errors in the ‘le-

nient'-category (i.e. all non target-like forms) and for the agreement errors in the 'strict'-category (i.e. clear cases of a person/number mismatch).

However, if we look at the *average* of the percentage of agreement errors that our subjects produced over the recording period (Table 2), and at the *range* of the percentage of errors produced (Table 3), we see that the numbers differ for the individual subjects.

The most important finding in this respect (cf. Table 2), is that one of the SLI children, Joël, produces more non target-like forms in general ('lenient'-category) and more person/number mismatches in particular ('strict'-category), than any of the other subjects. That is, he produces more agreement errors from both categories than the ND subjects and the other SLI subject do. In addition, the figures in Table 3 show that there were no sessions during which Joël did *not* produce any non target-like forms (errors in the 'lenient'-category); the lowest percentage of non target-like forms in Joël's data is 6%.

Table 2. Averages of the percentage of agreement errors (over all data points)

	Average % Agr Err (lenient)	Average % Agr Err (strict)
Alisha (ND)	16	1
Jasmijn (ND)	10	2
Jorick (ND)	8	2
Lars (ND)	12	5
Joël (SLI)	19	8
Jordy (SLI)	9	4

Table 3. Ranges of the percentage of agreement errors (over all data points)

	Range of % Agr Err (lenient)	Range of % Agr Err (strict)
Alisha (ND)	0-33	0-10
Jasmijn (ND)	0-29	0-6
Jorick (ND)	0-22	0-10
Lars (ND)	0-29	0-20
Joël (SLI)	6-38	0-24
Jordy (SLI)	0-27	0-13

It can be concluded, therefore, that one of the two SLI subjects in this study produces more agreement errors than the normally developing subjects do: Joël produces more non target-like forms and more person/number mismatches than any of the ND children. However, the error-rate for the other SLI subject (Jordy) is similar to the error-rate found for the ND children.

## 5.2. Form: root infinitives

With respect to the production of root infinitives, the data did not provide any evidence for a clear development over time either. There were no clear increases or decreases in the relative frequency of RI's for any of the subjects. Furthermore, there was no evidence to suggest that, on average, the SLI children in this study produce more root infinitives than the ND children do (Table 4).

*Table 4.* Averages of the percentage of root infinitives (over all data points)

	Average % RI's
Alisha (ND)	39
Jasmijn (ND)	10
Jorick (ND)	12
Lars (ND)	18
Joël (SLI)	7
Jordy (SLI)	20

In fact, the two SLI subjects seem to behave quite differently from each other in this respect: whereas Joël's average percentage of RI's is lower than that of the ND children, Jordy's average percentage of RI's equals the mean of the average percentages found for the ND children. These data show that it is *not* the case that the SLI subjects in this study produce more RI's than the ND children do

There is, however, one finding that does suggest a difference between subjects: for Jordy (SLI), the frequency of RI's appears to be related to the discourse setting or, more specifically, the session type. As is shown in Figure 1, he produces more RI's during elicitation sessions (sessions marked with an *e* for *elicitation*) than during free-play sessions (marked with *s*, for *spontaneous*); an effect that is present mainly during the first half year of the recording period (sessions 1-12). No such effect is found for the other SLI child or for any of the ND children.

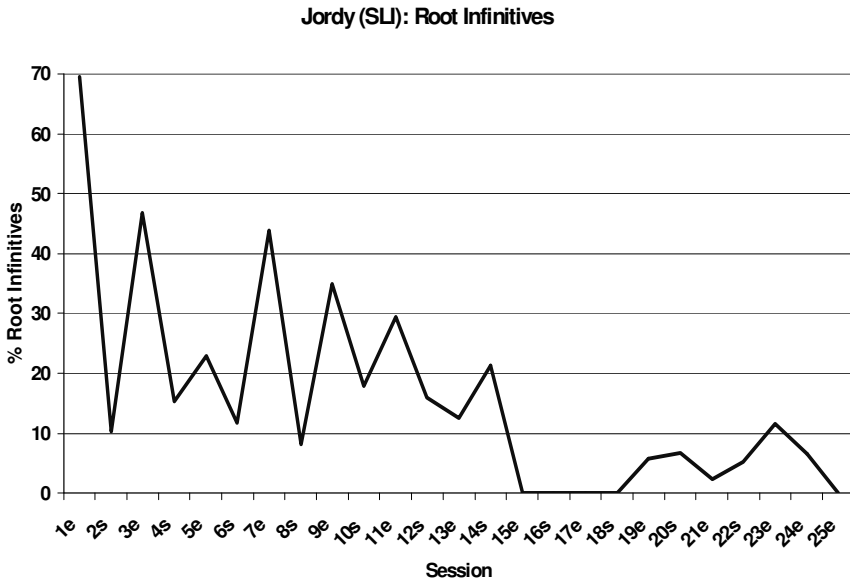


Figure 1. Percentage of RI's produced by Jordy across different sessions

It is difficult to pinpoint exactly what caused this effect; there are several factors which may have triggered Jordy's increased use of non-finite verbs during elicitation sessions. One possible explanation for the peaks in the percentage of non-finite constructions would be that Jordy felt he was being tested during the elicitation sessions and that he avoided the use of (the more difficult) finite constructions in order to prevent errors. Another explanation would be that Jordy could not choose his own verbs due to the test-protocol, which forced him to use 'difficult' verbs in V2 position, and that he avoided having to move and inflect these verbs by using an infinitive. A third possibility is that Jordy was experiencing processing problems that worsened during sessions where he felt a certain pressure to perform.

### 5.3. Function: assertion marking over time

The second question examined in this study was: *Is SLI children's development different from that of ND children with respect to the expression of assertions, or is it merely delayed?*



Section 5.3.1 discusses the findings with respect to the different means the subjects adopt in order to express assertion. Section 5.3.2 addresses the order of appearance of these assertion markers (henceforth also referred to as ‘linking elements’) in the subjects’ data as well as their frequency of use over time.

### 5.3.1. *The range of linking elements*

Over the course of the one year recording period, the normally developing subjects and the SLI subjects in the study use the following elements in order to establish a ‘link’ between the topic and predicate of their utterances. Please note that, although I list examples from only two or three children for each linking type, all of these linking types are used by all six children in the study.

‘0-links’ (i.e. no explicit link):

*winnie e poeh nieuwe kopen* (Joël, file 1, 4;03.10)

‘winnie the pooh new one buy’

*dese pot!* (Lars, file 2, 2;00.07)

‘this one broken’

copula verbs like *zijn* (‘to be’) and *worden* (‘to become’):

*die is gróót* (Jordy, file 1, 4;04.11)

‘that one is big’

*jij ben Annika* (Alisha, file 22, 2;07.13)

‘you are Annika’

finite forms of lexical verbs:

*ik sie de choene* (Joël, file 1, 4;03.10)

‘I see the shoes’

*die heef neus* (Jasmijn, file 2, 1;10.23)

‘that one has nose’

particles like *ook* (as well), *nog* (another/one more) and the negator *niet* (not):

*dan eh weer epot gaan* (Jordy, file 1, 4;04.11)

‘then eh.. again break’

*die ook grote wielen* (Jorick, file 5, 2;01.17)

‘that one also big wheels’

modal verbs like *mogen* (‘may’), *willen* (‘want’), *kunnen* (‘can’) and *moeten* (‘must’):

*da moet blauw, geel, groen..* (Joël, file 1, 4;03.10)

‘over there must blue, yellow, green...’

*ik wil ab* (Lars, file 2, 2;00.07)

‘I want off’

modal verbs like *mogen*, *willen*, *kunnen* and *moeten* in combination with an infinitive:

*dan kan weer vliegen* (Jordy, file 2, 4;04.28)

‘then can again fly’

*deetse wiv ete* (Alisha, file 12, 2;02.05)

‘this one wants to eat’

semantically ‘light’ verbs like *doen* (‘to do’) and *gaan* (‘to go’):

*die doe so* (Joël, file 6, 4;06.05)

‘that one do like this’

*dese ha oppe motor* (Alisha, file 14, 2;03.16)

‘this one go onna motorcycle’

light verbs *doen* (‘to do’), *gaan* (‘to go’) and *zijn* (‘to be’) in combination with an infinitive:

*doe ik die so doen* (Jordy, file 19, 5;02.02)

‘do I that one like this do’

*toen is e vogel da vliegen* (Joël, file 3, 4;04.18)

‘then is bird over there fly’

*ik gaas auto wasse* (Jorick, file 13, 2;05.30)

‘I goes car wash’

auxiliary verbs like *zijn* ('to be') and *hebben* ('to have') in combination with past participles:

*ik heb esien* (Jordy, file 5, 4;06.16)

'I have seen'

*wij benne nog vliegtuig eweest* (Jorick, file 17, 2;08.01)

'we are yet airplane been'

As these examples show, the SLI subjects use the same linking devices that are used by the ND children in this study and, originally, by the ND children in the studies by Jordens (2002) and Dimroth et al. (2003). This means that I do not find any differences with respect to the range of means that ND children and SLI children adopt in order to express assertion.

The finding that is most important in this respect is that, contrary to what I expected on the basis of previous studies on SLI (cf. section 2.1), the SLI children apparently *do* acquire grammatical linking elements, such as morphologically finite verbs and auxiliaries. This finding clearly goes against theories on SLI that claim that SLI children do not have all the necessary 'tools' to acquire and produce morphologically finite verb forms.

Now that it is known which linking elements the subjects produce, I will examine the patterns in the use of these linking elements over time.

### 5.3.2. *Distribution of linking elements over time*

One thing that becomes clear from the first occurrence and frequency of use of the different linking elements, is that some of our subjects are more advanced than others. That is, some subjects appear to be closer to a target-like system of assertion marking than others. For Jasmijn (ND) and Joël (SLI), for example, the percentage of utterances without an explicit link ('0-link' utterances) is around 30% at the beginning of the recording period and they already produce copula verbs, particle-links, modal verbs, lexical verbs and even a few auxiliaries from that point on.

Alisha (ND) on the other hand, still produces a large amount (80%) of utterances without an explicit link and only a few utterances with copula verbs at that time. She only starts to produce particle-links and a few lexical verbs eight weeks after the start of the recording period. Verb-links other than the copula, such as modal verbs and light verbs, come to be used even later, around three or four months after the start of the recordings.

Auxiliary-links appear the latest in Alisha's data; their first occurrence is seven months after the first recordings were made.

The other three subjects, Lars (ND), Jorick (ND), and Jordy (SLI) are somewhere between these two 'extremes' with respect to their level of advancement: their percentage of 0-links is already dropping to values around 50% during the first month of the recording period and they use particle-links, copula verbs, modal verbs and lexical verbs from early on, but their total amount of verb-links does not yet equal that of Jasmijn and Joël and, furthermore, they do not yet produce any auxiliaries either.

In spite of these individual differences, however, the data clearly show that the general patterns with respect to the order of appearance of the linking elements as well as the distribution of the different linking elements over time, are similar for the ND subjects and SLI subjects. The general patterns in our subject's development can be described in the following way:

Utterances with a 0-link, like the example *dese pot!* ('this one broken') from Lars 2;00.07, are used from the early stages on. Initially, they make up 100% of all topic-predicate utterances. In the course of the development, over a period of approximately one year, their occurrence decreases to a value of around 10 %.

Copula verbs are also used from early on, initially mainly in the shape of a fixed form resembling the third person singular, as in the utterance *die is kaf* ('that one is off'), produced by Alisha 1;08.18. Unlike the 0-links, however, copula verbs continue to be used throughout the development; during later stages, children start to use them productively, i.e. as grammatical items carrying person- and number markings, as in *jij ben Annika* ('you are-2<sup>nd</sup>.ps.sing. Annika', Alisha 2;07.13).

Particle-links as in *die ook grote wielen* ('that one also big wheels', Jorick 2;01.17), come to be used a few weeks after the copula verbs. After their first appearance, there is a strong increase in their frequency of use; at their 'peak' they make up 20-40% of all linking elements. After a period of several months, their relative frequency starts to decrease again, until it reaches values under 10%. It should be noted, however, that particles do not 'disappear' from the children's language entirely; they continue to be used. However, their function changes; initially they are used as linking elements in the second position of the utterance as in *die óók weg* ('that one also gone', Jasmijn 1;10.23), whereas later, they are used as modifiers of the VP, appearing in a position to the right of the finite verb, as in *die is óók ziek* ('that one is also ill', Jasmijn 2;02.08)

The first lexical verbs appear around the same period in development as the particle-links. Initially, they only appear in fixed forms, such as *heef* in *ik heef aadige beesje* ('I have nice animal') and *die heef neus* ('that one has nose', Jasmijn 1;10.23). After a few months, they come to be used productively, as grammatical elements carrying person- and number markings that match the features of the utterance's grammatical subject. An example of a productively used lexical verb is *hebbe* (plural form) in the utterance *we hebbe nóg meer* ('we have even more'), that was produced by Jasmijn 2;03.12.

Modal verbs and light verbs appear a few weeks after the first use of particle-links and lexical verbs. As was the case with the copula verbs and lexical verbs, these verbs are first used as unanalyzed chunks and only later become productively used, grammatical elements. Joël (SLI), for example, initially produces unanalyzed, fixed forms of modal verbs, as in *daar kan poppetjes in!* ('over there can-sing. dolls [be put] in', Joël 4;05.01). A few months later, he produces a plural form of a modal verb: *daar moete eve ook de kindjes bij* ('over there must-plur. also for a moment the children [be] near', Joël 4;09.28). A similar development is found with respect to the light verbs. One of the ND subjects, Jorick, initially produces a fixed, non target-like form of the light verb *gaan*: *nou ga dese ooh ope* ('now go this one also open', Jorick 2;01.03). Half a year later, at age 2;07.25, he not only produces target-like singular forms of this verb, but plural forms as well, like for example: *nou gaan de deure dicht* ('now go the doors closed').

Auxiliaries in combination with past participles, such as *wij benne nog vliegtuig eweest* ('we are yet airplane been', Jorick 2;08.01) are the last linking elements to be acquired by our SLI subjects and ND subjects; they only appear six to seven months after the first occurrence of the other linking elements.

These data show that SLI children's development of assertion marking is very similar to that of normally developing children: assertion marking is acquired early, even before the target adequate grammatical means to express finiteness have been acquired. All children in this study first adopt lexical means, such as particle-links and unanalyzed verbs, to establish a link between topic and predicate and only later acquire grammatical linking elements, such as analyzed verbs and auxiliaries.

Importantly, these findings also imply that the development of the SLI children does not come to a standstill once lexical linking devices have been acquired; like normally developing children, these children 'move on' and acquire a target-like, grammatical system of finiteness marking.

## 6. Conclusion

Is SLI children's development of finiteness merely delayed, or also different from that of normally developing children? Findings from the present study suggest that the answer to this question is, to a certain extent, dependent on the approach one chooses to take. When taking a purely formal approach and looking at the morpho-syntactic marking of finiteness only, we see that there are differences between ND children and SLI children: one SLI child produces more agreement errors than ND children do, whereas for the other SLI child the frequency of non-finite constructions appears to be related to the discourse setting; an effect that was not found for any of the other children.

But does this mean that their acquisition of finiteness is different? If we step aside from the formal properties of finiteness and instead examine the means children adopt to express the functional properties of finiteness, we see that the picture changes: we find that SLI children and ND children use the same range of linking elements and that their development with respect to the use of these linking elements is very similar.

The data from this study suggest that SLI children do acquire the assertion marking properties of finiteness. They even acquire the target-like grammatical means to express these properties; it seems that they just do not always succeed in applying them.

## Notes

1. I will not go into the details of these phenomena here; for a complete overview and description, cf. Klein (2006).
2. In example (5) the FIN position is filled by a finite auxiliary verb; a verb that does not carry any lexical information. This position can, however, also be filled by a finite lexical verb, as in *John reads a lot of books*. In this case, the functional properties of the finite element are merged with the lexical information of the verb.
3. Please recall that the analysis presented here only involves non-elliptical utterances. Therefore, it is certain that the non-finite forms that are considered here are not the result of ellipsis.

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# Functional and modal elements in child and adult Russian

*Natalia Gagarina*

## 1. Introduction

### 1.1. The target inflectional system of verbs and the acquisition of finite verb forms

Russian expresses — pronominally synthetically — person, number, tense and other verbal categories by verb inflection; the forms of the present/future tenses have inflectional endings assigned to three persons and two numbers. There is no syncretism in inflectional endings; instead there are unique morphological forms.

Being a predominantly synthetic language, Russian exhibits various types of structurally different analytical constructions with finite and non-finite elements, such as an auxiliary, modal and phasal verbs, modal adverbs and adjectives, etc. The auxiliary *to be* is used only in the future with the imperfective aspect and it agrees with the subject. Besides, children frequently hear analytical sentences with a perfective or imperfective infinitive and (a) the modal verbs *hotet* ‘want-INF’, *moch* ‘can(may)-INF’, etc. which agree with the subject in person/number in the present and gender/number in the past, (b) temporal, modal, or other adverbial predicates; (c) the modal adjective *nuzhno* (*neobhodimo*) ‘necessary’, (d) *nel’zja* ‘you’re not allowed to’, etc. These constructions have “radically different morphosyntactic structures” (Babby 2000: 19) and affect, as it will be shown below, the acquisition of finiteness in Russian.

Previous research has shown that while children acquire agreement inflection on lexical verbs within four to five months from the onset of verb production (Kiebzak-Mandera 2000; Gagarina 2003, in press), they need more time to learn the correct inflection of an auxiliary and the use of modal elements. Already Gvozdev (1949) noted fast acquisition of verb oppositions in the analyses of the diary notes of his son “from the first words to the first grade”. Kiebzak-Mandera, in her dissertation containing a detailed analyses of the longitudinal naturalistic data of three monolingual Russian-

speaking children, has shown that the acquisition of synthetic verb inflection “takes very little time: after the early phase of system formation, which takes a few months, children’s material becomes comparable with adults’ language” (Kiebzak-Mandera 2000: 44; cf. Poupynin 1996, 1998). By comparing the data of adults and children she notes that analytical imperfective future with the auxiliary *to be* is rather rare and constitutes only a small percentage in the data of the three children she analysed, and that “the structure of the language of a three-year-old child is practically the same as that of the spoken language the child hears” (Kiebzak-Mandera 2000: 45). Gagarina (2003, in press) confirmed the previous findings in longitudinal studies of three other children: four to five months from the onset of verb use children employ verb inflection productively in synthetic structures.

Recently Dressler (2007) applied a mathematic measure to the evaluation of the speed of morphological acquisition and demonstrated the influence of the regularity, transparency of a system on the speed of the morphological development. He argued that the richer the morphology of a target language was, the more stimulated a child was to learn it. This task becomes easier when the morphology is transparent, iconically organized and regular (on statistical methods see Xantos and Laaha 2007).

Considering the previous findings on the acquisition of synthetic verb inflection in Russian and on abstract morphological rules governing the assignment of inflection, this study explores the development of finite (and non-finite) elements in analytical constructions and compares it with these previous findings.

The questions to be addressed are the following. Given the typological characteristics of Russian and its specificity in expressing finiteness, how do these properties influence children’s acquisition of synthetic and analytic marking of finiteness? How do morphosyntactic variation and complexity of the analytical constructions influence the process of their acquisition? The following factors are considered to have an influence on the acquisition of finite elements in analytical constructions: number of tenses (several past/future tenses), saliency and frequency<sup>1</sup> of analytical constructions in spoken language, inflectional richness vs. inflectional homophony. The acquisition of finite and modal elements is analysed within subsequent stages of development. The next two sections of this part will present types of analytical sentences in Russian, discuss the stages of the acquisition of finiteness and set up the theoretical frame of the data analyses. Section 2 is devoted to a description of the methods and data. An analysis of the children’s use of analytical utterances is given in Section 3.

Results are discussed in the next section, and the conclusion terminates the paper.

## 1.2. Types of analytical sentences in Russian

First, I will present an overview of different types of analytical structures children hear in Russian. Finite analytical utterances include the auxiliary *byt'* 'to be', the modal verbs *hotet'* 'want-inf', *moch'/smoch'* 'can(may)-inf:ipfv/pfv', phasal verbs (that can denote beginning, continuation, termination, etc. of an action), or another finite verb and a perfective and/or imperfective infinitive. With *byt'* 'to be' and phasal verbs, only imperfectives are allowed, and with *hotet'*, *moch'/smoch'*, verbs of both aspects are admitted, examples (1)-(5):

- |   |  |
|---|--|
| (1) <i>budu</i><br>be-1s                      | <i>stroit'</i><br>build-INF (only IPFV)        |
| (2) <i>nachnu</i><br>start-1s                 | <i>stroit'</i><br>build-INF (only IPFV)        |
| (3) <i>zakonchu</i><br>finish-1s              | <i>stroit'</i><br>build-INF (only IPFV)        |
| (4) <i>xochu</i><br>want-1s                   | <i>stroit'/postroit'</i><br>build-INF:IPFV/PFV |
| (5) <i>mogu/smogu</i><br>can(may)-1s:IPFV/PFV | <i>stroit'/postroit'</i><br>build-INF:IPFV/PFV |

In non-finite sentences infinitives of either aspects occur with temporal, modal, or other adverbial predicatives (adverbial predicatives in these constructions advise/dissuade or (dis)allow the performance of an action). These types of utterances, see examples (6)–(8), are very frequent in child-directed speech, especially the last one:

- |  |   |
|--|---|
| (6) <i>rano</i><br>early-ADV<br>'(It is) early to build' | <i>stroit'</i><br>build-INF (only IPFV) |
|--|---|

- (7) *mozžno* *stroit'/postroit'*  
 (allows the action) ADV:PRED build-INF:IPFV/PFV  
 '(Agent) may build'
- (8) *nel'zja* *stroit'/postroit'*  
 (disallows the action) NEG:PRED build-INF:IPFV/PFV  
 '(Agent) should not build', '(Agent) not allowed to build'

Another type of non-finite analytical utterance which is also frequently used in child-directed speech includes the modal adjectives *nuzhno* (*neobhodimo*) 'necessary' and an infinitive in either aspect (the structure of this construction, however, does not differ from those given in (6)-(8)).<sup>2</sup>

- (9) *nuzhno* (*neobhodimo*) *stroit'/postroit'*  
 (advises the action) ADJ:PRED build-INF:IPFV/PFV

It is not pertinent for the present article to attempt a detailed analysis of all these analytical constructions with infinitives. They were presented briefly in order to show that although analytical sentences are structurally very different, they can be divided into two types: finite and non-finite (so-called, impersonal) examples like (10) and (11), depending on the *ability* of a functional and/or modal element to carry a finite inflection (to agree with a subject):

- (10) *Mozhno* *ja* *budu* *igrat'?*  
 may I be-1s play-INF:IPFV  
 'May I play?'
- (11) *Mozhno* *mne* *igrat'?*  
 may I-DAT play-inf:ipfv  
 'May I play?'

These utterances may be used only with an infinitive to express various types of modality, like, for example, necessity: *Tebe jechshjo mnogo uchit'sja* 'You (have) to learn a lot'.

What is important for language acquisition is that it takes children more time to learn the expression of finiteness in syntactically complex and structurally very different analytical constructions than in utterances with a lexical verb that exhibits the regular and transparent finite inflection. The spontaneous longitudinal data provide empirical evidence for this: the first

finite elements in the analytical constructions, the auxiliary *to be* or the modal verb *want*, emerge and develop when children are able to operate freely with finite synthetic forms. Thus, finiteness can be said to develop in two steps: first step — the most regular and transparent domain of the subsystem of lexical verbs, its synthetic part; second step — the less homogeneous and more complex domain of the modal and functional verb subsystem — analytical constructions.

### 1.3. Stages in the acquisition of finite verb forms

There are various approaches to the allocation of developmental stages/phases in first language acquisition of morphology and to one of its important components, i.e. finiteness.<sup>3</sup> While some approaches rely on the number of constituents in children's utterances (as, for example, Gvozdev 1949; Ingram 1989), others use the development of finite forms and paradigms (as, for example, Dressler and Karpf 1995; Ingram, Welti and Priem 2006 — for English, German and Spanish) or the expression of the information structure (Jordens and Dimroth 2006) as the fundament for their classifications.

Three main phases of morphological development (and of finite forms within a paradigm) were proposed in Dressler and Karpf (1995). The first, premorphological phase precedes the detection of grammatical morphology and is characterized by the occurrence of “extragrammatical (or “expressive”) morphological operations and precursors of later grammatical rules consisting only of rote-learned forms” (Bittner, Dressler and Kilani-Schoch 2003: xii). During this phase “no system of grammatical morphology has yet become dissociated from a general cognitive system that handles, inter alia, words of whatever form” (Bittner, Dressler and Kilani-Schoch 2003: xiii). The second, protomorphological phase of language acquisition is characterized by the detection and application of the first morphological rules. Finally, during the third phase, morphology proper is established and “the child's systems approach qualitatively, if not quantitatively, the adult models” (Bittner, Dressler and Kilani-Schoch 2003: xiii).

The four stages of the development of verb grammatical categories in Russian, suggested in Gagarina (in press) are in agreement with the three phases described above. While during the first stage no verbs are attested and children use sound-imitations to denote different types of actions, the three others stages exhibit verb production. The difference between these stages is *how* children produce (synthetic) finite verb forms: at the first

stage, finite verbs forms are reproduced (without using morphological rules of finite word formation), at the second stage children produce finite forms, which can be said to be productive (produced by application of morphological rules) and at the last stage children acquire the language norm (e.g. less regular rules, irregularities, single instances of exceptions). These four stages of the development deal with the synthetic finite verbs only; analytical constructions with an auxiliary (or other finite elements) and infinitives are treated separately.

Being essentially in concordance with the two above-mentioned classifications, as far as the development of finite forms (in Dutch) is concerned, the three consecutive phases of linguistic development, the *Holistic Stage*, the *Conceptual Ordering Stage* and the *Finite Linking Stage*, proposed by Jordens and Dimroth (2006) allocate “the expression of a topic (explicitly or implicitly) and a state of affairs, such that the state of affairs is claimed to hold for the topic” (Jordens and Dimroth 2006: 177) as a common property at these stages. “This relation is established through what we call a validation or linking device. It is this relation of linking which is realised by different linguistic expressions at consecutive stages of language acquisition. At the Holistic Stage validation is achieved by pragmatic means, at the Conceptual Ordering Stage — by lexical means and at the Finite Linking Stage — by morpho-syntactic means” (Jordens and Dimroth 2006: 177). In the acquisition of Dutch, modals with infinitives are used productively already during the Conceptual Ordering Stage. Only during the last — Finite Linking — stage do language learners acquire the productive use of auxiliary forms to mark the grammatical relations.

These stages generally replicate the same sequence in the development of finite forms, but show no differentiation between the finite lexical verbs vs. the marking of finiteness on functional elements.

In what follows, I will try to show that finiteness marking in Russian develops differently within the two *domains* of the verb grammatical system — the synthetic one with lexical verbs and the analytical one with functional and modal elements. Finite functional elements occur in Russian with a lag of about half a year after the inflection on lexical verbs is used productively.

## 2. Method

For this study the longitudinal naturalistic data from three monolingual Russian-speaking children were used. All children come from middle-class

families in St. Petersburg. The data were collected on a monthly basis during natural every-day routine situations, like playing, eating, walking, etc. The child-adult verbal interaction was recorded for one to six hours a month so that the mean length of recordings per month constitutes about two and a half hours. All data were transcribed using the CHILDES (MacWhinney 2000) and were coded, i.e. morphologically tagged, by the program specially developed for the coding of spontaneous (children's) Russian (Voeikova 2000; Gagarina, Voeikova and Gruzincev 2003).

According to the goals of the present study a restricted set of data was analysed starting from the onset of verb production (at age 2;0) for the subsequent twelve months.<sup>4</sup> This selection of the data provides the possibility to investigate in detail the emergence of finiteness in the analytical constructions, the more “advanced” period when children have already mastered the “basic morphological rules” and, finally, to investigate the more advanced stage at age 3;0 (Table 1). It furthermore, allows for the analysis of the order of introduction of various forms in the parental input and the order of their emergence in children speech.

Table 1. Participants and data used in the study

		<i>Data of children</i>		<i>Data of adults</i>	
Name	Age range	Analysed utterances	MLU min—max	Analysed utterances	MLU min—max
Liza	2;0 – 3;0	4299	1.819 – 3.964	8108	2.970 – 5.811
Vanja	2;0 – 3;0	12272	1.228 – 2.765	22384	3.121 – 4.865
Vitja	2;0 – 3;0	5381	1.534 – 3.558	10292	3.551 – 4.597

Table 1 illustrates the variation between the data and participants in the amount of material analysed, and the rates of MLU across three children. Liza (L.) is the earliest to start using verbs at the age of 1;8. Her early utterances consist mainly of one (almost always inflected) component. The first multi-component utterances with verbs occur only at 2;0. L.'s speech exemplifies a number of so-called “family specific” words, registered during the whole period of recordings, which are declined and serve as basic forms for derivation, for example, the name of her brother *Aljoshka* (liter.) — *Apka* (family specific). She also possesses more (pro)nominal and verb inflection, and in comparison with the two boys she is relatively late in the construction of multi-component utterances. There seems to be a relation between the diversity of inflectional forms of verbs, nouns and pronouns and the low amount of elements she needs in order to express the meaning



of an utterance. Or to put it in another way, the morphological richness the child possesses may be connected to the syntactical poverty (and vice versa).

The corpora of Vanja (Va.) and Vitja (Vi.) are bigger than that of L. Unlike L., both boys are later in the onset of verb production (age 2;0), but not slower in the development of their finite forms. The use of child-specific words in the data of Va. and Vi. is not as frequent as in L.'s, but their words are more "stable". They are used for a longer period and are not easily replaced by their counterparts from the adult language, for example *bizinja* for the normative *mashina* 'car', used by Va. from 2;1 to 2;3. The lexical and inflectional diversity shown by Va. and Vi. is lower than with L., but the two boys more actively construct multi-component sentences and combine words in utterances. Thus, the deficit of verb and (pro)nominal inflection is compensated for the number of elements that their utterances consist of.

Parental input mainly consists of mother's speech for L. and Vi. and mainly of grandmother's speech for Va., the children's principal caregivers. Additionally, the few utterances of adult input (fathers, grandfathers and L.'s brother) were analysed for all three children.

All utterances containing at least one meaningful lexical unit resembling a Russian word in form and meaning were coded and analysed. Bare yes/no utterances, citations, immediate repetitions and frozen forms were partially coded, but excluded from the analysis.

### 3. Results

The following two types of analytical utterances in the caregiver's and children's data were investigated: a) finite utterances with either a functional or a modal element:

(12) <i>byt'</i>	to be	AUX
<i>hotet'</i>	want-INF:IPFV	VERB
<i>moch'/smoch'</i>	can(may)-INF:IPFV/PFV	VERB

and b) non-finite utterances with a modal element:

(13) <i>nel'zja</i>	(disallows the action)	NEG:PRED
<i>mozhno</i>	(allows the action) may	ADV:PRED
<i>nado</i>	necessary	ADV:IMPERSONAL <sup>5</sup>

The findings are summarized in the respective sections below. Figures 1 and 2 exhibit the percentages of finite auxiliary and modal verb tokens out of all tokens of caregiver's and children's data respectively. The number of tokens was calculated separately per (set of) recordings of each month for each child.

The distributional pattern that can be observed in the input data of the three children is rather different: during the entire observation period, the mean rate of produced finite *elements* is around 5% in L. and Va. and almost 10% in Vi. L.'s input can be said to be more "unstable" in that the rate of finite elements varies between 2% and more than 10%. Such variation in L.'s input may be explained by the types of conversation between the girl and her mother as well as by pragmatic factors. Va.'s input is more homogenous — as far as the quantity of finite elements is concerned, especially during the initial months after the onset of the child's verb production. Vi.'s input can be placed "in the middle": the percentage of finite elements stays between the 5% and 10% level except for the initial month with less than 5% and the two final months with 12,5%.

The distribution of the auxiliary and the modal verbs within the group is also input-specific. While the use of the auxiliary *to be* in Vi.'s and Va.'s input slightly increases and is generally higher than in L.'s input, its use seems to be rather irregular in L.'s input. In general, L.'s caretakers use the auxiliary *to be* more seldom than that of the two boys. In sum, it is the use of *to be* that exhibits the strongest variation between the collection of input of three children (see the *mean* blocks).<sup>6</sup>

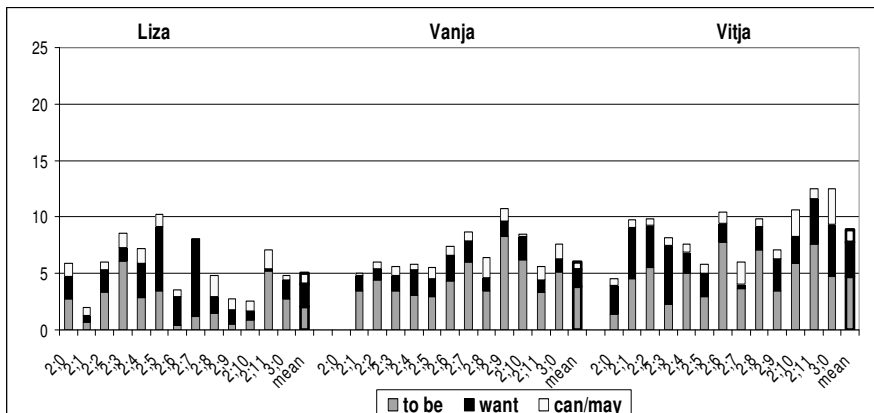


Figure 1. The use of finite elements in input

As far as the verb *hotet* 'want-inf' is concerned, all care-takers are very similar in that they use it in less than 3% out of all verb tokens and mark it in the absolute majority of cases by the 2<sup>nd</sup> person singular inflection (in the interrogative utterances). The forms of past tense and 3<sup>rd</sup> person are the next on the list of the descending frequency counts of the care-takers' utterances, see examples (14) to (16):

- (14) *Chto ty hotela poprosit'?*  
 what you want-PAST:SG:FEM ask-INF:PFV  
 'What did you want to ask?'  
 (Liza's input, 2;09)

- (15) *Pro kogo ty hotela mne rasskazat'?*  
 about whom you want-PAST:SG:FEM me tell-INF:PFV  
 'Whom did you want to tell me about?' (Liza's input, 2;05)

- (16) *Pochemu Vanja ne hočet?*  
 why Vanja NEG want-PRES:3S  
 'Why does Vanja not want?' (Vanja's input, 2;05)

- (17) *On s'est ix hočet*  
 he eat-inf them want-PRES:3S  
 'He wants to eat them' (Vitja's input, 2;10)

Finally, the verb *moch* 'can(may)' and its perfective counterpart *smoch* is the least used. It is characterized by a more stable use throughout the observation period observed in comparison with the previous two elements. Out of all occurrences of *moch*, forms of the 3<sup>rd</sup> person singular occur considerably more often (117 tokens out of all 244 tokens). The 2<sup>nd</sup> person and 1<sup>st</sup> person singular are also used frequently, 52 and 41 tokens respectively, examples (18), (19). The tokens of the verb *smoch* are attested only 25 times and the forms of the 2<sup>nd</sup> person singular constitute the majority here (11 tokens of this form), examples (20), (21).

- (18) *...ja ne uverena, chto ona mozhet*  
 I NEG sure that she can-3S  
 '...I'm not sure she can' (Vitja's input, 2;8)

- (19) *Ne mozhet idti on, ...?*  
 NEG can-3S go-INF he, ...  
 'He cannot go, ...' (Vitja's input, 2;8)
- (20) *Ty mul'tfil'm ne smozhesh' posmotret'*  
 you-2s film NEG can-2S watch  
 'You will not be able to watch the movie' (Vanja's input, 2;9)
- (21) *Ty sama ne smozhesh'*  
 you-2s yourself-FEM:SG NEG can-2s  
 'You yourself will not be able' (a verb is omitted) (Liza's input, 2;9)

All caregivers use sentences with these finite elements with and without an infinitive — this is an important peculiarity of the input that impacts children's speech production. In the sentences without infinitives, the functional and modal elements "carry" more semantic *weight*, children guess the denoted action.

Children's data show a strong similarity in the timing of the emergence of utterances with *to be*, *hotet'* and *moch'/smoch'*. The auxiliary *to be* occurs in all children four to six months after the onset of verb production when the inflection on lexical verbs is already used productively. Shortly after the first use (except for L. at 2;1 *budu slushat'* 'be-1s listen-inf'), the auxiliary *to be* becomes productive and even exceeds the rates of input production, cf. the spurt in L.'s data at 2;8, in Va.'s and Vi.'s data at 2;6 and the caregiver's use during the same months. Children seem to overuse this element after they learned how to use it, see for example, Figure 2: L.'s use of *to be* at age 2;8, 2;9 and 3;0. Several months after the onset of the occurrence *to be*, the frequency of its use still fluctuates strongly and only in Vi.'s data approaches the target rates of about 4% by the age of 2;9. High inconsistencies in the use of auxiliary *to be* are observed in L.'s data: the mean percentage of the auxiliary occurrences in L.'s input is 3% and in L.'s speech it is 6,3%.

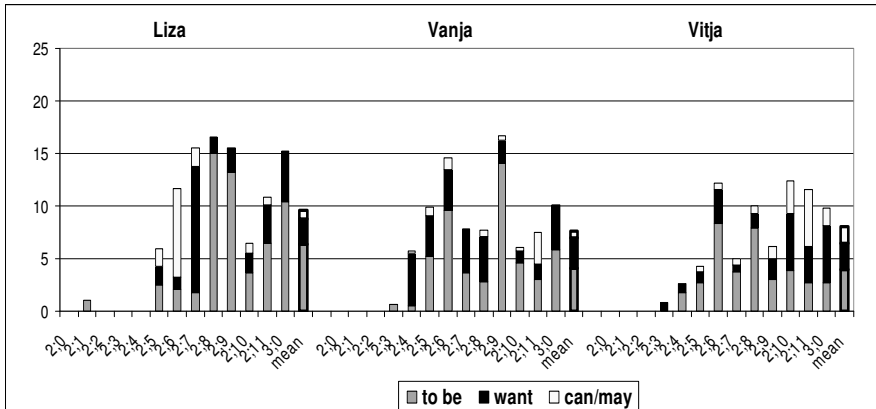


Figure 2. The use of finite elements in children's speech

*Hotet'* with infinitive emerges eight months after the onset of verb production in L. and Va., and four months after the onset of verb production in Vi.; these first occurrences are given in (22) to (24).<sup>7</sup> *Hotet'* is used by V. exclusively in the 1<sup>st</sup> singular, whereas in L. and Vi. its distribution between the 1<sup>st</sup> and 3<sup>rd</sup> singular person is balanced.

(22) *Koshka xochet popit'*  
 cat want-3S drink-INF:PFV  
 'The/a cat wants to drink' (Liza 2;5)

(23) *Akula xochet pit'*  
 shark want-3S drink-INF:IPFV  
 'The/a shark wants to drink' (Vanja, 2;8)

(24) *Vitjushik pit' hochet*  
 Vitja-DIM drink-INF:IPFV want-3S  
 'Vitja wants to drink' (Vitja 2;4)

*Moch'/smoch'* in utterances with and without infinitives emerges at around two and a half in all children, these first occurrences are given in (25) to (29):<sup>8</sup>

(25) *Tapku mogu polozhit'*  
 slippers-acc can-1S put-INF:PFV  
 'I can put slippers' (?) (Liza, 2;5)



caregivers already use *nel'zja* during the first analysed months and they generally produce prohibition more often than L.'s mother. The prohibition is uttered as seldom as the explicit permission *mozhno*; both hardly reach one percent.

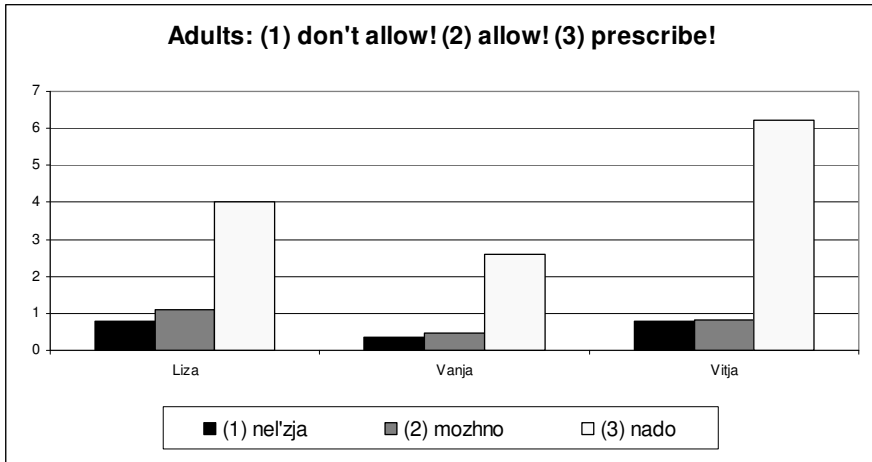


Figure 3. The use of infinite modal elements in input

The prescription to do anything, often in the generic sense (like *One should wash one's hands before a meal!*) is more frequent instead and occurs very early (it coincides with the onset of verb production); for example, in V.'s input it exceeds 6%. Such frequent uses can be explained by the cultural peculiarities, the Russian-speaking adults tend to express directly and explicitly what children should do or what children ought to do. *Nado* is mainly used with the perfective infinitives, examples (30) to (32):

(30) *Chto nado sdelat'?*  
 what necessary-ADV do-INF:PFV  
 'What is necessary to do? (What one should do)' (Liza's input 2;0)

(31) *Chto tut nado narisovat'?*  
 what here necessary-ADV do-INF:IPFV  
 'What one should paint here?' (Vanja's input 2;0)

- (32) *Kak prosit' vezhlivo nado?*  
 how ask-INF:IPFV politely necessary-ADV  
 'How one should ask politely?'
- A kak nado prosit' vezhlivo?*  
 and how necessary-ADV ask-INF:PFV politely  
 'How one should ask politely?'
- Nado skazat' , daj, pozhalujsta*  
 necessary-ADV say- INF:PFV give-IMP please  
 'One should say, give (me), please' (Vitja's input 2;0)

Children's data mirror in general the adult's distribution of modal elements: the more often adults use a modal element, the more often it is represented in the child speech, see Figure 4. An exception is the use of *nado* in V.'s speech: his caregivers seem to use it more often in relation to *nel'zja* and *mozhno* as V. does himself, cf. Figures 3 and 4.

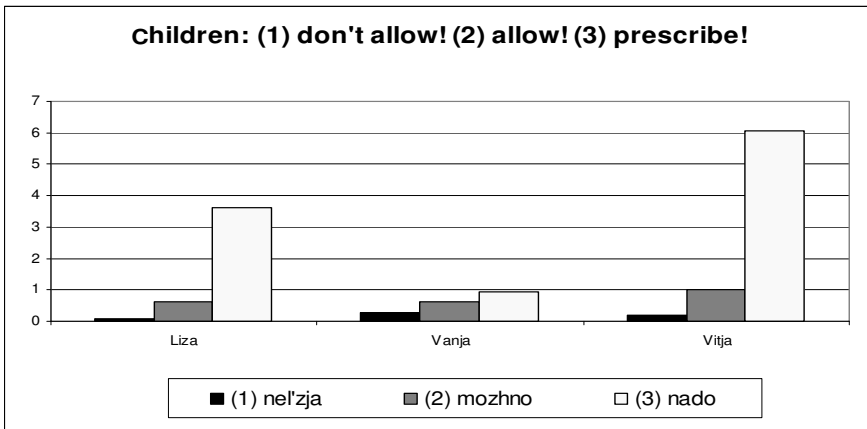


Figure 4. The use of infinite elements in children's speech

Sentences with *nel'zja* and an infinitive are the rarest out of all analysed types with the modal elements. Children produce concrete prohibition rarely in comparison with the actions prescription; they also less frequently generalize about the actions that they are not allowed to perform (example (35)). *Nel'zja* occurs in the data of all children after 2;8 with a lag of several months after the sentences with finite elements first occur (one utterance with *nel'zja* is registered at 2;6 in V.'s data), examples (33) to (36):



- (33) *Kukla Katja nel'zja etu vodichku*  
 doll Katja NEG this-FEM:ACC water-DIM:ACC  
 'The doll Kate, you're not allowed to take this water' (Liza 2;9)
- (34) *Nel'zja trogat'*  
 NEG touch-inf  
 'You're not allowed to touch!' (Vanja 2;6)
- (35) ... *na ulice nel'zja*  
 ...at street-LOC:SG not-allowed  
 'It is not allowed at the street (a verb is missing)' (Vanja 2;10)
- (36) *Ego nel'zja obizhat'*  
 he-GEN not-allowed offend-INF:IPFV  
 'One is not allowed to offend him' (Vitja 2;8)

*Mozhno* is slightly more frequent than *nel'zja*; it occurs together with the perfective infinitives several months prior to *nel'zja*. The first uses are connected with the concrete experienced situations; gradually children learn to express abstract permissions, examples (37) to (39):

- (37) *Mozhno dazhe guljat'*  
 necessary-AVD:PRED even go for a walk-INF:IPFV  
 '(We) can even go for a walk' (Liza 2;6)
- (38) *Mozhno kopat'*  
 allowed/may-ADV:PRED dig-INF:IPFV  
 'You may put (it) off' (Vanja 2;6)
- (39) *Snimat' mozhno*  
 put-INF:IPFV allowed/may-ADV:PRED  
 'You may put (it) off' (Vitja 2;5)

As it has already been mentioned, *nado* is the most frequent non-finite modal element. It occurs at age 2;4 in all children and is initially used without a verb, the action that needs to be done/forbidden is evident from the experienced situation and children omit the "lexical" part of the predicate. Moreover, children seem to use *nado* instead of the modal verb *hotet'* 'want', since it expresses a stronger grade of volition, namely volition containing a necessity component. This component may strengthen children's

utterances in favour of their wishes/inclinations to perform an action. The first occurrences for the three children are given in (40) to (43):

- (40) *Na knizhke nado* ...  
 on book-DIM:LOC necessary-AVD:PRED ...  
 ‘One should (paint) on the book’ (Mother and L. are painting on the list of paper, L. thinks that this list of paper should be placed on the book, Liza 2;4)
- (41) *Eto nado v korobochku*  
 this necessary-AVD:PRED in box-DIM:ACC  
 ‘This (the comb) should be put into the box’ (Liza, having finished to comb her teddy bear sees a box and wants to put the comb there, Liza 2;4)
- (42) *Vane ne nado*  
 Vanja-DAT NEG necessary-AVD:PRED  
 ‘Vanja — not necessary’ (Vanja and his mother are talking about nose-drops, Vanja does not want to get them, Vanja 2;4)
- (43) *Eshche nado*  
 more necessary-AVD:PRED  
 ‘More (is) necessary’ (Mother suggests that she and Vitja will write something later, but Vitja wants to continue writing/drawing at the moment of speech, Vitja 2;4)

#### 4. Discussion and conclusion

To sum up, care-takers as well as children generally use fewer finite analytical constructions than finite synthetic constructions, i.e. sentences with a lexical verb-predicate: the average in input and children’s production is between five and ten percent out of all utterances with verbs. The auxiliary *byt’* ‘to be’ and the modal verb *hotet’* ‘want’ are predominantly used by adults (inquiring about children’s wishes) in interrogative utterances. Another modal verb *moch’/smoch’* is used least; and it mainly occurs in declarative utterances. Non-finite analytical utterances are slightly rarer than finite ones, and out of three types analysed, the one with *nado* ‘necessary’ is used most frequently. With respect to children, the empirical data demonstrate the late emergence of analytical finite and non-finite construc-

tions: six and more months after the onset of verb production and three and more months after the acquisition of inflection on lexical verbs. By this time the synthetic finite forms can be said to be used productively, and children correctly mark agreement of all three persons and two numbers on lexical verbs. Finite constructions with modal verbs and the auxiliary are “overused” by children several months after their emergence; their number reduces by the end of the analysed period. Non-finite analytical constructions with modal elements are the latest to occur in children’s speech. The children often omit the lexical verbs in this type of constructions, and only modal adverbs, adjective or negation *nel’zja* constitute the predicate.

Finite and non-finite analytical constructions in Russian belong to the “periphery” of the verb system and are acquired much later and during a longer period of time than synthetic constructions with lexical verbs. While finite forms of lexical verbs can be said to be acquired and stably used by children several months from the onset of verb production, finite forms of modal verbs and the auxiliary *byt’* are registered only 6–8 months after the onset of verb production. Thus, the development of finiteness in Russian occurs differently in lexical verbs vs. modal and functional elements. It is suggested that the acquisition of inflection shows different timing due to the presence of two structurally different domains — synthetic and analytic — within the inflectional morphological system of Russian and because of the peculiarities of the use of infinitive in the latter constructions. The relative frequency of infinitives and their high perceptual salience in the analytical constructions (including prosodic, morphological and syntactical salience) make them easy to take into account and impede the correct use of finite modal and functional elements in these constructions.

A set of both theoretical and empirical issues still remains open and needs further elaboration. The interrelation of modal and functional elements and a lexical verb within a given language-specific structure needs detailed discussion. The hierarchy of the modal elements in analytical utterances and their interaction in the language acquisition process should be further investigated. The use and functions of infinitives in analytical utterances at the different stages of grammatical development should be further specified and statistically evaluated. Finally, the overuse of a given element after its emergence in children’s speech and a ‘return’ to the target rates, i.e. the process of learning of target restrictions on use and target contexts of use (cf. U-shaped development) needs detailed examination.

Investigation of these issues will provide a clearer understanding of how children acquire different language-specific representations of finite and modal elements and how their acquisitional paths may differ.

## Notes

1. More on frequency see Gülzow and Gagarina (2007)
2. There are also negative, so-called impersonal non-finite sentences, with pronouns (in genitive or dative case), such as *nechego stroit'/postroit'* 'nothing-PRO:GEN build-INF:IPFV/PFV': 'There is nothing to build.'
3. On the definition of finiteness, see Klein (2006).
4. First verbs occur in Liza's data at age 1;8.
5. *Nado* 'necessary-ADV:IMPERSONAL' is also represented by its negative counterpart *ne nado* 'not-necessary-ADV:IMPERSONAL'.
6. Auxiliary *to be* in an interrogative utterance with a verb can be substituted by a modal verb *hotet'* 'want' without any considerable change of the expression of volition.
7. Only this modal verb occurs in utterances with infinitives.
8. In the example in (27) the inflection of the verb is unclear, although the stem can be clearly identified.

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# How much (morpho-)syntax is needed to express finiteness?<sup>1</sup>

*Karen Ferret and Clive Perdue*

## 1. Introduction

This paper represents an attempt to bring together functional and formal approaches to acquisition studies. We take the results of previous works (Jordens 2002; Dimroth et al. 2003; Nederstigt 2004; Gretsich and Perdue 2007) on the acquisition of L1 Dutch and German, and reinterpret them to some extent. The approach goes in the other direction, so to speak, from traditional applied linguistics, where a linguistic model is chosen, giving rise to an analysis of a particular linguistic phenomenon, and this analysis is then tested against acquisition data (Hilles' 1986 and 1991 work on the pro-drop parameter in the L2 acquisition of English by Spanish speakers is a representative example). Here, we take, on the contrary, established results from acquisition studies and compare them with an adaptation of one analysis of clause structure in V2 languages (Adger 2003) in the Minimalist Program<sup>2</sup>, and assess the implications of this comparison.

The main hypothesis to be defended is the following: "In early child grammar elements of a closed-class category are used to express illocutionary force" (Jordens 2002: 744). We will concentrate on assertion here: The syntactic reflex of assertion is DECL and the structural reflex of DECL is C°. Hence, the members of Jordens' closed-class category are analysed as being directly generated under C° and as paving the way for finite verb placement (here V2). Dimroth et al.'s (2003) three stages of acquisition of utterance organisation are here reinterpreted as different stages of the acquisition of finite verb placement.

The outline of the paper is as follows. First, we give Adger's analysis, and the modifications we propose in order to account for cases of embedded V2 order in subordinate clauses. Then, the relevant acquisitional studies will be summarised. We then merge the two analyses, see what generalisations follow and what the implications are for a theory of (child) language acquisition.



## 2. C° functional category, illocutionary force and the V2 phenomenon

### 2.1. C° functional category and illocutionary force

The architecture of clauses in generative grammar is composed of two different categories: lexical and functional. Functional categories can bear syntactic features or be filled with a word belonging to a closed class: for example, subordinating conjunctions are in C°, English modals, or English or German future auxiliaries are in T°<sup>3</sup>. The conjunction, or complementizer, provides several pieces of information: it generally introduces an embedded clause, it defines whether the clause it introduces is finite or non-finite and it defines the illocutionary force of the sentence (e.g., German *dass* ‘that’ introduces a declarative, while *wenn* or *ob* ‘if’ introduce an embedded interrogative). It has been proposed that matrix clauses (even for non-V2 languages) are also CP max level (Chomsky 1986) and have a C° with a phonologically null complementizer that encodes the illocutionary force of the clause. For example, C° of a matrix declarative clause bears an interpretable feature [Decl], while the head of an interrogative CP clause bears [Q] (see Cheng 1991; 1997 for clause typing)<sup>4</sup>. The hypothesis that matrix or embedded C° defines the illocutionary force of the clause will play a key role in our analysis.

### 2.2. C° and the V2 phenomenon

In matrix declaratives of V2 languages, the finite verb is obligatorily in second position and an XP occupies the first position. See (1a), (1b) vs. (1c). In V2 languages, the inflected verb and the complementizer are said to be in complementary distribution in C° (Koster 1975; den Besten 1977, 1983; Bayer 1984). Although the mechanism is well described, the motivation for triggering movement of the inflected matrix verb to this C° position (V2) is still a matter of discussion (see for example Vikner 1995; Zwart 1997).

- (1) a. *Peter las den Brief.*  
Peter read the letter  
b. *Den Brief las Peter.*  
the letter read Peter  
c. \**Den Brief Peter las.*

- d. *dass Peter den Brief las.*  
 that Peter the letter read  
 ‘that Peter read the letter’

### 2.3. Analysis of the V2 phenomenon

Adger (2003) advances an elegant analysis of the V2 phenomenon in the Minimalist framework. In this framework, features, interpretable or uninterpretable<sup>5</sup>, play a key role. Uninterpretable features have to be checked, otherwise the derivation crashes (*Full Interpretation Constraint*)<sup>6</sup>. Uninterpretable categorial-selectional features<sup>7</sup> are checked by *Merge*, an operation combining two syntactic objects with matching features, while other uninterpretable features are checked by the operation *Agree* that assigns them a value. Feature value strength assigned to<sup>8</sup> uninterpretable features accounts for parametric variation between languages. Strong features are attractors, that is, having to be checked locally they trigger movement of an XP in the specifier position of the relative functional projection or movement of an X° to the functional head (*Move* operation). A weak feature value is checked when assigned, so no movement occurs.

- (2) a. *Jean embrassait souvent Marie.*  
 b. *John often kissed Mary.*

In French, as represented in Figure 1, the inflected lexical verb precedes the VP-adverb *souvent/often* (2a), while it obligatorily follows it in English (2b).

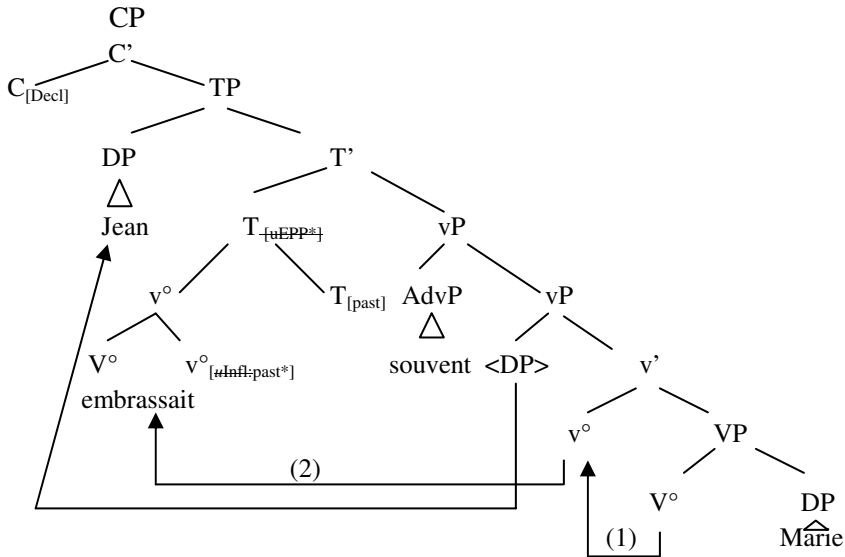


Figure 1. Jean embrassait souvent Marie

In both languages (following Adger’s proposal in Figure 1):  $V^{\circ}$  carrying the (c-selectional) feature  $[uN]^9$  merges with the DP object bearing a matching feature, the feature is then checked (deleted) by application of *Merge*. This new object (VP) then merges with  $v^{\circ}$  that bears a strong  $[uV]$  feature, noted  $[uV^*]$  and an unvalued feature  $[uInfl: ]$ , with *Infl* for *Inflection*, to be valued by  $T^{\circ}$ .  $V^{\circ}$  moves to  $v^{\circ}$  to check the strong  $[uV^*]$  of  $v^{\circ}$  (arrow 1, Figure 1).  $v^{\circ}$  also bears an  $[uN]$  feature checked by merging with a DP (the external argument) we obtain  $vP$ , to which the VP-adverb adjoins.  $T^{\circ}$  bearing here the interpretable  $[past]$  tense feature merges with this  $vP$ . By application of *Agree*,  $T^{\circ}$  values the  $[uInfl: ]$  of  $v^{\circ}$ ,  $v^{\circ}$  then bears  $[uInfl: past]$ . *Jean/John* leaves  $[spec, vP]$  and moves to  $[spec, TP]$  attracted by a strong uninterpretable feature on  $T^{\circ}$ :  $[uEPP^*]^{10}$ , requiring the  $[spec, TP]$  position to be filled by the subject<sup>11</sup>. The word order differences illustrated in (2) are accounted for as follows: French  $T^{\circ}$  assigns a strong tense value to  $v^{\circ}$  noted  $[uInfl: past^*]$ , then triggering movement of complex  $v^{\circ}$  to  $T^{\circ}$  (arrow 2, Figure 1) for feature checking, while in English the assigned value is weak<sup>12</sup>, the feature value is checked when assigned, so the inflected verb stays in complex  $v^{\circ}$ .

## 2.3.1. Adger (2003)

In a declarative main clause, matrix  $C^\circ$  bears the interpretable [Decl] feature. Adger proposes that  $C^\circ$  assigns this [Decl] value to the valueless [*u*clause type:] feature of T. The assigned [Decl] value is weak for non-V2 languages and then checked when assigned, and strong for V2 languages. After the movement of  $V^\circ$  to  $v^\circ$  and the movement of this complex  $v^\circ$  to  $T^\circ$  for the same reasons as explained for French, strong features having to be checked locally, complex  $T^\circ$  bearing [*u*clause type: Decl\*] moves to  $C^\circ$ . The inflected verb is then in  $C^\circ$ .

In order to account for the other part of V2 - i.e. an XP in first position - , Adger proposes that  $C^\circ$  bears a strong uninterpretable feature [*u*Top\*]<sup>13</sup> (where *Top* means 'Topic'). This feature triggers the movement of the phrase bearing the interpretable [Top] feature to [Spec, CP] position, the strong [*u*Top] feature on  $C^\circ$  is then checked<sup>14</sup>. As a result, Adger obtains the structural V2 phenomenon<sup>15</sup>, as represented in Figure 2.

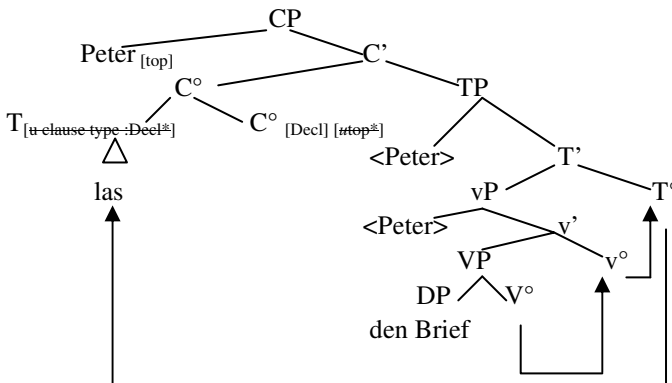


Figure 2. Peter las den brief

## 2.3.2. What to do with embedded V2 clauses? An analysis of embedded V2

With *bridge-verbs* (*sagen* 'say', *glauben* 'believe', etc.), the complementizer of the embedded clause can be omitted. If this happens, the inflected verb occupies the second position as in the case of matrix clauses. See (3b) vs. (3c).

- (3) a. *Peter hat gesagt dass Maria schlafen wollte.*  
 Peter has said that Mary to sleep wanted  
 ‘Peter said that Mary wanted to sleep.’  
 b. *Peter hat gesagt Maria wollte schlafen.*  
 c. \* *Peter hat gesagt Maria schlafen wollte.*

C° in (3b) is not a matrix C°, it does not assign a strong [Decl] feature value on T°. So nothing triggers the movement of T° in C° and we obtain the ungrammatical (3c) instead of (3b). Adger’s analysis does not account for this.

In order to account for the V2 order in such embedded clauses, we propose the following:

In V2 languages, C° (matrix or embedded) contains a strong [Decl] feature when C° is empty and this strong [Decl]<sup>16</sup> implies another strong feature: [uT] on C°. Since this uninterpretable feature is strong, it has to be checked locally, it then triggers movement of T° to C°<sup>17</sup>.

Following Adger’s proposal that C° bears a strong [*u*Top] feature triggering the movement of an XP bearing the [Top] feature to [Spec, CP], we obtain V2, with matrix or embedded C°.

The link between C° and finite T° is not new (see initially Koster 1975, den Besten 1977, 1983, and Bayer 1984 on inflected complementizers for the V2 phenomenon; Chomsky 1995 for the analysis of root yes-no questions in English). By supposing that a strong [Decl] on C° implies strong [*u*T] on C°, we ‘motivate’ the presence on C° of this strong [*u*T]. In the next Section, we present Dimroth et al.’s work.

### 3. Dimroth et al. (2003)

Dimroth, Gretsche, Jordens, Perdue and Starren (2003) analysed the very early utterances of a small number of Dutch and German children aged from 1;10 to 2;6. They found evidence that the utterances contained a predication consisting of a topic and a predicate, and often a linking item – called a Link – which made explicit the relation between topic and predicate. The topic provides the spatio-temporal and personal co-ordinates into which the rest of the utterance is embedded (including therefore the topic time about which the utterance makes a claim). The Link validates the state of affairs expressed in the predicate of these co-ordinates. The (declarative) utterances are in Lasser’s (1997) terms ‘semantically finite’: the child asserts that the state of affairs holds for the topic, and the Link marks this

illocutionary force. Utterance organisation develops in three stages: Holistic Stage (Stage 1), Conceptual Ordering Stage (Stage 2), and Finite Linking (Stage 3).

### 3.1. Holistic Stage (Stage 1)

At the Holistic Stage (Stage 1), the order of utterances is: Link + Topic + Predicate (or sometimes Topic + Predicate +Link):

(4)	Link	Topic	Predicate	(+Link)	
a.	<i>nein</i> no	<i>tür</i> door	<i>auf.</i> open		[German]
b.	<i>ulle</i> want	<i>ik/ukke</i> I	<i>sijfe.</i> write		[Dutch]
c.		<i>oef</i> dog	<i>eten</i> eat	<i>nee.</i> no	[Dutch]

(Dimroth et al. 2003: 73-74)

At Stage 1 the Link is external to the predicate, in utterance-initial position, or, in utterance-final position. We will come back to this. The linking words express assertion and negation, and volition and permission: *ja* yes, *nein* no, *bitte* please, in German, *nee* no, *ulle* want (and variants: *hunne*, *unne*), *mag-ikke* may-I, *mag-ikke-ook* may-I-too... ? etc. in Dutch.

### 3.2. Conceptual Ordering Stage (Stage 2)

At the Conceptual Ordering Stage (Stage 2), the order of utterances is Topic + Link + Predicate:

(5)	Topic	Link	Predicate	
a.	<i>dit</i> this	<i>nee</i> no	<i>afdoen.</i> off-do	[Dutch] (Jordens 2002: 737)
b.	<i>Mone</i> (Si)mone	<i>auch</i> too	<i>löffel haben.</i> spoon have	[German] (Lasser 1997)

Stage 2 shows a reordering of constituents: the Link is now utterance-internal, occurring systematically between the topic and the predicate. This

order is fixed. The topic regularly contains one explicit item, the situational context allowing other information to be inferred, and more rarely, two items, and we will also come back to this. The paradigm of linking words is extended, to include more modal-like items (positive or negative modals). These forms are not considered to be finite and are in complementary distribution to the scopal items (Dimroth et al. 2003: 79). In Dutch, the lexical links are: *kanwel* can-indeed, *kanniet* cannot, *doettie* does-he, *niet* not, *moet* has-to, *moet niet* has-to-not, *wél* indeed, *óok* too, etc. and in German: *will* want, *willnet* want-not *soll* must, *auch* too, *noch* also, *wieder* again, etc.; see Dimroth et al. 2003: 81-83).

### 3.3. Finite Linking Stage (Stage 3)

At the Finite Linking Stage (Stage 3), the order is Topic + Link + Predicate and finite morphology appears on the verb.

(6)	Topic	Link	Predicate
a.	<i>puppa</i> doll	<i>is</i> has	<i>putgange.</i> broken
b.	<i>de hilde</i> Hilde	<i>hat</i> has	<i>de omama putmacht.</i> the grandma [a wooden doll] broken

(Behrens 1993: 90, 97)

Stage 3 is marked by a “structural reanalysis” of the linking words of stage 2 which distinguishes verbal from non-verbal items.

The linking words of stage 2 are said to be reanalysed during this last stage, which evidences acquisition of finite (verbal) morphology (Dimroth et al. 2003: 85). Concomitantly, the scopal particles come to occupy the same position as in adult grammar - their definitive position.

At this last stage, the linking words are finite auxiliaries and finite lexical verbs: *heef* has, *is/sin* is, are, *doe/doet* do/does, *ga/ gaan* go/goes, in Dutch. Aspectual auxiliaries are acquired, and the utterances thus show the first instances of Lasser’s (1997) ‘morphological finiteness’.

The transition from stages 2 to 3 is far from smooth. It is as if the established linking words of Stage 2 and the finite verbal forms, vie for the function ‘Link’. Simple utterances where the finite auxiliary is in utterance-final position are attested (7a), as are reformulations (7b).

- (7) a. *ich auch ein Bauch möchte.*  
 I too a belly want
- b. (coffee is brought to the table)  
*ich AU will [fE]/ ich AU [fE] will.*  
 I too want coffee/ I too coffee want  
 (Gretsch 2000)

We return to such examples in 3.4. below. See also Winkler (this volume) and Dimroth (this volume).

### 3.4. Results

The conclusion to be drawn in relation to the finite verb in adult language is the following:

The finite verb carries:

- (8) a. Tense/person specification;  
 b. Illocutionary force: for assertion – the predicate holds for the topic.

Children start with (8b), by using particles/adverb links to validate the predicate in relation to the topic *before* the stage where the categories usually associated with finiteness – tense and person – are acquired. A simple remark on L2 acquisition: the same acquisitional sequence emerges particularly clearly in adult data, for the simple reason that many untutored adults never acquire (8a) in any case.

## 4. Analysis of the acquisition of V2

We argue here that Dimroth et al.'s (2003) three stages of acquisition can be reinterpreted as different stages of finite verb placement (here V2). From a developmental perspective, the lexical Link of stages 1 and 2 paves the way for finite verb placement in V2 declaratives. In the following, we hypothesize:

1. Functional categories are already present in Early Grammar<sup>18</sup>, they are gradually activated, where 'activated' means here acquiring/developing a strong uninterpretable feature (cf. Chomsky (1999) who proposed that a constituent A is 'active' only if it con-



- tains at least one uninterpretable feature), in an order that we will specify below (see 11);
2. There is already a Link at Stage 1;
  3. The Link is in  $C^\circ$ ;
  4. As already stated, the Link paves the way for finite verb placement.

#### 4.1. Stage 1: Holistic Stage; the Link is in $C^\circ$

##### 4.1.1. *Links at Stage 1: Order Link-Topic-Predicate*

Contrary to Dimroth et al. (2003) we propose that there are indeed Links at Stage 1. Holistic *nee* or holistic *nein*, and all elements that define the illocutionary force of the utterances produced (see Section 3.1.) are Links. The Link is considered to be present even if not phonologically realised because it defines the illocutionary force of the clause, declarative in this case, and specifies the intonational contour. So we propose that the Link fills the  $C^\circ$  position in the following clause structure:

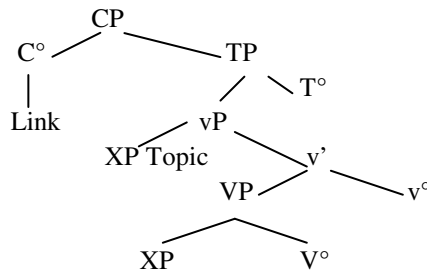


Figure 3. The link is in  $C^\circ$

Here, the XP Topic is the external argument of the verb as in (4b) or any other XP of the clause as in (4a)<sup>19</sup>.

##### 4.1.2. *Link in $C^\circ$*

The Link is base generated in  $C^\circ$ . So,  $C^\circ$  is exploited in early grammar, independently of the other functional category:  $T^\circ$ . The arguments in favour of the proposal that the Link is in  $C^\circ$  are the following:

- As argued in Dimroth et al. (2003: 77), the Links (Stage 2) belong to ‘a closed class’.
- The Link encodes the illocutionary force of the sentence; it has the same semantic function as empty matrix  $C^\circ$  and the complementizer introducing subordinated clauses in adult grammar.
- In adult grammar, the finite verb is in complementary distribution with the complementizer. As argued by Dimroth et al. (2003: 79), the Links, if they are scopal particles, are in “complementary distribution with upcoming auxiliaries”.
- Moreover, the authors state for Stage 2 that “all-purpose verbs as *doe/doet* occur as precursors for analysed target-adequate finite verbs in V2 position” (Dimroth et al. 2003: 78).

All these remarks guide us to the conclusion that the Link is in  $C^\circ$  from Stage 1. Our proposal that the Link is in  $C^\circ$  is reminiscent of the early ideas of Bloom (1970) or Wode (1977)<sup>20</sup> that in early English child grammar, negation – i.e., one of our ‘Links’ - is in  $C^\circ$ .

#### 4.1.3. Links in final position: Counter-arguments?

The Links *willen* want and *wil nie* want-not, in Dutch, *bitte* please, in German occupy the final position in some productions. We do not consider these data as counter-arguments to our proposal that the Link occupies  $C^\circ$ , but hypothesize that they reflect the stage during which children strive to fix the position of heads in their language. The Link-final order disappears at Stage 2, and the fixed order becomes Topic-Link-Predicate. We suppose that at Stage 2, the children have fixed the position of functional heads in the clause structure. Summarizing, the Linking words belong to a class of early complementizers, and are *lexical variants* of the [Decl] feature on  $C^\circ$  of adult grammar<sup>21</sup>.

#### 4.2. Stage 2: Conceptual ordering stage; activation of $C^\circ$

In order to account for the rigid order manifested at Stage 2 (Topic-Link-Predicate), we propose that this order is derived from Stage 1 as follows:

At Stage 2, the Topic element occupies the first position. We propose that this results from the emergence of the strong [ $u$ Top] feature on  $C^\circ$ . Strong uninterpretable features are attractors (see Section 2, local checking

and *Move*). The strong [ $u\text{Top}$ ] feature on  $C^\circ$  then triggers the placement of the Topic element carrying the interpretable [ $\text{Top}$ ] feature in first position of the utterance (here supposed to be [ $\text{Spec}, \text{CP}$ ]), one of the ingredients of the V2 phenomenon (see Section 2.3.).

We thus obtain the order: Topic -Link- Predicate.

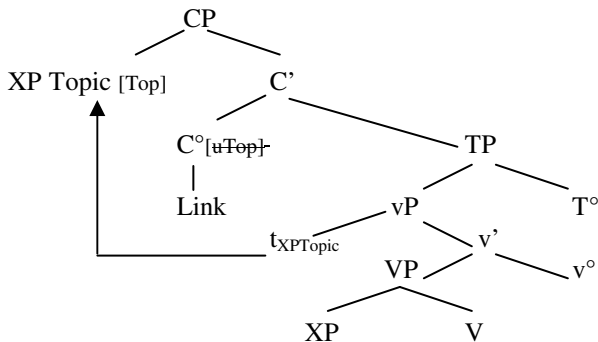


Figure 4. Topic – Link – Predicate

In sum, the  $C^\circ$  head is activated at this stage: it bears a strong uninterpretable feature to check, strong [ $u\text{Top}$ ]. The presence of a strong [ $u\text{Top}$ ] feature on  $C^\circ$  at this stage would be what distinguishes V2-languages from non-V2 languages, and this, independently of the presence of finite morphology on V and then independently of the V2 position occupied by finite V.

In Figure 4, the XP bearing the Top feature is the external argument of the verb, but it could be any other XP of the clause (see examples 9 and 10 below). Contrary to what is supposed to happen in adult grammar, this external argument does not move first to [ $\text{Spec}, \text{TP}$ ] because at this stage  $T^\circ$  does not bear a feature to be checked, so no  $u\text{EPP}$ -feature. The ‘external argument’ stays in [ $\text{spec}, \text{vP}$ ] when it does not bear a topic feature, in this case, the XP bearing this feature moves to [ $\text{spec}, \text{CP}$ ] or it bears Topic feature, and then moves to [ $\text{spec}, \text{CP}$ ].

#### 4.2.1. Arguments in favour of Topic movement to [ $\text{Spec}, \text{CP}$ ]

Dimroth et al. (2003) reject the proposal that the Topic might be in [ $\text{Spec}, \text{CP}$ ]. They motivate this by showing that the first position can be filled by

more than one constituent, ergo the first position is not [Spec, CP]. Two counter-arguments come to mind:

- (i) the child has to learn that the syntactic constraint of V2 overrides the information-structure regularity that topical items occur in utterance initial position, so these examples represent part of the learning process;
- (ii) the syntactic constraint is not in fact absolute in the adult grammar: *Auch Sie müssen... Gestern in Berlin war...* are attested in adult German, and the syntax of the adult grammar would also have to account for such examples.

In Dimroth et al. (2003), we found examples where the first element, the Topic, is the 'object' of the predicate.

- (9) a. *die niet afpakke!*  
           that not away-take  
       b. *die maa hier doen.*  
           that please here do  
       (L1 Dutch; Dimroth et al. 2003: 82)

We add the following example that according to the authors belongs to Stage 3. Here the modal is not inflected, so we propose that these examples reflect Stage 2, not Stage 3.

- (10) a. *das wolma abmachen.*  
           that want-we take off  
       b. *den damannich essen.*  
           that can-one-not eat  
       c. *da daman aufmachen.*  
           this can-one open  
       (L1 German; Dimroth et al. 2003: 82, 85)

#### 4.2.2. Proposal: Functional Category Activation Hierarchy

The order Link-Topic (Stage 1) has become fixed as Topic-Link (Stage 2) conforming to the input. We describe this development as the activation of the strong feature [*u*Top] on C°: the Topic obligatorily fills the first position of the clause (here [Spec, CP]) attracted by the strong *u*Top feature on

C°. The presence of the strong uninterpretable feature [*uTop*] on C° at Stage 2 activates this head.

To sum up, C° is filled by a Link from Stage 1, and activated from Stage 2. T° is filled and activated only from Stage 3, as we will see below, when finite verbal elements emerge. At Stage 2, T° bears no feature at all, while C° bears strong [*uTop*]. We therefore propose the following *Functional Category Activation Hierarchy for V2 languages*<sup>22</sup>:

(11) *Functional Category Activation Hierarchy*: C° > T°.

#### 4.3. Stage 3: Strong Decl on C° as a consequence of the reanalysis of the Link

Stage 3 sees the first manifestation of V2 (see Section 2.3.): finite verbs as Link. At this Stage, the Linking device is realized by the finite verb. The order is: Topic- Link- Predicate; the Linking words could be inflected modals, inflected aspectual auxiliary verbs or inflected lexical verbs.

In Dimroth et al. (2003), the preceding links are said to disappear at Stage 3, that is to be “structurally reanalysed” (85). Scopal particles, adverbs and negation occupy their adult grammar position; uninflected modals of Stage 2 are said to be reanalyzed as elements of the Aux category. In our analysis, the inflected modals of Stage 3 fill T°, i.e. are moved to T° for feature checking of the strong tense value assigned by T° to valueless [*uInfl*:] feature of Aux (see note 11). The same is supposed to hold for the inflected auxiliaries *haben/hebben* (have) and *sein/zijn* (be). For inflected lexical verbs, see what has been developed to account for the V2 phenomenon in adult grammar (Section 2.3.). We propose that as a consequence, the reanalysis of the Link, when passing from Stage 2 to Stage 3, defines a strong [Decl] on C°. This strong feature implies a strong [*uT*] on C°, attracting T° to C°.

The syntactic analysis we propose here would motivate the analysis we advanced according to which in adult grammar, empty C° bears a strong [Decl] feature which implies a strong [*uT*] on C° (Section 2.3.2.). Thus, the finite verbal element occupies the second position in declarative sentences at this last stage. C° hosting strong [*uTop*], an XP bearing this feature moves to [Spec, CP]. We thereby obtain the V2 order that is manifested at Stage 3 (with inflected V, a modal or an auxiliary). The derivation would be as in Figure 5.

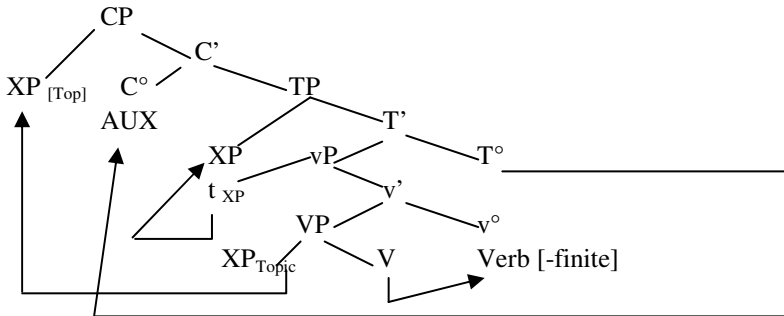


Figure 5. Finite verb in V2 position

$C^\circ$  bears  $[\mu\text{Top}]$ ,  $[\text{Decl}]$  and  $[\mu\text{T}]$ . Here Aux symbolizes the inflected modal or the inflected auxiliaries *haben* / *hebben* (have), *sein* / *zijn* (be), moved to  $T^\circ$  - the AuxP projection is not represented here for ease of exposition.  $C^\circ$  bearing strong  $[\mu\text{T}]$  implied by strong  $[\text{Decl}]$ , the whole complex  $T^\circ$  moves to  $C^\circ$  (see Section 2.3.) It is the internal argument that bears a  $[\text{Top}]$  feature here, but it could also be any other XP of the clause.

Hence, Stage 3 sees the activation of  $T^\circ$ : it assigns the strong present tense value to the  $[\mu\text{Infl}]$  of the verbal category (modals, auxiliaries or verb-little  $v^\circ$ ), each filling their own projection as in adult grammar and it bears a strong  $\mu\text{EPP}$  feature to be checked, then triggering the raising of the DP subject to  $[\text{spec}, \text{TP}]$  as in adult grammar, probably case feature (nominative) and also phi-features (or maybe later in this latter case). We leave these last two points open for future research.

The proposition according to which  $T^\circ$  is activated at Stage 3 entails the following prediction: at this third stage, we would meet more frequently a non-subject XP in first position, the child beginning to master strong  $\mu\text{EPP}$ -feature on  $T^\circ$ , while it already masters the placement of an XP in first position (the strong  $\mu\text{Top}$  feature on  $C^\circ$  having already emerged- Stage 2).

Thus, it is at this stage that the child begins to assimilate (validate) the V2 order; the early stages identified by the authors are according to us the first stages of acquisition of V2 placement, hence, independently of inflected forms.

To sum up: strong  $[\text{Decl}]$  on  $C^\circ$  is a consequence of the reanalysis of the lexical Link. In adult grammar strong  $[\text{Decl}]$  on  $C^\circ$  is a fossil, it bears witness to the child's acquisition of the V2 pattern, i.e. when  $C^\circ$  was filled by a Linking word (Stage 1 and Stage 2) encoding the illocutionary force of the early utterances and paving the way for finite verb placement acquisition in V2 declaratives.

## 4.4. From Stage 2 to Stage 3

Our analysis entails the following hypothesis:  $T^\circ$  is head final in these OV languages. This is motivated for German and Dutch by the following examples where the finite verb does not occupy the V2 position but the final position. These data should be therefore considered as empirical arguments in favour of the hypothesis that  $T^\circ$  is head final (see Gärtner and Steinbach 1994; and the placement of dummy *tun* in embedded clauses in adult German contra Travis 1991; for basic SOV order, see initially Bach 1962, Bierwisch 1963, Thiersch 1978 for German, and Koster 1975 for Dutch).

- (12) a. *ich auch ein bauch möchte*  
I too a belly want
- b. (coffee is brought to the table)  
*ich AU will [fE]/ ich AU [fE] will*  
I too want coffee/ I too coffee want (Gretsch 2000)
- c. *Mone auch schläft*  
Simone too sleeps (Miller 1976)
- d. *mann auch schlaf möchte*  
man too sleep wants (Tracy 1991)
- (13) a. *und das Teddy jetzt nicht schwimm geht*  
and the teddy now not swim goes (Tracy 1991)
- b. *Lisa das abmacht hat*  
Lisa that taken-off has (Dimroth et al. 2003)
- c. *jetzt der saun steht*  
now the fence stands (Meisel and Müller 1992)

In all these examples, the auxiliary or the lexical verb is inflected but in final position, contrary to the prediction of Wexler (1994) and Wexler and Poeppel (1993)<sup>23</sup>. Wexler (1994) states that when inflected, the verb is in V2, otherwise, the uninflected verb stays in verb final position. He is therefore forced to analyse such examples as (12) and (13) as production errors.

We propose however that in these examples, the second position is not empty but filled by a Linking word (12) or by either a phonologically null Link (as in Stages 1 and 2) (13). Therefore, the  $C^\circ$  position is not free because the reanalysis of the Link is not yet complete (Reanalysis: from Stage 2 to Stage 3). There is thus no strong [Decl] on  $C^\circ$ , hence, no strong [ $uT$ ] implied on  $C^\circ$ ; the inflected verb moves to  $T^\circ$  via  $v^\circ$  (or via  $Aux^\circ$ ) (see Section 2.3.1.), and stays in  $T^\circ$ , explaining the final position of the

lexical verb (or of the auxiliary) even if inflected. The kind of utterances produced shown in (12) and (13) reflect in fact the transition from Stage 2 to Stage 3 and receives a unified treatment in our analysis.

## 5. Conclusion

In Dimroth et al. (2003), three stages in the acquisition of finiteness are identified. In our analysis, these stages are at the same time stages of the acquisition of verb placement in V2 languages. Semantically, the Link encodes the illocutionary force of the clause (declaratives in the utterances analysed in this paper); syntactically, the Link is a position marker, it structurally encodes the position that will be filled by the finite verb at Stage 3. That is, at the very beginning of acquisition, the position is encoded lexically by a Link; at the final stage, this Link is reanalyzed as a strong [Decl] feature which implies a strong [ $uT$ ] and triggers the movement of  $T^\circ$  to  $C^\circ$ . The Lexical Link of the initial Stages thus paves the way for finite verb placement.

## Notes

1. We are grateful to the participants of the Arbeitsgruppe for their comments, and to Christine Dimroth and Peter Jordens for all sorts of encouragements and comments. Thanks are also due to the members of the 'Structure of Learner Varieties' project for their questions and patience.
2. We will adopt here the version of the minimalist program as implemented by Adger (2003).
3. The functional categories we will be essentially concerned with are  $C^\circ$  and  $T^\circ$ . In English, modals fill  $T^\circ$  contrary to German; several arguments motivated the base generation of English modals in  $T^\circ$ , among others: they cannot co-occur and they cannot occur with the future marker *will*, which it is not the case in German.
4. The hypothesis that declarative root clauses are CPmax level headed by a  $C^\circ$  bearing the declarative force feature is empirically motivated by languages like Arabic in which an overt complementiser is present: *?inna Iwalada taraka Ibayta* that the.boy left the.house 'The boy left the house' (Radford 2004: 127, citing an example from Ross 1970: 245).
5. Interpretable features have an effect on the semantic interpretation, while uninterpretable features do not. These latter features are used to account for the grammaticality (or ungrammaticality) of sentences.



6. *Full Interpretation*: "The structure to which the semantic interface rules apply contains no uninterpretable feature" (Adger 2003: 85).
7. The c-selectional features of a lexical item are the features that determine the category of elements with which it can *Merge*. In Adger (2003), these features are associated with theta-roles that the lexical item assigns to its arguments. See the formation of the vP projection headed by the transitive verb *embrasser* 'kiss' (Figure 1).
8. or carried by uninterpretable feature, see here after  $uEPP$  or  $uTopic$  and also  $uT$  supposed to be implied on  $C^\circ$ .
9.  $u$  means 'uninterpretable'
10. The asterisk symbolizes the strength of a feature, as here, or of an assigned feature value (Adger 2003).
11. We let aside the other features beared by  $T^\circ$  or assigned to or by  $T^\circ$  (nominative feature, agreement feature [i.e. phi-features]) and accusative case feature of  $v$ .
12. For both languages, it is supposed that  $T^\circ$  assigns a strong tense value to the [ $uInfl$  : ] of  $Aux^\circ$  -head of the projection  $AuxP$  placed between  $TP$  and  $vP$ -triggering then the movement of  $Aux^\circ$  in  $T^\circ$  for checking (cf. the inflected auxiliary precedes the  $VP$ -adverb).
13. Instead of the asterisk (see note 10), we will use the term 'strong' in the rest of the article. According to Adger, the [ $uTop$ ] feature is strong for  $V2$ -languages but he leaves the question open for non- $V2$  languages; for these languages, the feature is not necessarily weak. The feature is said to be weak in Scottish Gaelic, optional in English, and for French Adger does not offer an answer. This point is theoretically problematic in our view, and we will propose that this feature is weak for non- $V2$  languages.
14.  $T^\circ$  also bears a strong  $uEPP$  feature that triggers the movement of *Peter* in specifier position; *Peter* bearing a  $Top$  feature then moves to [ $spec$ ,  $CP$ ]. In German, Dutch, French and English  $T^\circ$  has a strong  $uEPP$ , while in Scottish Gaelic (a  $VSO$ -language), the  $uEPP$  is said to be weak, while the tense value assigned by  $T^\circ$  to [ $uInfl$  : ] of  $v^\circ$  or of  $Aux^\circ$  is strong, hence, the  $VSO$  order (see Adger).
15. In embedded clauses introduced by a complementizer, the finite verb occupies the final position. Adger proposes that contrary to the matrix  $C^\circ$ , embedded  $C^\circ$  does not trigger the movement of  $T^\circ$  in  $C^\circ$ . So he obtains the pattern: Inflected verb last.
16. We thus extend here the dichotomy weak/strong to interpretable features (but see also Chomsky 1995 who proposed for auxiliary inversion in English root yes-no questions that  $C^\circ$  bears a strong  $Q$ - then a strong interpretable feature-triggering the movement of the complex  $T^\circ$  head in  $C^\circ$ ). We furthermore suggest that a strong interpretable feature implies/ entails on the head bearing this strong interpretable feature – here  $C^\circ$ -, a strong uninterpretable feature, here  $uT$ , whereas a weak interpretable feature does not.

17. We leave aside the analysis of German relative clauses.
18. As initially proposed by Poeppel and Wexler (1993) with their *Full Competence Hypothesis* (see also Wexler 1994; Hyams 1996); but see Radford 1990, Vaininka and Young Scholten (1996), and Du Plessis et al. (1987), Meisel and Müller (1992), and Jordens (1990, 2002) among others for different points of view. Note also that the hypothesis that functional categories are present in Early Grammar could be said to ‘naturally’ follow from the general hypothesis that Universal Grammar provides the set of functional categories and features. Our analysis then complies with Hyam's Underspecification Theory (1996) (see also Wexler 1994) according to which  $I^\circ (=T^\circ)$  is said to be ‘underspecified’ when it bears no tense or agreement features - only  $T^\circ$  and  $D^\circ$  are explored -, but our proposition differs in several points: we suppose the functional head  $C^\circ$  to be filled in Child Grammar and we suppose further that before Stage 3,  $T^\circ$  of V2 languages bears no features at all, which makes  $T^\circ$  completely underspecified, contrary to Hyams (1996). She proposed that underspecified  $T^\circ$  nevertheless bears a null case feature which is supposed to be assigned to PRO, null subject in productions with uninflected verbal forms for English (extending then the proposition made for infinitives in adult grammar). The hypothesis of the presence of PRO in null subject root infinitives seems problematic because in adult grammar PRO is said to be controlled by an antecedent (*John<sub>i</sub> tried PRO<sub>i</sub> to kiss Mary*) or not controlled (PRO has an arbitrary reference: *PRO to speak French is easy*) whereas in Child Grammar PRO is not controlled but at the same time, it does not have an arbitrary reference. We leave the question open for future research. We suppose finally that for V2 languages,  $C^\circ$  is activated before  $T^\circ$ . See also note 22 below for further details on this last hypothesis.
19. vP defines the lexical domain of the clause. We suppose that if present, the arguments of the predicate are in the same Merge-Position as in adult grammar. We leave this question, which crucially concerns the acquisition of argument structure, open for future research.
20. Works cited by Déprez and Pierce (1993), proposition rejected by these authors who propose that negation in early grammar fills NegP head as in adult grammar.
21. These Links constitute the class of matrix declarative clause markers in Early Grammar vs. embedded declarative clause markers in adult grammar; these markers are reanalysed at Stage 3 as either verbal or not.
22. We can go even further and propose that the first feature to be exploited is  $\mu$ Topic for V2 languages, spec-features of the functional category  $C^\circ$  [i.e. features triggering the movement of an XP to the specifier position] (here,  $\mu$ Topic) are exploited before head-feature(s) of  $C^\circ$  [i.e. features triggering the movement of a head] (here,  $\mu$ T implied by strong Decl on  $C^\circ$  after reanalysis of the Link); so we obtain the following hierarchy for  $C^\circ$  in V2 languages: spec-feature before head-feature. We leave the question open for future re-

search on V2 languages and non-V2-languages (cf. the acquisition of *wh*-interrogatives).

23. In our analysis, C° is used from Stage 1 and activated in Stage 2, independently of the presence of verbal inflection (contra Poeppel and Wexler 1993, Wexler 1994). Moreover the OI stage, depicted by Poeppel and Wexler (1993), but see also Jordens (1990), during which finite and non-finite clauses co-occur, is here reflected by Stage 2 and Stage 3.

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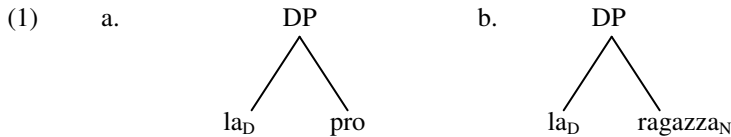


# Relating Italian articles and clitic object pronouns in bilingual children acquiring Italian and German

*Tanja Kupisch and Natascha Müller*

## 1. Introduction

This article investigates whether clitic object pronouns and determiners are related in acquisition. There are several reasons to believe that this is indeed the case. First, the syntactic structure of Romance object clitics parallels that of determiners (e.g. Cardinaletti 1994; Uriagereka 1995; Raposo 1998). In fact, both have been argued to occupy the head position of the DP, as illustrated in (1).



Second, third person object clitics and definite determiners are homophonous with regard to the feminine forms of the paradigm, while the masculine forms are similar (and in some Italian dialects even homophonous).<sup>1</sup>

*Table 1.* Definite articles and 3<sup>rd</sup> person object clitic forms in Italian

	singular		plural	
	masculine	feminine	masculine	feminine
definite article	il/lo	la	i/gli	le
object clitic	lo	la	li	le

Third, both articles and object clitics have historically derived from demonstratives. Last, when using object clitics as well as definite marked noun phrases, a speaker refers to an object or person that can be identified because a) it is physically present, b) has been mentioned previously, or c) can be established through shared knowledge by speaker and addressee.



During the past few years, determiners and object clitics have been central to many works in first language acquisition research. The production of determiners starts at an early age in Italian, usually between 1;6 and 1;10 (see Pizzutto and Caselli 1992; Bottari et al. 1993/1994; Antelmi 1997; Chierchia et al. 1999; Serratrice 1999; Bernardini 2004; Kupisch 2006, 2007). Often, the first articles appear in the shape of proto-syntactic devices<sup>2</sup> (Bottari et al. 1993/94).

As for object clitics, there is a vast body of literature on their acquisition in French (cf. Schmitz and Müller 2008 for an overview), while fewer studies were concerned with their acquisition in Italian (Cipriani et al. 1993; Guasti 1993/1994; Tiedemann 1999; Müller, Kupisch et al. 2006). The general finding is that object clitics are delayed with respect to subject clitics. This delay is robust across individual learners and acquisition types (L1, 2L1, early child L2, and SLI; Müller 2002; Müller et al. 2002; Müller and Hulk 2000, 2001; cf. Schmitz and Müller 2008 for an overview).

Despite the similarities of the two categories, only few studies have compared the emergence of clitic object pronouns with that of determiners, as we intend to do in this article. We have chosen bilingual data for our analysis because bilingual children were shown to be delayed in the acquisition of Romance object clitics (e.g. Müller et al. 1996; Müller and Hulk 2001), which makes acquisition stages emerge more clearly. Furthermore, among bilingual children, there is more variation with respect to how fast their languages evolve, which allows us to test whether the emergence of clitic object pronouns is related to a specific age or rather to the acquisition of other elements in grammar. Our analysis suggests that the acquisition of clitic object pronouns is linked to that of articles, and that this link is robust across learner-types with different degrees of language balance.

The paper is structured as follows. Section 2 summarizes aspects of the Minimalist Program relevant to the proposal made here. Section 3 introduces syntactic aspects of determiner and clitic object use. Empirical data from four bilingual children are presented in Section 4. The results are discussed in Section 5. The paper concludes with Section 6.

## **2. Interfacing with interpretive systems**

In the Principles and Parameters framework and in early Minimalist work, the syntactic derivation was assumed to interface with the interpretive systems only at one point, referred to as *Spell Out*, the operation which strips the phonological features off the lexical items and maps them onto a struc-

ture called *Phonetic Form* (PF), which in turn interfaces with the auditory-perceptual system (A-P). *Spell Out* is also the earliest point at which, given that all uninterpretable features are checked off, a structure called *Logical Form* (LF) can be assumed, which in turn interfaces with the conceptual-intentional system (C-I).

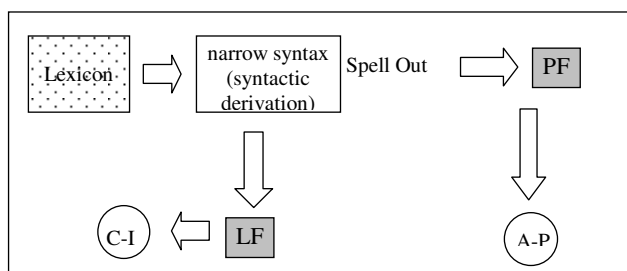
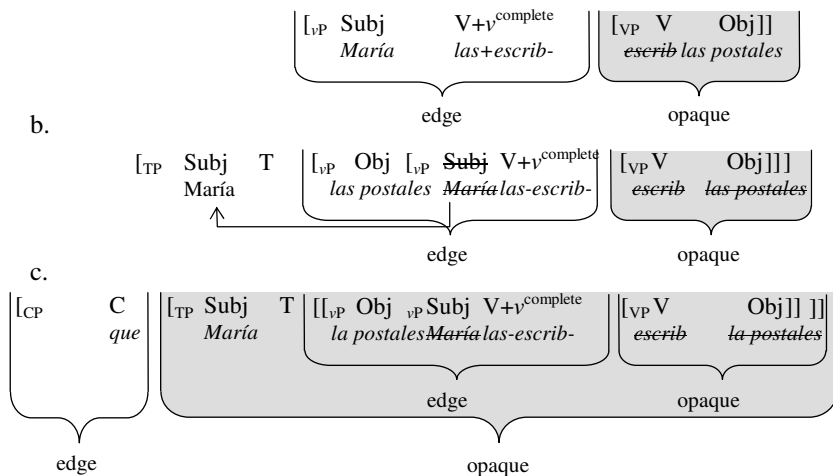


Figure 1. The architecture of the language faculty (adapted from Gabriel and Müller 2008: 86)

During the past few years, it has been proposed that interfacing with the interpretive systems need not wait until the derivation is completed (Epstein et al. 1998; López 2002, 2003). Epstein et al. (1998) provide the most radical version of this idea assuming that the interpretive systems interface “invasively” with the syntactic derivation after each application of *Merge* and *Move*. As a result, there are no PF or LF structures. Following Chomsky (2000, 2001) and Uriagereka (1999), López (2002, 2003) defends a more moderate view on the invasiveness of the interpretive systems, assuming that the derivation spells-out at particular points called *phases*. More specifically, a phase is headed by the light verb  $v$  or by  $C$ . These represent the two points at which the derivation can be handed over to the interpretive systems, once  $vP$  /  $CP$  is being derived. Once a phase is spelled-out, it is opaque. The only exception to this is the edge of the phase, which is defined as the head of the phase and its Specs. We will exemplify the concept of phases and the module *Pragmatics* by deriving the Spanish sentence [context: There are postcards on the table] *Juan dice que María las escribe, las postales*, which is traditionally labeled as CLRD (clitic right dislocation), as in (2).

(2) a.



In (2), the complement of the verb, *las postales*, is generated within the VP. The object has to value its Case. Case valuation is generally done by *v* (if no clitic intervenes), with the complement remaining *in situ*. In the example, however, the clitic intervenes between *v* and the category to be valued, which forces the object to move to Spec $\nu$ P where it gets Case by *v* via Spec-head-agreement. The subject is generated in Spec $\nu$ P. It is the edge of example 2 (a) and (b) which is inspected by the module *Pragmatics*. The structure is interpreted on the basis of the following rules: (a) the feature [+p] is assigned to Spec $\nu$ P, (b) Default rule: everything is focused (or [-p]) unless marked in some way. The information structure feature [+p] means presuppositional, [-p] meaning the opposite. An object *in situ* would therefore be assigned the feature [-p], an object which has been moved to Spec $\nu$ P would be assigned the feature [+p]. In the example, Spec $\nu$ P, which contains the object, will be assigned [+p], and by default, the rest of the constituents are assigned [-p]. The subject is not interpreted by *Pragmatics* yet, since it has not valued its Case. The next step in the derivation is movement of the subject to SpecTP where it can value its Case via Spec-head-agreement and is interpreted by *Pragmatics*. Interpretation of the TP level can be carried out as the interpretation of the  $\nu$ P level (cf. in 2 b). Therefore, a subject in SpecTP is interpreted as [+p], a subject *in situ* is assigned [-p]. The derivation of the C layer completes the  $\nu$ P level and makes this layer opaque for further syntactic operations (cf. in 2c).

It is the more moderate version of the model of invasive Pragmatics which we will adopt in this article. In particular, we are interested in the point  $\nu P$  at which López allows the syntactic derivation to interface with *Pragmatics*, "the interpretive module that deals with focus / presupposition structures, contrast, and possibly other notions [...]" (López 2003: 195). In López' approach, pragmatic values, such as presupposition, are regarded as features which are assigned to constituents in the syntactic component and remain as part of the feature matrix of these constituents. In other words, *Pragmatics* can assign features which were absent in the lexical array to constituents in the computational system of the human language  $C_{HL}$ . In Section 3.2 we will summarize a proposal by López, according to which Romance clitics spell-out the feature "presupposition", which in turn is assigned to a constituent invasively by *Pragmatics*.

### 3. The grammatical domains

#### 3.1. Articles in Italian

Italian has definite and indefinite articles, which are obligatorily used with count nouns in the singular (3a). With plural count and mass nouns, the definite article is used when the referent is specific (3b). With non-specific reference, Standard Italian makes use of the indefinite plural article and the partitive article (3c). Generic reference also requires the use of an article (3d).

- (3) a. \**Ho comprato \_ libro.* vs. *Ho comprato un/il libro.*  
 have-(I) bought book have-I bought a/the book
- b. *Vado a comprare il vino e i pomodori (di cui abbiamo parlato).*  
 go-(I) to buy the wine and the tomatoes (which we talked about)
- c. *Ogni giorno bevo del vino e mangio delle patate.*  
 every day drink-(I) some wine and eat-(I) some potatoes
- d. *Il gatto è un mammifero.*  
 the cat is a mammal  
 'Cats are mammals.'

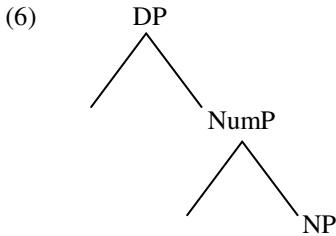
Articles may be absent in the case of non-specific plural or mass nouns, as in (4a). However, the noun phrase is slightly different in meaning from (3c). In contrast to (4a), (3c) implies that more than one potato is eaten every day.

- (4) a. *Ogni giorno bevo vino e mangio patate.*  
 every day buy-(I) wine and eat-(I) potatoes

The article may also be absent with proper names (in some Italian varieties), abstract nouns, certain prepositional phrases, and, in some rare cases, with modified subject NPs.

- (5) a. *Ho visto Maria.*  
 have-I seen Mary
- b. *Ho fame.*  
 have-(I) hunger
- c. *andare in treno.*  
 go by train
- d. *??? Acqua dolce viene giù dalle colline.*  
 water smooth comes-down of-the hills

There is large consensus in the generative literature that noun phrases, such as *the cat*, should be represented as DPs, which are headed by the determiner and take the noun as their complement (see Abney 1987 for the DP-hypothesis). The question whether all argument noun phrases are DPs (even those lacking overt determiners, as e.g. [3b,c]) is subject to debate (cf. Longobardi 1994 vs. Chierchia 1998, De Villiers and Roeper 1995, Lyons 1999 for different positions). According to Lyons (1999), indefinite marked noun phrases express cardinality but not definiteness and are Number Phrases (NumPs). This assumption is consistent with earlier work by Ritter (1991) and Valois (1991), who proposed that a functional projection NumP must intervene between NP and DP. The postulation of NumP is essential to account for combinations of definite articles or demonstratives (which express specific entities) with numerals or indefinite articles (which express nonspecific quantities), e.g. *le tre ragazze* 'the three girls', *queste tre ragazze* 'these three girls'.



Following this line of reasoning, the distinction between NumPs and DPs is one of specificity: While the NumP *tre ragazze* can be considered non-specific, the DP *le tre ragazze* can be considered specific.

In addition to specificity, noun phrases are also marked for *definiteness*, which according to Lyons (1999) is associated with the functional projection DP. Following Heim (1991), definiteness is commonly understood as the morphological instantiation of the addressee's familiarity of a referent. Definite marked noun phrases signal that the addressee's familiarity with the referent is *presupposed*, as in (7), while novel referents are commonly introduced by indefinite marked noun phrases, as in (8).

(7) *Ho comprato il libro (di cui ti ho parlato ieri).*  
 have-(I) bought the book (of which I spoke to you)

(8) *Ho comprato un libro (il nuovo Mankell).*  
 have-(I) bought a book (the new Mankell)

The examples in (7) and (8) show that presupposition is formally marked in the DP by the choice of either definite or indefinite article. It should be noted that indefinite articles are plurifunctional, and that they may be used to express specific entities, as in (8), non-specific entities (9), or generic reference (10).

(9) *Voglio comprare un libro (non so ancora che cosa comprare).*  
 want-(I) buy a book (I don't yet know what to buy)

(10) *Un gatto è un animale con 4 zampe.*  
 a cat is an animal with 4 legs

Similarly, definite marked noun phrases may be used in different functions: with generic DPs, as in (11), and with non-specific objects DPs, as in (12). Importantly, the definite article signals familiarity. In cases of generic reference, the entire category is presupposed as being familiar. In cases of

non-specific definite object DPs, familiarity is presupposed within a particular group of speakers.

(11) *Amo il vino.*  
 love-I the vino  
 'I love the wine.'

(12) *Decise di farsi il tatuaggio.*  
 decided to make himself the tattoo  
 'He decided to get a tattoo.' (Kupisch and Koops 2007: 206)

For the purpose of our investigation, the distinction between definite and indefinite specific noun phrases, most clearly illustrated in the contrast between (7) and (8), is crucial.

### 3.2. Object Clitics and Presupposition

In generative syntax Romance object clitics have been paid special attention to at least since the seminal work by Kayne (1975). The categorial status of clitics has always been discussed controversially (see e.g. Cardinaletti and Starke 1999; Kato 1999; Déchaine and Wiltschko 2002; Gabriel and Müller 2005). In most recent work, clitic object pronouns in Romance have been characterized as “deficient” as compared to strong pronouns and lexical noun phrases. Deficiency can be related to their external categorial status (they do not project all the functional layers projected by strong pronouns or lexical DPs) and to their internal structure (they are either minimal categories or maximal categories). In this contribution we will be concerned with the formal features of object clitics.

In terms of their feature make-up, clitics bear some resemblance to determiners. Similar to determiners, they encode gender and number features. However, they cannot be characterized as *identical* to determiners. In Italian, clitics include *person* in the set of phi-features and they spell-out *case*, while articles and other determiners don not.<sup>3</sup>

As for interpretable features, clitics are used mostly with reference to specific entities, but, similar to definite determiners (cf. 11-12), they can also refer back to non-specific entities. For example, in (13), the clitic pronoun takes up an indefinite noun phrase with a type-reading. For clitic pronoun use to be acceptable, it is crucial that the antecedent, whether specific

(token-reading) or non-specific (type-reading), constitutes an entity that can be presupposed, which is the case in (13) but not in (14).

(13) *Un uomo, lo si può riconoscere dal suo modo di parlare.*

‘A man, him one recognizes by his way to speak.’

(14) *Vorrei bere del vino. – Va bene. \*Una bottiglia di vino, l’ho comprata ieri.*

‘I’d like to drink some wine. – Alright. A bottle of wine, it (I) bought yesterday.’

López (2003) notices that Catalan clitics can occur in constructions which are typically analyzed as presuppositional. The two constructions discussed are CLLD (CLitic Left Dislocation) and CLRD (CLitic Right Dislocation). Examples are given in (14) through (17) below. The examples for CLLD (a) and CLRD (b) are taken from López (2003: 199) and have been translated from Catalan into Italian. CLLD and CLRD are constructions which are used to signal that an entity (the antecedent of the pronoun) is presupposed either through physical presence or through common knowledge.

(15) *Cosa hai fatto con i mobili?*

‘What did you do with the furniture?’

a. *Le tavole le ho riparate la mattina, ma le sedie le ho riparate la sera.*

the tables them have-I repaired the morning, but the chairs them have-I repaired the night

b. *\*Le ho riparate la mattina, le tavole, ma le ho riparate la sera, le sedie.*

them have-I repaired the morning, the tables, but them have-I repaired the night, the chairs

(16) *Che cosa hai fatto con la penna?*

‘What did you do with the pen?’

a. *L’ho dimenticata sulla tavola, la tua stupida penna.*

It have-I forgot on-the table, the your stupid pen

b. *\*La tua stupida penna, l’ho dimenticata sulla tavola.*

the your stupid pen it have-I forgot on-the table



- c. *La penna l'ho dimenticata sulla tavola, ma la matita non l'ho nemmeno toccata.*  
 the pen it have-I forgot on-the table, but the pencil not it have-I  
 even touch

- (17) *Hai già letto il nuovo libro di P.D. James?*  
 'Did you already read the new book by P.D. James?'  
*Sì, lo conosco già.*  
 yes it know-I already

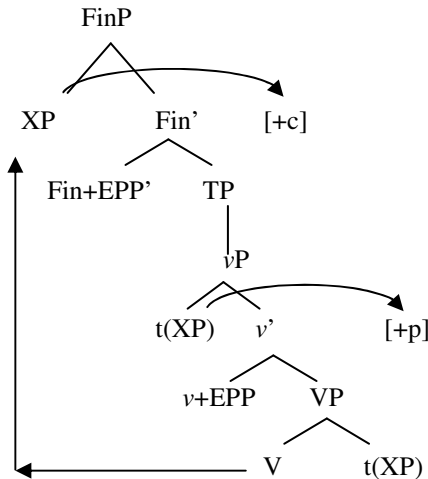
Of course, clitics may also be used if the topic position is empty. The answer to the question in (15), may also be *Li ho riparati* with an empty Topic (*i mobili*) as in  $TOP_i \textit{ pro li}_i \textit{ ho riparati}$ , where *pro* represents the empty subject pronoun.

The examples for CLLD und CLRD illustrate cases in which an antecedent can be presupposed. Both constructions share the pragmatic value [+p] "presuppositional". However, there is a pragmatic difference between the two, which is expressed in López' approach via the feature [c] "contrastive": CLLD is [+c] (like Focus Fronting), CLRD is [-c]. In both of them, the discourse antecedent is *furniture*. Using CLLD – as in (15a) – we can refer to different subsets: {*le tavole, le sedie, ...*} which are known to the hearer. CLRD does not allow us to do this, as the ungrammaticality of the example (15b) shows. If no set is intended – as in (16) – CLRD is appropriate, as the contrast between (16a) and (16b) shows.<sup>4</sup> However, it is possible to refer to sub-sets and use CLLD with a contrastive value as well, as (16c) indicates. In this case, *penna* in the context is understood as the discourse antecedent – 'objects to write with'. Example (17) equals example (16), with the difference that the discourse topic is not repeated by the speaker. Summarizing, what is important for our discussion of clitics is that whenever there is a dislocated constituent (empty or phonetically realized), the clitic is present.<sup>5</sup>

In Section 2, we have proposed a relation between the  $C_{HL}$  and the interpretive systems. In particular, we have assumed with López (2003) that  $C_{HL}$  is allowed to interface at different points with *Pragmatics*, at the  $\nu P$  and the CP phase. The interpretive system *Pragmatics* is invasive at these points and assigns features each time a phase is completed. Before we conclude this section, we will have to summarize how the pragmatic value *presupposition* is assigned as a linguistic feature [+p] to a constituent in the syntactic derivation in particular and what the function of the clitic is.

According to López (2003: 204), the feature [+p] is assigned to the EPP (a feature which guarantees the generation of specifiers) of *v*. *Pragmatics* can “invade C<sub>HL</sub> and assigns [+p] only after the *v*P phase is completed.” Spec*v*P also becomes [+p] since this specifier is licensed by an EPP with a [+p] feature. Lopez (2003) assumes that CLLD involves the Specifier of *v*, whereas CLLD heads some specifier of a Finiteness Phrase FinP in the left periphery of the clause (i.e. a functional layer above TP). While [+p] is assigned to the EPP of *v* and after the *v*P phase is completed, assignment of [+c] affects the EPP of Fin. What CLLD shares with CLRD is movement into Spec*v*P and thereby the pragmatic value [+p] (assigned to the EPP of *v*). For the purpose of the present discussion, it is not necessary to enter into more details of the syntax of CLRD and CLLD.

(18) The Syntactic Derivation of CLLD



What is the function of the clitic? Since [+p] is assigned to the EPP of *v*, we have two possibilities for the clitic: The clitic could be a spell-out either of the EPP-feature or of the [+p] feature. López (2003) mentions that the decision hinges on whether *wh*-movement stops at Spec*v*P on the way to the C-domain. *Wh*-movement can decide between the two possibilities because it has been noted by several authors that clitics cannot enter into a relation treated under the topic of *wh*-movement and quantifiers (Cinque 1990: 60, 69): (A) *chi (\*lo) conoscete?* Who him (do-you) know? / *Quante pietre (\*lo) hai preso?* How many stones it have-you taken?. If *wh*-movement passes through Spec*v*P, we would expect a clitic in these con-

structions, which is however not the case. Under the assumption that *wh*-movement passes through Spec $\nu$ P and that it is triggered by the EPP (a feature which guarantees the generation of specifiers), the clitic can only be the spell-out of [+p]: in the ungrammatical examples, the DPs *a chi* and *quante pietre* are indeed not presupposed. But López (2003) also considers the other possible option, namely, that *wh*-movement can skip the Spec of  $\nu$ . Then, the clitic might express the EPP feature of  $\nu$ . It is not clear to us what determines which of these options applies. However, it seems natural to us to assume that if the clitic spells-out the EPP feature of  $\nu$ , it should be obligatory. In the following paragraph, we will motivate the idea that object clitics are not syntactically obligatory. We will therefore come to the conclusion that object clitics do not spell out EPP-features. In order to be able to show that object clitics differ from subject pronouns in that they are not obligatory, we will compare Italian with French, because French has both subjects and object clitics.

Schmitz and Müller (2008) looked at a corpus of spontaneous interaction between French and Italian adults and children (i.e. input data)<sup>6</sup>, and compared possible realizations of the subject and the object position in the two languages. There were quantitative and qualitative differences. In object position, the two languages resembled each other closely. Figure 2<sup>7</sup> shows that object clitics constitute 40% of all object realizations in both languages. The observation that the languages do not differ here might suggest that the use of object clitics is regulated by pronominalization constraints since the recordings were made under similar discourse conditions and contained similar discourse subjects. That is, the presence of an object clitic depends on pragmatic values. This view would be compatible with our analysis of object clitics: The clitic can only double a (realized or empty) constituent which can be assumed to be known to the hearer. This is the reason why clitics cannot double constituents whose existence cannot be presupposed (as in example 14). Figure 2 also shows that lexical noun phrases (DP) are quite frequent in object position in both languages. This is not surprising, since objects often encode new information. If we compare objects and subjects, Figure 2 can be interpreted as revealing that the presence of subject clitics in French and the absence of a phonetically realized element in Italian are systematic syntactic properties of the two languages, i.e. properties which are regulated by narrow syntax.

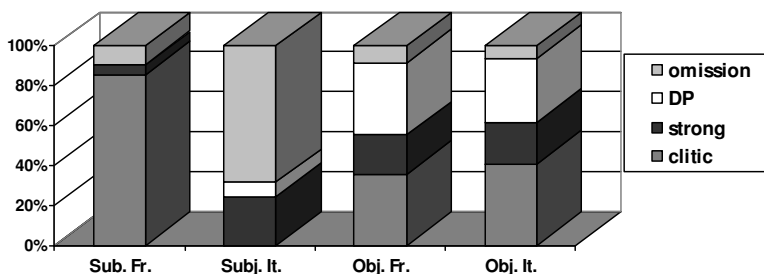


Figure 2. Realization of subject and object position in French and Italian (Schmitz and Müller (2008: 22))

Figure 2 shows a small amount of subject omissions and a high amount of subject clitics in French. Interestingly, all subject omissions in French were omissions of the expletive pronoun *il*; e.g. *Ø faut pas travailler trop* instead of *il faut pas travailler trop* 'One must not work too much'. The high amount of subject clitics points to the obligatoriness of argument subject clitics in the syntax of French, i.e. they are independent of constraints on pronominalization. Since clitics are restricted to finite clauses in French, some researchers like Jakubowicz et al. (1998) have suggested that they spell out finiteness. However, not only clitics but also strong pronouns and DPs are excluded in non-finite clauses. Thus, the obligatoriness of argument clitic pronouns in subject position should rather be related to the fact that French is not a pro-drop language (in contrast to Italian) and therefore requires a phonetically non-empty element in subject position. The quantitative analysis of the French corpus might indicate that it is reasonable to ascribe the checking of the EPP feature to the subject clitic. We might say that subject clitics are expressions of the following function: They lexicalize the phi-features of T and check off the EPP feature of T which in turn forces the set of phi-features to be spelled out. What is important for the present analysis is that object clitics in both Romance languages differ from subject clitics in French, since only the use of the latter seems to be regulated by narrow syntax.

Summarizing, we think that López' (2003) account of the function of the clitic has to be refined in the sense that it is reasonable to assume that subject and object clitics are not expressions of the same feature matrix.

Whereas subject clitics express the EPP feature, object clitics spell-out [+p]. Of course, further research has to reveal whether this refinement holds across constructions. What is important for the present analysis is that object clitics are part of a feature matrix that includes [+p]. In the following, we will assume that object clitics spell-out the feature [+p] which is assigned to *v* or to a constituent in Spec $v$ P. This property links them to definite determiners, which express that an object, idea or concept is definite and can be presupposed. We would therefore expect that the acquisition of determiners and object clitics are related. We propose that there is a particular property of determiners that triggers the obligatory use of object clitics, namely the distinction between indefinite and definite marked noun phrases, which signals whether a particular referent can be presupposed.

#### 4. The Data

The present data have been collected and transcribed in the research project *Bilingualism in Early Childhood: Comparing Italian/German and French/German*.<sup>8</sup> The transcriptions include all child and adult utterances, as well as information on the non-linguistic context. The children's linguistic development was observed over a period covering the age span from between 1;6 and 2;2 up to 5 years. Our investigation focused on the period between two and three years, within which clitics and determiners are acquired. Data collection proceeded as follows: The children were visited at their homes, usually at two-week intervals, by one German and one Italian-speaking interlocutor who were well acquainted with the family. Video-recordings between 60 and 90 minutes were made at each visit. Each session consists of an Italian part in which the child interacted with an Italian interlocutor, and a German part within which s/he interacted with a German interlocutor.

All children grew up in bi-national families in Hamburg, Germany. All have German-speaking fathers, while the mother represents the Romance languages and the parents adopt the one parent-one language strategy.

The children have been analyzed with respect to their language balance on the basis of several criteria, such as mean length of utterances (MLU), absolute number of utterances per recording, upper bound, increase of verb and noun lexicon (see Genesee, Nicoladis and Paradis 1995). With respect to the period before age 3, dominance relations may be summarized as follows with a differentiation between balanced and unbalanced. For details see Loconte (2001), Kupisch (2006), Cantone et al. (2008).

Table 2. Overview of corpora and language dominance

	Carlotta	Lukas	Jan	Marta
language balance	balanced	balanced	unbalanced	unbalanced
stronger language	-	-	German	Italian

The four bilingual children we have analyzed are very different with respect to how balanced the development of their two languages is. In the case of Carlotta and Lukas the two languages develop at about the same rate. Jan, by contrast, is dominant in German at least until the age of 3 years, while Marta is dominant in Italian.

Figure 3 shows a comparison of the children’s MLU in Italian (the language at focus here). Accordingly, the two balanced children Carlotta and Lukas show a similar increase in MLU (Lukas being a bit slower until 2;4), while Jan’s MLU increases considerably slower, although he shows a rapid increase in MLU after 3;3. Marta’s MLU development is comparable to that of the children Carlotta and Lukas, and differs from that of Jan in that her German develops more slowly.

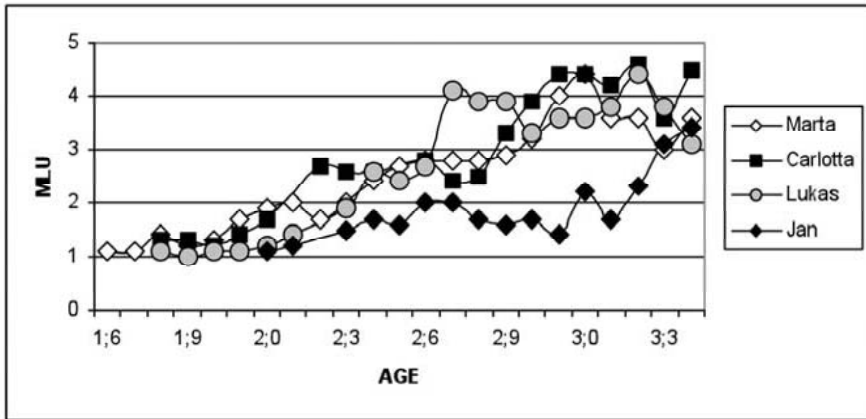


Figure 3. MLU-development in the children’s Italian

## 5. Results

### 5.1. Determiner omission and the use of clitic object pronouns

In the following, we present the percentage of determiner omission and the onset of clitic use for each bilingual child. For the following reasons we decided to represent determiner omission in percentages and clitic object pronouns in absolute numbers: First, the token-frequency of determiners is much higher than that of object clitics because there are simply more obligatory contexts for determiner use. Therefore, a representation in terms of absolute numbers would be misleading. Second, there is no alternative to using determiners in prenominal position, i.e., determiners are either used or omitted. By contrast, clitics are not the only way to fill an object position. Objects can also be represented by lexical DPs. Therefore, the percentage of object omission would not have been comparable to the percentage of determiner omission.

In general, our results show that third person clitic object pronouns begin to be used after the omission of determiners in obligatory contexts has dropped to a level below 10%. Only few clitics are produced during the stage when determiner production still varies with omissions in obligatory contexts. The occurrences include both the masculine form *lo* and the feminine form *la* in the expressions *eccolo* and *eccola* 'here it is' as well as in *non lo so* 'I don't know'. Although these instances probably mark the beginning of object clitic acquisition, they may have been learnt as a chunk. In the following figures we will use the term Bare Noun BN for nominals which are used without an obligatory determiner.

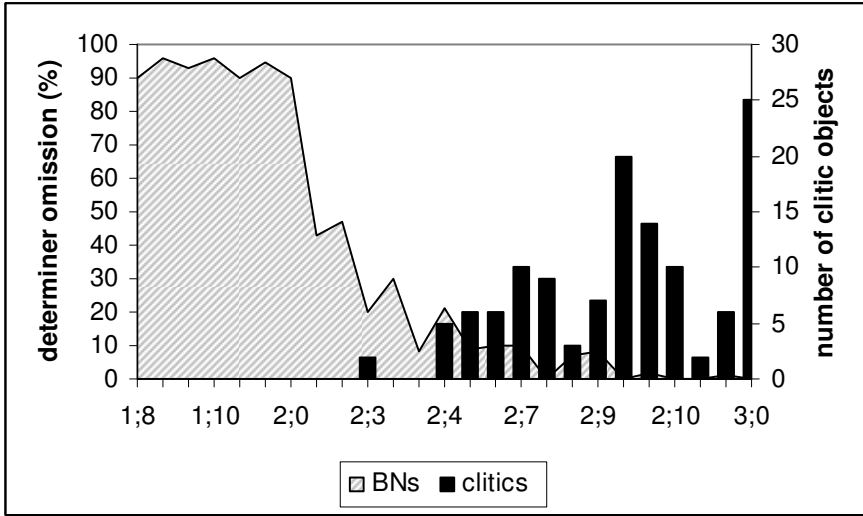


Figure 4. BNs and object clitics, Carlotta

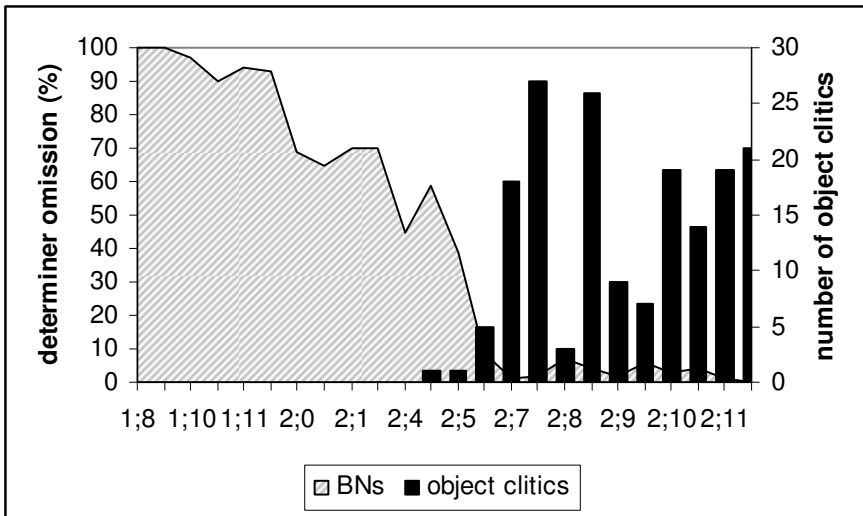


Figure 5. BNs and Object Clitics, Lukas



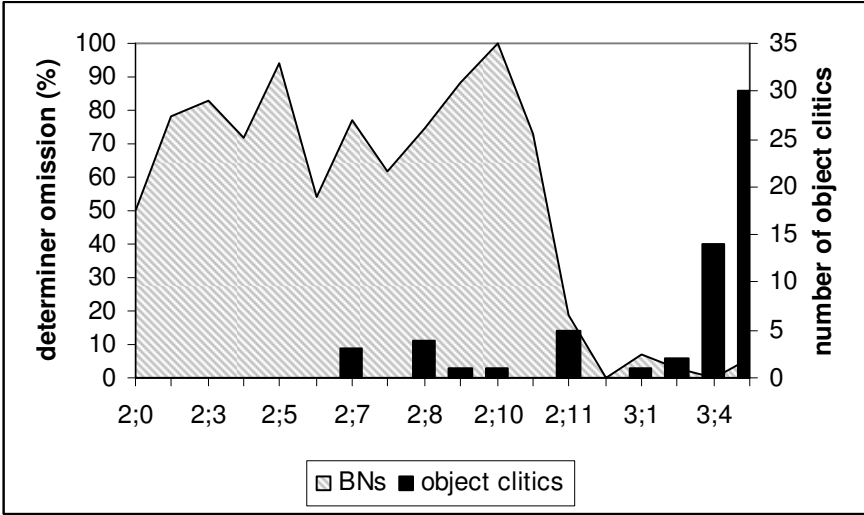


Figure 6. BNs and Object Clitics, Jan

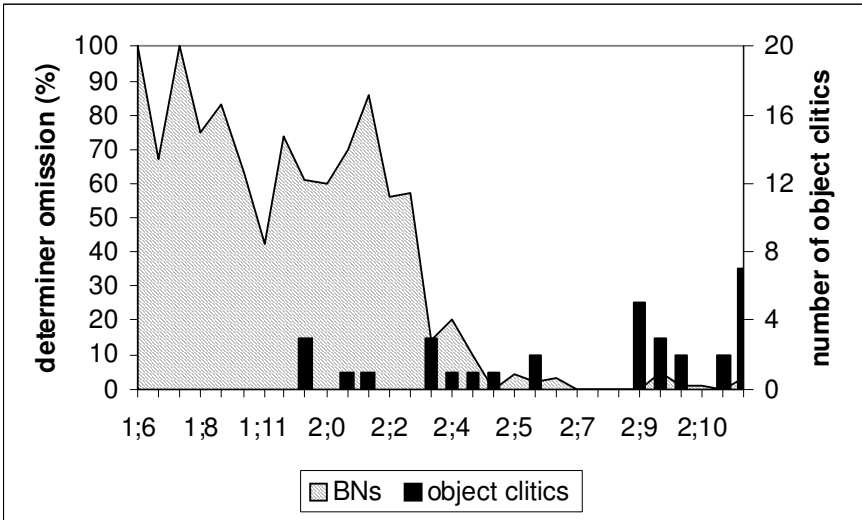


Figure 7. BNs and Object Clitics, Marta

According to Kupisch (2006), the moment when the percentage of determiner omission decreases below 10% roughly coincides with the moment when children can be shown to mark the distinction between definite and indefinite DPs as in the examples (7-8) through the distinctive use of defi-

nite and indefinite articles. This does not imply that children do not use articles before that age. However, they seem to use them mainly in deictic and naming contexts. Also, noun phrases with articles appear to be in *free variation* with bare nouns, i.e. they are used or omitted in contexts which are similar from a syntactic, semantic, and pragmatic point of view (Kupisch 2006: 165). During this stage, the use of articles may be interpreted in the following way: when using articles, the child is morphologically (and thus referentially) more explicit, similar to an adult. When using a bare noun, the referent has to be recovered through the context. The pragmatic load will be higher on the side of the child's interlocutor, who has to identify the intended referent in the absence of morpho-syntactic clues. The child uses bare nouns, because s/he has not yet learnt that certain pragmatic values must be overtly expressed in the language s/he is exposed to. We would like to illustrate this with examples from the child Marta (examples from Kupisch 2006).

## 5.2. Free variation stage

As we argued above, during the variation stage, the children use and omit articles in contexts which are similar from the point of view of syntax, semantics and pragmatics. Example (19) was uttered as a response to the adult's question *Cosa c'è là?* 'What is there?' Example (20) was used after the adult has introduced a dog.

(19) a. *un gatto*  
a cat

b. *gatto*  
cat (Marta 2;0,2)

(20) a. *sì cane*  
yes dog

b. *qua il cane*  
there the dog (Marta 2;0,2)

Although bare nouns continue to be used until the age of 2;4, and the absence of a sentential context makes it difficult to attribute a particular interpretation to them, there are indications suggesting that children's earliest

articles are regulated by the context of use. In fact, by far the majority of indefinite articles were found in book-reading situations or when toys are introduced.

- (21) a. *un treno* (pointing to a train) (Marta 1;9)  
a train
- b. *un cane [=cane] qua* (Marta 1;9,12)  
a dog there
- c. *su un cane* (Marta 2;0,2)  
down a dog
- d. *guarda là un pesce* (Marta 2;0)  
look there a fish
- e. *è un ranocchio là* (Marta 2;2,26)  
is a frog there
- f. *un gallo quello* (Marta 2;2,26)  
a cock there

By contrast, the definite article is mostly used with referents that are physically present and have been identified previously (by previous mention, touching or being played with).

- (22) a. *il cane* (pointing to a dog, previously identified) (Marta 1;7)  
the dog
- b. *anche pate [=sporco] il cane* (Marta 1;10)  
also dirty the dog
- c. *il libro* (giving her interlocutor a book) (Marta 2;0,2)  
the book

These examples seem to indicate that articles are used differentially depending on whether the referent is conceptualized as an individual entity (cf. the deictic use in 22) or as a member of a particular class of objects (cf. the naming function in 21). On the other hand, it is important to admit that in early conversations between child and adult almost all isolated (i.e. non-

sentential) noun phrases can be interpreted as having either a naming function or a deictic function simply because the denoted objects are physically present or visible. In other words, the lack of linguistic context with these early nominals calls for caution in drawing any definite conclusions about their semantic function. To say the least, however, there are no obvious cases of article misuse, although the child continues to drop articles, which makes reference less explicit morphologically and leaves it up to the interlocutor to figure out the intended type of reference.

### 5.3. Acquisition of the feature [+/-p] in the noun phrase

We observed above that the onset of clitic object use coincides with the use of articles in obligatory contexts. At the same time, it seems to coincide with the consistent encoding of the feature [+/-p], which can be seen in the contrastive use of definite and indefinite articles in a greater variety of contexts as compared to the previous stage. Again, we illustrate this with examples taken from the corpus of Marta, where articles are used regularly as of age 2;4.

There are different types of contexts, all of which show correct uses of definite articles in cases where the entities referred to can be presupposed. In examples (23) and (24), the identity of the referents can be presupposed because Marta and her interlocutor are looking at the same picture book.

(23) *le mucche non bevono.* (Marta 2;5,28)  
the cows not drink

(24) *guarda che dormono gli orsetti.* (Marta 2;5,28)  
look that sleep the bears

In other cases, she refers to characters whose identity can be presupposed through common knowledge.

(25) *guarda il lupo cattivo.* (Marta 2;5,28)  
look the wolf evil

In other cases, the identity of the referents can be presupposed because Marta mimics them.

- (26) *guarda là! lì la macchina. brrrrr.* (Marta 2;3,5)  
 look there there the car

Definite articles are also used with referents whose identity can be presupposed because they are unique.

- (27) a. *il sole* (Marta 2;0,16)  
 the sun
- b. *il mare* (Marta 2;3,26)  
 the sea
- c. *la luna* (Marta 2;6,26)  
 the moon

On the other hand, when Marta refers to entities which are familiar to herself but unknown to her interlocutor, she correctly introduces them with an indefinite marked noun phrase. In the situation in which (28) was produced, Marta threw a chicken leg into a pot, pretending to prepare dinner.

- (28) A: *Cosa prepari?*  
 'What are you preparing?'  
 M: *un pollo.*  
 'A chicken.'

In (29), she invents a story about a plastic snake and a ghost who had hurt the snake. In the relevant the articles are marked in bold print.

- (29) Marta points at a plastic snake and invents a story about it  
 M: *(gli) ha fatto male qua.* [unclear pronoun=reflexive or direct object]  
 'It [?] has hurt here.'  
 A: *Perché gli ha fatto male qua?*  
 'Why has s/he/it hurt it?'  
 M: *sì.* [impatiently]  
 'Yes.'  
 A: *Chi gli ha fatto male qua?*  
 'Who has hurt it?'  
 M: ***un da-*** *dandasma cattivo.* [=fantasma]  
 'An evil ghost.'

- A: *Un?* [does not comprehend]  
 'A?'
- M: *un dandasma cattivo.* [=fantasma; repeats]  
 'An evil ghost.'
- A: *Un fantasma cattivo.*  
 'An evil ghost.'
- M: *sì.*  
 'Yes.'
- A: *Non ho capito. Un fantasma cattivo ha fatto male al serpente qua?*  
 'I don't understand. A mean ghost has hurt the snake there?'
- M: *sì.*  
 'Yes.' (Marta 2;8,0)

In (30), Marta draws the interlocutor's attention to a toy reindeer with a button, pretending that the button was a hole.

- (30) M: *guarda!* (pointing to reindeer)  
 'Look!'
- A: *Cosa c'ha?*  
 'What does it have there?'
- M: *là un buco.* (points to button on reindeer)  
 'There a hole.'
- A: *Un buco? A che pro? A che serve 'sto buco? A niente!*  
 'A hole? What for? What the use of this hole? Nothing!'
- M: *ma, c'è una mosca là dentro.*  
 'But, there's a fly in there.'
- A: *Una mosca? È un bottone, non è un buco.*  
 'A fly? It's a button, it's not a hole.' (Marta 2;8,26)

In all the examples the interlocutor was not familiar with the objects that Marta referred to. Marta correctly introduced the referent to the interlocutor by using an indefinite marked noun phrase. In other words, she takes into account that she cannot presuppose the interlocutor's familiarity with the referent.

Interestingly, in cases where she introduces a previously unknown referent and refers to it for a second time, she correctly switches from an indefinite marked noun phrase to a definite marked noun phrase, as shown in the following examples.

(31) A points to a toy plane that M has just found

A: *Cos'è?*

'What is it?'

M: *un aeroplano*. [=aeroplano]

'An airplane.'

A: [...] / *No che bello, della TUI. Anch'io voglio un aeroplano.* [...]

'No how nice, of the TUI. Me too I want an airplane.'

M: *tieni qua*. [gives K the airplane]

'Here you are.'

A: *Sì. Ah. Grazie. Ascolta tu sei stat-* [takes the plane, changes topic]

'Yes. Thanks. Listen you have been –'

Marta wants A to make the plane fly down to the ground

M: *qua su, l'aeroplano*. [=aeroplano]

'There on, the airplane.'

(32) M lives close to a big river; one can hear the horns of ships passing by

M: *sentò una nave*. [=nave]

'I hear a ship.'

A: *Oh. Sì, una nave grandissima.*

'Oh. Yes, a very big ship.'

M: *sì.*

'Yes.'

A: *Ma questo qua chi è scusa, questo bambino?* [trying to change the topic]

'But this here who is this excuse me, this boy?'

M: *eh è là in fondo*. [Marta is still referring to ship]

'It's down there.'

A: *Là in fondo?*

'Down there?'

M: *sì. la mav- la nave è là in fondo.*

'Yes. The ship is down there.'

(Marta 2;5,27)

We conclude from these examples that the regular use of articles in obligatory contexts goes along with encoding the distinction between entities that can be presupposed and entities that cannot be presupposed to be familiar to the interlocutor. We propose that knowledge of this distinction might be a precondition for the use of object clitics.

## 6. Discussion: Towards an explanation of the interdependence between determiner acquisition and the appearance of object clitics

Previous work on French has compared the acquisition of determiners and object clitics (Jakubowicz et al. 1998; van der Velde et al. 2000; Paradis and Crago 2004). It was commonly noted that articles preceded object clitics: in monolingual acquisition (Van der Velde et al. 2002), bilingual acquisition (Paradis and Crago 2004; Hamann 2002), early second language acquisition (Paradis and Crago 2004; Hamann 2002), and children with SLI (Jakubowicz et al. 1998; Jakubowicz 2002). Jakubowicz argued that the acquisition of determiners and object clitics is *unrelated*. Her empirical data show that determiners are unproblematic in normally developing children and children with SLI acquiring French, while object clitics are particularly problematic. She accounted for this in terms of the computational complexity of the two types of grammatical categories. Her proposal implies that a syntactic analysis is more complex if it requires interaction between syntax and other linguistic domains.

“The syntactic computation in a given language is LESS COMPLEX when a merged functional category must be present in EVERY sentence. The syntactic computation is MORE COMPLEX if a merged functional category is present in some sentences. Such a functional category expresses semantic information and is added to the obligatory functional skeleton.” (Jakubowicz 2002: 170)

Jakubowicz argued that the category of determiners meets the conditions of a less complex category, because the presence of determiners in French is motivated on purely syntactic grounds (i.e. a DP must always be projected). The use of object clitics, by contrast, depends on the argument structure of the verb, i.e. it is semantically motivated. That is, children have problems with grammatical categories if they involve the interaction between different interfaces of grammar. Interaction makes a syntactic computation more complex, and children prefer less complex to more complex analyses.

Jakubowicz’s theory predicts that other grammatical domains which are also motivated on purely syntactic grounds should provide no difficulties in acquisition either. This is true for the acquisition of subject pronouns (see Schmitz and Müller 2008 among others). Other points in this approach, however, appear to be problematic. First, the D-layer has been proposed to



grammaticalize definiteness (Lyons 1999). Since definiteness cannot be seen as a purely syntactic concept, the DP would not meet the criterion for syntactically less complex categories. Furthermore, it is not clear whether children's early noun phrases are DPs from the moment they are used. They may also be NumPs or NPs (see Schaefer and De Villiers 2000 for a proposal along these lines). Second, the proposal seems to be tailored to French where bare nouns are almost inexistent. Third, even if determiners are always present (which is the motivation for saying they are syntactically obligatory), the *type* of determiner depends on semantic factors, such as specificity, referentiality and countability.

Based on our empirical findings and the parallels between definite articles and object clitics outlined in Section 3, we would like to suggest that the acquisition of determiners and object clitics is related through the acquisition of the presupposition feature.

However, why does one appear prior to the other? We assume that the explanation is grounded in one crucial difference between determiners and object clitics. In Section 3.2 we have argued that object clitics are always present when there is a dislocated constituent (empty or phonetically realized). What distinguishes the clitic from the determiner is the way in which the feature [+p] is introduced. Whereas presupposition is marked on definite articles – the feature being part of their feature matrix – the clitic does not mark [p] as such, but is a reflection of the existence of a dislocated constituent which is presupposed in the knowledge of the hearer. [+p] is an interpretable feature, which is introduced by pragmatics, if marked on the clitic. We assume that the intricate task in acquisition is not the acquisition of the feature [+p] *per se* but its invasive introduction into syntax. More generally, neither pragmatic nor syntactic features *per se* create problems in acquisition. Rather, the challenging task concerns the introduction and encoding of pragmatic features in syntax.

We have shown in Section 5 that the bilingual children we investigated are balanced to different extents. If we look at determiners and object clitics though, we find a similar development in all four children, irrespective of whether Italian is developed as a dominant or as a weak language. We have shown elsewhere (Müller et al. 2006) that there is individual variation in the extent to which cross-linguistic influence is manifested in the bilingual development. The relation between the decrease of determiner omissions and the use of object clitics, as manifested in the present analysis, seems to be robust in terms of being independent of the developmental path of each bilingual individual. Furthermore, Müller and Hulk (2001) have argued that bilingual Romance-Germanic children exhibit a delay in the

Romance language with respect to object realizations. Bilingual children omit objects more extensively and for a longer period in the Romance language (French, Italian) as their monolingual peers. We may conclude from these observations in comparison to the results of the present study that (1) the onset of clitic use is not delayed in bilingual Italian but it takes a longer time for bilingual children to use the clitics to the same extent as adults do (in certain discourse contexts) (cf. Müller 2004 for empirical evidence from French) and (2) presupposition as such is not a problematic feature for children. Rather, the problem for bilinguals is whether and how the feature interacts with syntax. Interestingly, such delays are not apparent in monolingual children acquiring Italian. A recent study by Snape and Kupisch (2008) shows, in fact, that definite articles and clitic object pronouns are acquired at similar ages, which supports the idea that the two grammatical domains are related.

## 7. Conclusion

Our study has shown parallels between definite articles and object clitics both in their feature composition and in acquisition. However, the parallels do not consist in *identical* structures but in a *partially* overlapping feature composition. One of the crucial properties common to both definite determiners and object clitics is to signal discourse continuity by referring to previously introduced entities, i.e. entities that can be presupposed. However, discourse continuity is expressed differently on determiners and object clitics. Whereas determiners encode the feature [+p] as part of their feature matrix, object clitics spell-out this feature as a consequence of *Pragmatics* having introduced it into C<sub>HL</sub>. Children acquire the linguistic feature [+p] via the DP through the contrastive use of definite and indefinite articles in contexts of specific reference. The feature is acquired late compared to other aspects of the noun phrase, and we suggest that it is crucial in triggering the use of object clitics. However, once the feature [+p] has been discovered within DP, it is not the case that it is also always spelt-out by object clitics if introduced into C<sub>HL</sub>. Crysmann and Müller (2000) have observed that the entire object clitic paradigm is acquired by children within a relatively short period of time (about 3 months). Children may continue to omit them because they involve an interface between C<sub>HL</sub> and the interpretive systems. This is in agreement with Hulk and Müller (2000) and Müller and Hulk (2001), who argued that the interface charac-

ter of a grammatical domain makes it complex and causes a delay in acquisition.

Our investigation has shown that the stipulated relation between determiners and object clitics is robust across different learners. This has consequences for the issue of language dominance. The grammatical development of two of the children Marta and Jan was considerably slower in one language than in the other. In spite of this fact, both children show the same acquisition logic as the other children who are more balanced. We may thus conclude that, at least for the period before age three, language dominance does not affect qualitative aspects of language development. This result is in sharp contrast to previous research by Schlyter and her colleagues, who have argued that the acquisition of the “weaker language” resembles that of a second language in terms of grammatical development (see Schlyter 1993, 1994; Schlyter and Håkansson 1994; Bernardini and Schlyter 2004). Our study shows that this does not uniformly apply and that the grammatical development in unbalanced children may be qualitatively similar to that of balanced bilinguals.

Our proposal makes predictions for the acquisition of subject clitics. On a par with Jakubowicz (2002), we assume that subject clitics are syntactically obligatory. We have speculated that they spell-out the EPP feature in French, i.e. they are required for syntactic reasons and they are not subject to the constraints that govern pronoun use. Since Italian T has no EPP-feature, there are no obligatory subject pronouns in (Standard) Italian (see Kato 1999). If we are correct in assuming that object clitics are motivated by the syntactic spell-out of presupposition, this would imply that object clitics and subject clitics appear at different points in acquisition. This observation is largely supported by previous research (cf. Schmitz and Müller 2008).

## Notes

1. In this article we will focus on 3<sup>rd</sup> person object clitics, since we are interested in the relation between definite articles and object clitics. For bilingual French-German children Müller et al. (1996) and Crysman and Müller (2000) have observed that 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> person object clitics are acquired within the period of 3 months and that there is no particular order in which they are acquired.
2. The phenomenon is also referred to as “fillers” (see Peters 2001 for an overview).

3. Furthermore, we assume that they bear a categorial feature that distinguishes between clitics which double locative phrases (e.g. Italian *ci*), and those which double objects (e.g. Italian *lo*).
4. In López' approach, *focus* shares with CLLD that it is contrastive, [+c]. However, unlike in CLLD, the subset is unknown to the hearer, thus *focus* is [-p]. CLLD is analyzed as [+p], [+c], CLRD as [+p], [-c].
5. There are cases in which dislocation constructions lack the clitic (See Fónagy (1985); Lambrecht and Lemoine (1996); Noailly (1997); Tuller (2000); Cummins and Roberge (2004); Cummins and Roberge (2005)). We suppose that these are syntactically equivalent to the cases with overt clitics and involve a phonetically empty clitic. At present, we cannot explain these phenomena. To solve the question would require further research on the syntax-phonology interface.
6. All data come from monolingual adults who interacted with children aged 3 to 4 years. Given the relatively high age of the children, it is unlikely that the adults adapted their speech to that of the children.
7. For French, 2168 finite sentences with a subject and 1072 finite sentence with an object were analyzed. In Italian, the number of analyzed sentences for subjects amounts to 1637, for objects to 1327. Unintelligible or interrupted utterances as well as imperative clauses were not counted.
8. The project has been directed by Natascha Müller and was financed by the Deutsche Forschungsgemeinschaft. For further details cf. Müller et al. (2006).

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