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STRATEGIES IN THE L1-ACQUISITION OF  
PREDICATION: THE COPULA CONSTRUCTION  
IN GERMAN AND CROATIAN<sup>1</sup>

INTRODUCTION

In this paper, we present a comparative view on the first language acquisition of the copular construction in English, German and Croatian. The copula is a purely grammatical phenomenon, it is completely devoid of descriptive content. Its basic function is to carry tense and agreement features when they cannot be otherwise expressed, i.e. when there is no verbal predicate. By ‘copular construction’ we exclusively refer to occurrences of *to be* (German *sein*, Croatian *biti*) taking a non-verbal predicate, e.g. an adjectival phrase, a nominal phrase, or a prepositional phrase.

During the last 20 years, theory building in language acquisition has centered around children’s omission of functional material. It is a well established fact about child English that the copula is often omitted, resulting in sentences like *Mommy busy*; cf. e.g., Bloom 1970, Brown 1973, Radford 1990, Becker 2000a, 2000b. From a typological point of view, this is not just a child phenomenon. There are languages, for example Hebrew or Russian, that allow or even force the present tense copula to remain unexpressed. Copulaless predication as a fact of first language acquisition may be related to the root infinitive phenomenon. Whereas lexical verbs alternate between non-finite and finite forms in the speech of young children acquiring English,

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the copula is always used in its finite form. But there is a considerable amount of predicative structures without a copula. These could be taken as the non-finite counterpart of the copular construction involving the functional verb *be*.

An extensive study on the acquisition of the copula in English has been conducted by Becker 2000a. Becker establishes a connection between the omission of the copula and the kind of predicate.<sup>2</sup> We investigate the acquisition of the copula in two other languages: German and Croatian. Like English, none of the two languages allows the copula to be missing in primary predication structures. Like English, German is a root infinitive language. Hence a similar pattern with respect to copula omission is expected under the assumption that the two phenomena are related. Unlike English and German, the root infinitive phenomenon is not attested in Croatian.

The article is organized in the following way: The next section contains theoretical considerations on predication and the copular construction, some observations on the acquisition of verb grammar in German and Croatian, a summary of Becker's study on the English copula and an outline of our research questions. In section 2, we present longitudinal data from two children (age range from 2;3 to 2;9) acquiring Austrian German as their first language. The German data are directly compared to the English data. Additionally, we review the properties of subjects and predicates in detail. Specific attention is devoted to the placement of subjects and predicates, respectively. In section 3, we present longitudinal data from one child (1;7 to 2;1) acquiring Croatian as a first language. We compare the data to the English and German findings.

## 1. BACKGROUND

### *1.1. The Structure of Predication*

The linking of a subject with its predicate is a fundamental mechanism of language. With lexical verbs, it involves a semantic part (thematic roles) and a functional part (tense and agreement). The first part is usually associated with the lexical projection of the verb (VP). The second part is dealt with in the functional projection(s) of the verb (IP or corresponding projections).

It is commonly assumed that the copula does not have semantic content, i.e. it does not assign thematic roles; cf. Déchaine 1993, Rothstein 1987,

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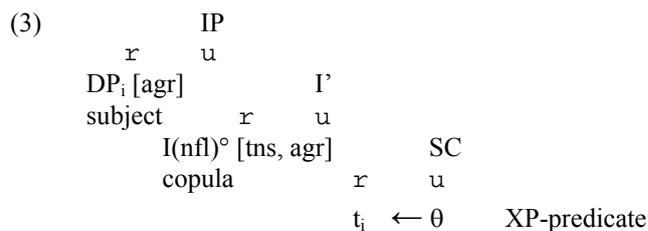
<sup>2</sup> Throughout this paper, we use the term 'copula omission', 'omission of the copula' as a shorthand notation to refer to predication structures where no copula is present. Note that we do not mean to thereby endorse an analysis in terms of an actual omission process.

Williams 1980 and others. The semantic part of the predication must be accomplished by the non-verbal predicate. From a theoretical point of view, there are (at least) two options; cf. contributions in Cardinaletti & Guasti 1995. One possibility is to collapse the semantic and the functional part in their relation to the functional category of Infl(ection), i.e. the head of IP. The copula is treated on a par with the future auxiliary *will*, and the copular construction is seen as a simple instance of primary predication, the only difference being that XP is non-verbal. The following examples are from Williams (1984:136); see also Williams 1980, Déchaine 1993:

- (1) a. John - will - leave. NP - Aux - VP  
 b. John - is - a fool. NP - Aux - NP

The second option is to separate the semantic part from the functional part. This option is referred to as the ‘Small Clause Analysis’. Stowell 1978, 1983 assumes that the subject and the predicate form a lexical constituent, a so-called small clause (SC). In the SC-configuration the predicate assigns a thematic role to the subject. A Small Clause Analysis is also assumed for secondary predication constructions: The verb *consider* in (2a) takes a SC as its complement. In contrast to *consider*, the copula in (2b) does not assign its own thematic subject role, similar to raising verbs like *seem*. As depicted in (3) the subject of the small clause moves to the subject position of the ‘big’ clause (SpecIP), where it enters an agreement relation with the finite copula.<sup>3</sup>

- (2) a. We consider [<sub>SC</sub> John clever].  
 b. John<sub>i</sub> is [<sub>SC</sub> t<sub>i</sub> clever].



In the following, we will restrict our discussion to non-verbal primary predication. The acquisitional data we present in this paper are in principle compatible with both analyses of copular constructions discussed. To be

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<sup>3</sup> Case assignment also plays an important role here, but we will not go into Case issues here.

explicit, we will assume the Small Clause Analysis to be the underlying structure of the copular construction.

Languages differ in whether they allow primary predication without an overt copula or not. English and German, for example, always demand an overt copula. In Russian and Hebrew, on the other hand, an overt copula is not expressed in the present tense. It must be a UG-option that finite main clauses can have an independent temporal interpretation without an overt verbal element.

None of the target languages we discuss allow the copula to be missing.<sup>4</sup> But English children produce predication structures without an overt copula that are not acceptable for adults. Radford 1990 argues that children's utterances like *Mommy busy* can be analyzed in terms of the 'Small Clause Hypothesis': Adopting Stowell's 1983 SC-Analysis, he assumes that the initial structures children produce are small clauses lacking functional structure. This position has been refuted by many researchers, who provide evidence for functional projections in early child language on the basis of data from other grammatical phenomena.

## 1.2. First Language Acquisition

The investigation of copula predication structures is situated within the larger area of the acquisition of verb grammar. Traditionally, verbs are viewed as the grammatical center of a sentence. In the field of generative syntax, the verb is a core case for the interplay between lexical and functional structure in the clause. Verbs are lexical heads, with lexical meaning and selection properties. They are inflected for morphosyntactic features, which are hosted by functional heads, a process that is reflected by verb movement in many languages. Verbs, their inflection, and their placement in early speech have attracted particular interest in the generative acquisition literature.

### 1.2.1. Verb Grammar in the Acquisition of German and Croatian

The present investigation of the copula construction in first language acquisition compares new data from German and Croatian with the English findings reported in 1.2.2. German and Croatian differ in the acquisition of verb grammar. German children go through a stage that is characterized by the usage of verbs in the infinitive in root clause contexts, which require

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<sup>4</sup> In certain stylistically marked contexts the copula can be omitted. In German the copula can be omitted in exclamatives like *Peter ein Arzt!?* 'Peter a doctor?!'. In Croatian the verb *biti* can be omitted in certain contexts, e.g. in idioms such as *Sve uzalud*. 'Everything in vain.' (cf. Katičić 1991 and Barić et al. 1997).

finite verb forms in the target language (root infinitives). During the same time span they also produce root sentences with target-like finite verb forms, cf. e.g., Poeppel & Wexler 1993, Schaner-Wolles 1994, Schaner-Wolles 1995/96, Schaner-Wolles 2000, Köhler & Bruyère 1995/96, Köhler 1998. (4) and (5) below give some examples from the speech of the German speaking children investigated here.<sup>5</sup>

- |     |    |  |  |
|-----|----|--|--|
| (4) | a. | Kind Kirschn essn<br>child cherries eat.inf                  | (Nico 2;3)<br>'The child is eating cherries' |
|     | b. | Mama Zug fahrn<br>mama train ride.inf                        | (Nico 2;4)<br>'Mama is to ride the train'    |
|     | c. | Rutsche raufklettern<br>slide up-climb.inf                   | (Paul 2;1)<br>'I want to climb the slide'    |
|     | d. | Pauli durchkriechn<br>Pauli through-crawl.inf                | (Paul 2;4)<br>'Paul wants to crawl through'  |
| (5) | a. | Hase kocht<br>hare cook.3sg                                  | (Nico 2;3)<br>'The hare is cooking (sth.)'   |
|     | b. | Mama fährt schon<br>mama go.3sg already                      | (Nico 2;4)<br>'Mama is already going'        |
|     | c. | wakal [: wagerl] fahrt<br>cart.dim go.3sg                    | (Paul 2;1)<br>'The little cart goes'         |
|     | d. | hamgetti [: spaghetti] macht Papa<br>spaghetti make.3sg Papa | (Paul 2;4)<br>'Papa makes spaghetti'         |

Croatian, on the other hand, is a language where the root infinitive phenomenon is absent from typical unimpaired development. This has been shown in several longitudinal studies; cf. Katičić 1997, 2000; Anđel, Klampfer, Kilani-Schoch, Dressler & Kovačević 2000. Furthermore, there are no parental reports about root infinitives. Consider the following examples of finite verb forms in very early speech:

- |     |    |                                |  |
|-----|----|--------------------------------|--|
| (6) | a. | Tu idem<br>here go.1sg         | (Antonija 1;10.0)<br>'I am going here.'  |
|     | b. | Ja idem tamo<br>I go.1sg there | (Antonija 1;10.0)<br>'I am going there.' |

<sup>5</sup> To indicate the target forms of the children's productions, the following CHILDES conventions are used, e.g. *mik* [: *milk*] or *mi(l)k*.

- c. Ti mene voliš? (Antonija 1;10.21)  
 you me.acc love.2sg 'Do you love me?'

One observational difference between the acquisition of German and Croatian is that functional verbs (i.e. auxiliaries, modals, copula) come in earlier in Croatian than in German, where there is a considerable time lag between the appearance of lexical verbs and functional verbs. But the lexical-functional split plays yet another role in the acquisition of German. In root infinitive languages, the alternation between finite verb forms and the infinitive does not uniformly affect all verbs. It is a general finding that there is a group of verbs which appear in root infinitives a lot less than verbs on the average. What exactly characterizes this group of verbs, which are more or less restricted to finite forms during the root infinitive stage, is a matter of ongoing debate. Still, there is a consensus that functional verbs belong to this group.<sup>6</sup> Across different root infinitive languages and different children, the copula in particular is noted to be virtually absent from root infinitives.

#### 1.2.2. Becker 2000a, 2000b: A Study on the Copula in Child English

Children acquiring English frequently omit the third person singular *-s*. Although English does not have a morphological marking for the infinitive, (7a) arguably has a similar status as root infinitives in German, where infinitives bear overt morphological marking. Alongside (7a), finite utterances like (7b) also appear. So English is categorized as a root infinitive language; cf. Wexler 1994. The examples in (7) are available in CHILDES, Brown 1973, quoted in Guasti 2002:

- (7) a. Cromer wear glasses. (Eve 2;0)  
 b. I don't want soup. (Eve 1;11)

It is also true for the acquisition of English that the copula almost always appears in its finite form. Starting from this observation, Becker 2000a, 2000b dedicates an extensive study to the copula in child English. The investigation is based on data from five children available from the CHILDES database (cf. MacWhinney & Snow 1990). Like Bloom 1970, Brown 1973, Radford 1990 and others, Becker observes that copula predication sentences alternate with utterances that combine a subject and a

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<sup>6</sup> Regarding modals in German, the Nico data indicate that this generalization is subject to interindividual variation: Nico uses modal verbs in the infinitive form to a substantial extent, whereas other children, like Paul, do not. Both boys are investigated here.

predicate, but do not contain a copula. Examples (8) through (10) illustrate this:<sup>7</sup>

- |      |                               |             |
|------|-------------------------------|-------------|
| (8)  | a. You're so dirty            | (Naomi 2;0) |
|      | b. me tired                   | (Naomi 2;0) |
| (9)  | a. Daddy's at school          | (Peter 2;2) |
|      | b. I in the kitchen           | (Nina 2;1)  |
| (10) | a. he's a dog                 | (Nina 2;0)  |
|      | b. I not honey. I Adam Smith. | (Adam 2;11) |

Becker's central observation is that there is a connection between the omission of the copula and the kind of predicate involved. In particular, a contrast is found between nominal predicates in (10) and locative predicates as (9): Most nominal predicates appear in predication structures with a copula. On the average, the copula is present in 66% of the nominal predication cases (out of a total of 1.155 utterances). With locative predicates, copula omission is predominant: The copula is present in only 28% of the cases (out of a total of 295 utterances). Becker 2000a, 2000b argues that this is due to a semantic difference between nominal and locative predicates. Nominals are core cases of temporally unbounded properties, or individual-level predicates, and locatives are core cases of temporally bounded properties, or stage-level predicates; cf. Carlson 1977, 1980 and Kratzer 1988, 1995.

Becker 2000a, 2000b assumes a syntactic analysis in which sentences with stage-level predicates contain additional functional structure: an Aspectual Phrase (AspP) above the predicative phrase which hosts a Neo-Davidsonian event argument. Individual-level predicates lack such an event argument and therefore have no AspP.<sup>8</sup> Following Enç 1987, she assumes that temporal anchoring of main clauses is accomplished by a Tense operator binding Infl in adult English. Becker argues that during the root infinitive stage this temporal anchoring requirement can be fulfilled by binding Asp, i.e. the head of AspP. In the case of non-verbal predication structures, the

<sup>7</sup> Examples (8a) through (10a) are from Becker 2000a, 2000b, example (10b) is quoted from Borer & Rohrbacher 1998.

<sup>8</sup> A caveat regarding the term 'Aspectual Phrase' is in place here. In the following, we will not attempt to apply the exact details of Becker's analysis to our own rendition of the German and Croatian data below. Note that in particular we remain neutral wrt the syntactic implementation of (im)perfective aspect, for which every Croatian verb is specified, and we do not tackle the question whether the AspP associated with the presence of an event argument in Becker's account is or is not a suitable locus for the perfective-imperfective distinction in Croatian.

copula is the spellout of finite Infl, while Tense binding of Asp yields no such result.<sup>9</sup> The English learning child is forced to use the copula when Infl is the only head available for binding by the Tense operator, i.e. in the case of individual-level predicates. Stage-level predicates, on the other hand, offer another possible bindee, Asp. This explains the higher rate of copula omission with stage-level predicates and the lower rate of copula omission with individual-level predicates in child English.

### *1.2.3. Research Questions*

In the rest of this paper, we pursue the following research questions concerning the copula in the acquisition of German and Croatian: Given that children acquiring German use root infinitives, like children acquiring English - do they also use copulaless predication structures? As this is indeed the case, the second question ensues: Are there differences in frequency of copula omission for different kinds of predicates? We will show that this is so in German, too. German and Croatian contrast with respect to the root infinitive phenomenon: There are no root infinitives attested in the acquisition of Croatian. Becker assumes that copulaless predication structures are the root infinitive counterpart of the overt copula. This predicts that children acquiring Croatian should not use copulaless predication structures. We will show that this prediction is actually borne out. Furthermore we explore what other similarities and differences there are between predication structures with and without a copula.

## 2. GERMAN

### *2.1. Target Language*

#### *2.1.1. Basic Clause Structure and Verb Placement*

In general, German is a language with only few restrictions on word order. Verb placement is a case in point. German is commonly analyzed as an SOV verb-second (V2) language, cf. Koster 1975. Structurally, the finite verb can only appear in two positions: In declarative root clauses it occupies the second position in the clause; cf. (11). In subordinate clauses, the verb follows its complements and occupies the clause final position; cf. (12). The

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<sup>9</sup> Although a general analysis of the root infinitive phenomenon is not the central subject of Becker's thesis, she considers an extension of her analysis to main verbs, cf. Becker (2000a:140ff).

position to the left of the finite verb in a root clause can be filled by any constituent of the clause (XP): The movement of XP - the subject in (11a) and the direct object in (11b) - to the clause initial position is referred to as 'topicalization':

- (11) a. Maria liest das Buch.  
Mary reads the book 'Mary is reading the book.'  
b. Das Buch liest Maria.  
the book reads Mary 'Mary is reading the book.'
- (12) Hans glaubt, dass Maria das Buch liest.  
Hans thinks that Mary the book reads  
'Hans thinks that Mary is reading the book.'

### 2.1.2. The Copula

In German, the copula *sein* occurs with a variety of non-verbal predicates<sup>10</sup>:

- (13) a. *adjective*  
dass Peter brav ist  
that Peter good is  
'that Peter is good'
- b. *nominal*  
dass ihr Bruder (ein) Lehrer ist  
that her brother (a) teacher is  
'that her brother is a teacher'
- c. *locative*  
dass die Kinder im Hof sind  
that the children in+the yard are  
'that the children are in the yard'
- d. *particle*  
dass Peter schon weg ist  
that Peter already away is  
'that Peter is already gone'

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<sup>10</sup> According to our working definition for the purpose of this paper the copula does not appear with another verbal element. We do not want to get into the discussion of the so-called 'Zustandspassiv' in German.

‘Adjective’, ‘nominal’, and ‘particle’ refer to lexical categories, whereas ‘locative’ is a semantic category, which comprises locative PPs just as well as adverbs.

## 2.2. *Data*

### 2.2.1. *Analyzed Utterances*

Our counts for German were carried out on spontaneous production data from two longitudinal child language corpora: The Nico-Corpus, collected by Sabine Bruyère, cf. Köhler & Bruyère 1995/96, and the Paul-Corpus, collected by Katharina Korecky-Kröll, cf. Korecky-Kröll 2000. Nico and Paul are boys growing up in Vienna, Austria, acquiring the local variety of spoken German. The time span chosen for a thorough analysis was that where predication constructions with and without a copula co-occur, that was around five months for both children.

In order to be included in the analyses, utterances had to fulfill the following criteria: Only declarative multi-word utterances were included. Utterances with a copula were included if they consisted of at least a subject and a predicate. We define copulaless predication structures as combinations of a subject and a predicate that have the same meaning as this subject predicate combination would have with a copula, i.e. stative. Imitations and self-repetitions were excluded. This results in a sample of 700 utterances to be analyzed for Nico, and 108 utterances for Paul. For details see Appendix A.

### 2.2.2. *Classification of Subjects versus Predicates*

In copular sentences with two nominal or pronominal constituents, the two are potentially ambiguous with respect to subject or predicate status. In this case we adopt the following general heuristics (cf. Williams 1997, Löbel 2001). Predication is asymmetrical. The subject is more referential than the predicate, in the sense that the speaker is more directly acquainted with its referent. The predicate noun phrase specifies a property of this referent. As a matter of fact, many child utterances contain demonstrative pronouns with a clear situational (deictic) interpretation, which we consequently classified as subjects. For the few sentences with two bare noun candidates for the subject and predicate roles, we relied on the context information.

### 2.3. Copular Constructions in Child German

#### 2.3.1. Predication with or without Copula

Both children use predication structures with and without a copula. In Table 1, the proportions of simple predication structures without an overt copula are 46.9% in the Nico-Corpus and 36.1% in the Paul-Corpus.

*Table 1. Overview of analyzed data from Nico and Paul, with overt subject (absolute numbers and row percentages in brackets)*

		<i>copula</i>	<i>no copula</i>	<i>total</i>
Nico	(2;3.30 - 2;9.4)	372 (53.1%)	328 (46.9%)	700 (100%)
Paul	(2;4.6 - 2;8.21)	69 (63.9%)	39 (36.1%)	108 (100%)

See (14) for examples of predication with and without a copula (predicates are underlined).

- (14) a. das is die Mama . (Paul 2;7.15)  
           that is the mama 'That's mum.'  
       b. keksi kueche noch . (Nico 2;6.12)  
           cookie kitchen still 'The cookie is still in the kitchen.'

The generalization that the copula hardly ever occurs in the infinitive also holds in our sample: 369/372 or 99.1% finite copula forms were counted for Nico, and 69/69 or 100% finite forms for Paul.

For both children, the coexistence of copula and copulaless predication structures falls in the same period as the coexistence of finite verbs and root infinitives (cf. Köhler & Bruyère 1995/96 and Schaner-Wolles 2000 for Nico, Korecky-Kröll 2000 for Paul). Figures depicting the overall development of the finite verb and root infinitive ratios for Nico and Paul are given in Appendix B.

#### 2.3.2. Predicates

Constituents classified as predicates were grouped into four categories: Adjectival, locative and nominal predicates are distinguished on semantic and categorical grounds, the fourth category ('other') is a mixed bag of constituents that could not be classified in the way described above (adverbials, particles, interjections, onomatopoeic expressions, child-specific words). Table 2 indicates that all kinds of predicates occur with and without an overt copula. Longitudinally, there is no development in the distribution of

predicate types, apart from the fact that predication structures without a copula decrease steadily from Nico18 (2;8.7) and Paul11 (2;5.16) onwards. Therefore the data from all the recordings of each child have been pooled for quantitative analysis. File by file information is given in Appendix C.

*Table 2. Predicate types and occurrence of the copula  
(absolute numbers and total row percentages)*

<i>predicate</i>	<i>Nico06-20 (2;3.30 - 2;9.4)</i>			<i>Paul09-17 (2;4.6 - 2;8.21)</i>		
	<i>cop.</i>	<i>no cop.</i>	<i>total</i>	<i>cop.</i>	<i>no cop.</i>	<i>total</i>
adjectival	52	46	98	13	8	21
locative	61	168	229	26	20	46
nominal	237	77	314	23	4	27
other	22	37	59	7	7	14
total	372	328	700	69	39	108
	53.1%	46.9%	100%	63.9%	36.1%	100%

The following are examples of adjectival, locative and nominal predicates with and without an overt copula. The category ‘other’ is exemplified by an adverbial in (18a) and an interjection in (18b).

- (15) a. Picki is krank. (Nico 2;7.24)  
Picki is ill ‘Nico is ill’  
b. schmutzig duplokiste. (Nico 2;6.12)  
dirty duplo-box ‘The duplobox is dirty’
- (16) a. kuchn is drinnen . (Nico 2;3.30)  
cake is inside ‘The cake is inside’  
b. keksi kueche noch . (Nico 2;6.12)  
cookie kitchen still ‘The c. is still in the kitchen’
- (17) a. das is die Mama . (Paul 2;7.15)  
that is the mama ‘That’s mum.’  
b. den da polizei. (Nico 2;7.3)  
the.m.sg.acc there police ‘This is the police there’
- (18) a. jetzt is der da dran. (Nico 2;7.3)  
now is the.m.sg there adv ‘Now it is this one’s turn’

- b. sockn igitt. (Nico 2;6.1)  
 socks yucky 'The socks are disgusting'

Whereas locative and nominal predicates have a strong correspondence to stage-level and individual-level semantics respectively, adjectives are not uniform with respect to this distinction. Some adjectives have an obvious semantics (e.g., *hungrig* 'hungry' is a stage-level, *blond* 'blonde' an individual-level adjective), and others permit both interpretations depending on the context (e.g., *kaputt* 'broken'). Furthermore, especially in the early files, adjectives are not very frequent in both corpora. Similar difficulties arise in Becker's work; cf. Becker (2000a:132ff). For these reasons, we will largely ignore adjectives in this paper.

As far as locative and nominal predicates are concerned, our data confirm Becker's 2000a, 2000b observation on English predicatives for German: Locative and nominal predicates differ with respect to the frequency of occurrence of an overt copula. In the Nico-Corpus, the majority of locative predicates (73.4%) occurs without a copula, and the majority of nominal predicates (75.5%) occurs with an overt copula. The distribution is not so clear for Paul's locatives, but even clearer for his nominal predicates.

Table 3. Locative vs. nominal predicates - occurrence of the copula (absolute numbers and row percentages)

predicate	Nico06-20 (2;3.30 - 2;9.4)			Paul09-17 (2;4.6 - 2;8.21)		
	cop.	no cop.	total	cop.	no cop.	total
locative	61 26.6%	168 73.4%	229 100%	26 56.5%	20 43.5%	46 100%
nominal	237 75.5%	77 24.5%	314 100%	23 85.2%	4 14.8%	27 100%
total	298 54.9%	245 45.1%	543 100%	49 67.1%	24 32.9%	73 100%
	chi-square test sign.: p≤.000			chi-square test sign: p<.05		

Full fledged prepositional phrases are extremely rare among the locative predicates (3 out of 229 locative predicates are PPs for Nico, 3 out of 46 for Paul). Locative adverbs constitute the majority of locative predicates, with *da* 'there' being the most frequent locative adverb. Paul uses 43 locative adverbs, Nico 158. There is a difference between the boys insofar as Nico also uses bare noun phrases with locative meaning. They appear in 68 of his 229 locative predication structures (67 of them are bare nouns, only one case contains a determiner). A typical example of a locative nominal is given in

(16b) above. Note that the vast majority of Nico's locative nominals (59/68 or 86.8%) is found in utterances without a copula and only 9/68 appear together with an overt copula. It seems that non-target-like structures avoiding functional elements such as the copula and prepositions cluster together.

A similar observation holds for nominal predicates. Apart from 5 pronominal predicates in the Nico-Corpus, nominal predicates are descriptive lexical NPs.<sup>11</sup> Most lexical NP-predicates are bare nouns, but some also contain functional material, i.e. a determiner (70/309 or 22.7% for Nico, 10/27 or 37.0% for Paul). Again, we observe that non-target-like properties cluster together: Lexical NP-predicates in copulaless predication structures are much less likely to appear with a determiner than those in the target-like construction. Of 77 nominal predicates without a copula, Nico uses only 5 with a determiner (6.5%), whereas 65/232 or 28.0% contain a determiner in the context of an overt copula. For Paul the numbers are too small for meaningful comparison (1/4 or 25.0% determined NP-predicates without a copula and 9/23 or 39.1% with a copula).

### 2.3.3. *Subjects*

Constituents classified as subjects were grouped into two categories: Pronominal subjects and descriptive lexical noun phrases (cf. footnote 11) including nominalized adjectives.

Both subject types appear in children's predication structures, whether they contain an overt copula or not. But when we look at pronominal subjects, we can see that they are strongly preferred in the context of the target-like predication structure with an overt copula (79.2% for Nico, 82.6% for Paul).<sup>12</sup>

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<sup>11</sup> The target language under discussion hardly allows bare nouns, even mass nouns take indefinite determiners. Proper names for persons behave exactly like descriptive noun phrases with respect to article placement. Hence they are counted as lexical noun phrases here.

<sup>12</sup> A similar distribution is observed in Becker's data for English, but she argues that this is due to certain discourse contexts (answers to 'what is'-questions). In our data, the amount of pronominal subjects cannot be attributed to such a discourse effect.

Table 4. Types of subjects in contexts with overt copula and without copula  
(absolute numbers, row and column percentages)

subject	Nico06-20 (2;3.30 - 2;9.4)			Paul09-17 (2;4.6 - 2;8.21)		
	cop.	no cop.	total	cop.	no cop.	total
<i>pronominal</i>	312	82	394	38	8	46
row pct.	79.2%	20.8%	100.0%	82.6%	17.4%	100.0%
col. pct.	83.9%	25.0%	56.3%	55.0%	20.5%	42.6%
<i>lexical</i>	60	246	306	31	31	62
row pct.	19.6%	80.4%	100%	50.0%	50.0%	100.0%
col. pct.	16.1%	75.0%	43.7%	45.0%	79.5%	57.4%
<i>total</i>	372	328	700	69	39	108
row pct.	53.1%	46.9%	100.0%	63.9%	36.1%	100.0%
col. pct.	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Most pronominal subjects are demonstrative pronouns, i.e. weak demonstratives (*der/die/das* and the reduced form (*da*’s), the morphological paradigm of which is almost identical to the definite determiner. As allowed in the target language, weak demonstratives are sometimes reinforced by the locative adverb *da* ‘there’ (for example *das da* ‘that there’). By far the most frequent subject pronoun is the singular neuter form of the weak demonstrative *das* ‘this/that/the.n.sg.’ (293/394 or 74.4% for Nico, 35/46 or 76.1% for Paul); see (14), repeated here as (19):

- (19)      *das* is die Mama                      (Paul 2;7.15)  
              that is the mama                      ‘That’s mum’

As regards predication structures with an overt copula, we find that lexical and pronominal subjects are evenly distributed in Paul’s data. Nico, on the other hand, displays a striking asymmetry with respect to pronominal vs. lexical subjects (83.9% of his copular constructions contain a pronominal subject). To some extent, this reflects his preference for one particular word order pattern: *X is das* ‘X is that’. In total, Nico produced 161 utterances of this form, where X stands for any kind of predicate (plus sometimes additional material). Paul does not share this strong preference (9 occurrences); see also section 2.3.4 below. As for copulaless predication structures, most of their subjects are descriptive lexical noun phrases (75.0% for Nico and 79.5% for Paul) as in (15b) above. Again, it seems that non-target-like structures avoid functional elements, also in the case of pronouns.

A similar observation holds for determiner placement in lexical subjects; cf. footnote 11. Most lexical subjects are bare nouns, but some also contain a

determiner (42/306 or 13.7% for Nico, 19/62 or 30.6% for Paul). In copulaless predication structures lexical subjects are less likely to appear with a determiner than in the target-like construction. Of 246 lexical subjects without a copula, Nico uses only 15 with a determiner (6.1%), whereas 27/60 or 45.0% contain a determiner in the context of an overt copula. Paul uses 5/31 or 16.1% determined lexical subjects without a copula and 14/31 or 45.2% with a copula.

#### 2.3.4. Placement of Subjects and Predicates

In this section, we investigate the question whether the placement of subjects and predicates in children's predication structures can tell us anything about the underlying clause structure, in particular in contexts without a copula. As already mentioned, it has been suggested that children's utterances lacking functional material might reflect a generalized small clause strategy; cf. Radford 1990. We want to find out whether copulaless (i.e. verbless) predication structures provide evidence for the presence of functional structure above a small clause in this clause type.

Most predication sentences containing a copula are actually V2 sentences (339/372 or 91.1% for Nico, 61/69 or 88.4% for Paul). Because of V2 and the availability of topicalization, the order between subjects and predicates is not fixed in German main clauses. Any kind of predicate can move across the subject to SpecCP (cf. section 2.1.1. above). Therefore, children are expected to make use of the topicalization possibility in a root clause with the copula in second position. We know independently that both Nico and Paul have command of the V2 property and topicalize constituents to the preverbal position, cf. Köhler & Bruyère 1995/96, Korecky-Kröll 2000. So we expect predicate topicalization in copula V2 clauses all the more. And indeed, both children use predicate-initial clauses with all kinds of predicates. Nico displays a peculiar preference for predicate topicalization over subject-initial orders (in 62.8% of the cases). Paul, on the other hand, does not seem to prefer one over the other (predicate-initial orders appear in 45.9% of the cases). As mentioned above, Nico uses one particular word order pattern very frequently, which Paul doesn't: *X is das* 'X is that', as in (20):

- |      |                                       |                                   |
|------|---------------------------------------|-----------------------------------|
| (20) | <u>autobus</u> is das.<br>bus is that | (Nico 2;3.30)<br>'This is a bus.' |
|------|---------------------------------------|-----------------------------------|

As this might blur the comparison between the two children, we separated the pattern *X is das* in Table 5. In that way, the similarity of the topicalization rates for both children becomes evident.

Table 5. Copula V2 clauses: distribution of subjects, predicates, and other constituents in initial position (absolute numbers and column percentages, including and excluding 'X is das')

initial constituent	Nico06-20 (2;3.30 - 2;9.4)			Paul09-17 (2;4.6 - 2;8.21)		
	#	%	% exc. 'X is das'	#	%	% exc. 'X is das'
subject	123	36.3	69.1	31	50.8	59.6
predicate:						
'X is das'	161	47.5	–	9	14.8	–
other predicate	52	15.3	29.2	19	31.1	36.5
other constituent	3	0.9	1.7	2	3.3	3.8
total V2	339	100.0		61	100.0	
total exc. 'X is das'	178		100.0	52		100.0

(21a) and (21b) are examples of subject-initial and predicate-initial orders in V2 clauses with an overt copula:

- (21) a. *das is die Mama* (Paul 2;7.15)  
           that is the mama 'That's mum.'  
       b. *da is eh lastauto.* (Nico 2;5.11)  
           there is adv truck 'There is a truck anyway.'

We now turn to predication structures without a copula. Under the assumption that copulaless predication is represented as a bare lexical small clause with no functional projections (cf. Radford 1990), predicate-initial orders are not expected. Table 6, however, shows quite a number of predicate-initial orders contrary to this prediction.

Table 6. Relative order of subject and predicate in predicative utterances without copula, all predicate types (absolute numbers and row percentages)

Nico06 - 20 (2;3.30 - 2;9.4)			Paul09 - 17 (2;4.6 - 2;8.21)		
<i>su (...)</i> <i>pr</i>	<i>pr (...)</i> <i>su</i>	total	<i>su (...)</i> <i>pr</i>	<i>pr (...)</i> <i>su</i>	total
248	80	328	27	12	39
75.6%	24.4%	100.0%	69.2%	30.8%	100.0%

(22a) and (22b) are examples of subject-initial and predicate-initial orders in copulaless predication structures:

- (22) a. *den da polizei* (Nico 2;7.3)  
           the.m.sg.acc there police 'This is the police there.'

- b. fertig Picki. (Nico 2;4.10)  
 ready Nico 'Nico is done.'

Another conceivable hypothesis is that the clause structure of predication without a copula is just like that of an overt copula construction, only without a phonetic spellout of the feature bundle associated with the copula. Under this hypothesis the situation with respect to the relative order of subjects and predicates should be identical in both clause types. The evidence is equivocal, as the inversion rates in copulaless predication structures are below the topicalization rates in V2-sentences with a copula. But the difference is not big (24.4% compared to 29.2% for Nico, 30.8% compared to 36.5% for Paul). Also bear in mind that there are other differences between the two clause types that still call for an explanation.

In sum, we find that the comparison between predicative utterances with and without copula with respect to subject and predicate placement is inconclusive. The question of how to account for children's predication structures without an overt copula is not settled yet.

### 2.3.5. Summary for German

We find the following systematic contrasts between predication with and without a copula, which call for a structural explanation:

*Table 7. Summary of the properties of predication structures with and without a copula in early child German*

	<i>with copula</i>	<i>without copula</i>
<i>copula</i>		
finiteness	finite	not finite
placement	V2	(does not apply)
<i>predicate</i>		
nominal predicates	preferred context	dispreferred context
locative predicates	dispreferred context	preferred context
Nico's bare N locatives	dispreferred context	strongly preferred context
<i>subject</i>		
lexical subjects	infrequent	frequent
pronominal subjects	frequent	infrequent
<i>DPs</i>		
determiners	some dets occur	very few dets occur
<i>word order</i>		
predicate inversion	available/more frequent	available/less frequent

## 3. CROATIAN

## 3.1. Target Language

It is a crucial characteristic of Croatian that verbal inflection can identify sentential subjects which can therefore be null. Yet, in the variety acquired by the child overt pronominal subjects are not necessarily connected with an emphatic meaning (cf. Magner 1966:34). The following examples show the usage according to the standard language.

- (23)
- |    |                   |                        |
|----|-------------------|------------------------|
| a. | idemo u grad.     |                        |
|    | go-1pl to town    | ‘We are going to town’ |
| b. | mi idemo u grad.  |                        |
|    | we go-1pl to town | ‘WE are going to town’ |

The copula is realized by clitic, strong and negated forms of the verb *biti* ‘to be’ as shown in (24).<sup>13</sup> Strong affirmative forms have emphatic interpretation. Negated forms are always strong.

(24)	<i>biti</i> ‘to be’		<i>ne biti</i> ‘not to be’
	<i>clitic</i>	<i>strong</i>	<i>negated</i>
	1.sg. sam	jesam	nisam
	2.sg. si	jesi	nisi
	3.sg. je	je <sup>14</sup>	nije
	1.pl. smo	jesmo	nismo
	2.pl. ste	jeste	niste
	3.pl. su	jesu	nisu

Although Croatian is considered to have a free word order, the clitic copula is fixed to the second position of the clause. When it appears together with other ‘second position’ clitics (e.g. pronouns), they form a clitic cluster in which they are subject to ordering restrictions.<sup>15</sup>

The copula appears with various types of non-verbal predicates (cf. Barić et al. 1997:401-403). Following the categorization for German predicates we focus on adjectives, nominals and locatives as predicates; cf. (25). These are

<sup>13</sup> The copula is introduced in present tense indicative only since the child did not produce other forms in the course of the analyzed period.

<sup>14</sup> In the variety spoken in Zagreb.

<sup>15</sup> The nature of clitics in Croatian constitutes a part of the general discussion on the status of clitics in general and slavic clitics in particular with respect to phonology, morphology and syntax; cf. e.g., Čavar & Wilder 1999, Wilder & Čavar 1994.

also the predication types used most frequently by the child. Moreover, Croatian adjectival predicates show number- and gender agreement with their subjects; cf. (25a) and (25a').

- (25) a. *adjective*  
 Jelo je vruće.  
 food-n is-CL hot-n. 'The food is hot.'
- a'. *adjective*  
 Juha je vruća.  
 soup-fem is-CL hot-fem 'The soup is hot.'
- b. *nominal*  
 Mercedes je žena.  
 M. is-CL woman 'Mercedes is a woman.'
- c. *locative*  
 to je u kući.  
 that is-CL in house-loc 'That's in the house.'

### 3.2. Data

The Croatian data used for this study are part of a longitudinal corpus documenting the first language acquisition of a monolingual girl growing up in Zagreb. Antonija's spontaneous productions have been recorded for 20 minutes on an average and transcribed regularly, three to four times per month, by Draženka Blaži.

The analysis covers all sessions within seven months from the onset of the child's two-word stage (1;7.2 - 2;1.28). We included exclusively declarative sentences and also one word contexts. Repetitions, songs, nursery rhymes, imitations and interrupted utterances were excluded from the calculation. In total, 17 recordings and 97 of Antonija's utterances with a copula were analyzed; for details see Appendix D.

### 3.3. Copular Constructions in Child Croatian

#### 3.3.1. No Omissions of the Copula

Already from the beginning of the two-element stage (1;7) Antonija produces copular constructions. The most striking observation compared to the findings from German and English is that we find no instances of non-verbal predication without a copula at all. Furthermore, we find that Antonija corrects herself when she skips the copula as it is shown in (26).

- (26) to kajun - to je kajun [: klaun] (Antonija 1;9.15)  
 that clown - that is-CL clown 'That is a clown'

### 3.3.2. Utterances with a Copula

In general, we observe that Antonija's usage of the copula conforms to the regularities of the target language. This concerns primarily the contextual use of clitic, emphatic or negated forms and the placement of the clitic copula at the second position of the clause. Furthermore, subject and verb agreement shows no deviations from the target language. Clitic clusters are very rare and they do not appear at all with copulas.

Table 8 shows the quantitative distribution of clitic and non clitic (strong and negated) forms of the copula. The dominance of enclitic forms (almost 75% of all produced copulas) indicates that the child chooses enclitic forms for the neutral (non-emphatic) affirmative context.

Table 8. Clitic, non-clitic and negated forms of the copula, Antonija07-23 (1;7.2 - 2;1.28), (absolute numbers and row percentages)

<i>clitic</i>	<i>strong</i>	<i>negated</i>	<i>total</i>
72 (74.2%)	12 (12.4%)	13 (13.4%)	97 (100%)

Table 9 provides figures of all types of copular constructions taken into consideration. They include utterances with overt subjects and non-verbal predicates, null subject constructions with overt predicates, one utterance with an overt subject without an overt predicate and finally, copulas as one-word utterances. The latter can be interpreted as elliptic comments or answers.

Table 9. Types of utterances with a copula, Antonija07-23 (1;7.2 - 2;1.28), (absolute numbers and row percentages)

<i>cop, su, pr</i>	<i>cop, pr</i>	<i>cop, su</i>	<i>cop</i>	<i>total</i>
48 (49.5%)	31 (32.0%)	1 (1.0%)	17 (17.5%)	97 (100%)

### 3.3.3. Predicates

Copular constructions with predicates are among the first two-word utterances. The earliest predicate types to appear are nominals and locatives,

whereas adjectival predicates show up later, at 1;9. The most frequent locative predicates are adverbs represented in 21 cases by the deictic *tu* ‘here’. Table 10 shows the distribution of the various predicate types.

Table 10. Predicate types, Antonija07-23 (1;7.2 - 2;1.28),  
(absolute numbers and row percentages)

<i>adjectival</i>	<i>locative</i>	<i>nominal</i>	<i>other</i>	<i>total</i>
19 (24.1%)	27 (34.2%)	31 (39.2%)	2 (2.5%)	79 (100%)

The following examples show adjectival (27), locative (28), nominal (29) and ‘other’ (30) types of predicates in the child.

- (27) a. *deda je umoran*  
grandpa is-CL tired-masc-sg (Antonija 1;10.0)  
‘Grandpa is tired’  
b. *ti si jočeta [: zločesta]*  
you-sg are-sg-CL bad-fem-sg (Antonija 1;11.17)  
‘You are bad’  
(said to grandma)
- (28) a. *tu je koka*  
there is-CL hen (Antonija 1;10.10)  
‘There is the hen’  
b. *u omaju [: ormaru] je*  
in cupboard-loc is-CL (Antonija 1;9.15)  
‘(the plate) is in the c.’
- (29) a. *i ja sam t(v)oja mama*  
and I am-CL your mama (Antonija 1;10.21)  
‘And I am your mama’  
b. *a ovo je s(l)onić*  
and this is-CL elephant-DIM (Antonija 2;1.17)  
‘And this is a small e.’
- (30) *nije bočboč kaze(t)ofon*  
not-is yucky tape recorder (Antonija 2;0.2)  
‘The t. is not yucky’

### 3.3.4. Subjects

Although Antonija is acquiring a language which allows null subjects, she uses both, overt and null subjects at the same time. The rate of lexical subjects<sup>16</sup> is strikingly low compared to the amount of pronominal subjects, cf. Table 11. Among pronominal subjects the most frequent pronoun is *to* ‘that’. The extensive use of pronouns among overt subjects is not connected

<sup>16</sup> ‘Lexical’ subjects comprise bare nouns, adjectives plus nouns etc.

to copular constructions only, but it appears also with other types of verbs (cf. Katičić 1997, Katičić & Schaner-Wolles 2001).

*Table 11. Subject type in copular utterances, 17 one-word utterances not included, Antonija07-23 (1;7.2 - 2;1.28), (absolute numbers and row percentages)*

<i>null subject</i>	<i>overt subject</i>		<i>total</i>
	<i>pronominal</i>	<i>lexical</i>	
31 (38.8%)	39 (48.8%)	10 (12.5%)	80 (100%)

#### 4. CONCLUSIONS

Although adult English, German, and Croatian share the grammatical characteristic of an obligatory copula, the three languages differ in this respect in language acquisition. In both English and German, there is a period of linguistic development where non-target like, but UG compatible, copulaless predication structures are observed alongside target like copula constructions. In contrast, we find no copulaless predication structures during the acquisition of Croatian.

During the acquisition of English and German, for all the children investigated in Becker (2000a, 2000b) and in the present study, the occurrence rate of the copula is different for different kinds of predicates. Nominal predicates (temporally unbounded predicates) favor the occurrence of a copula, locative predicates (temporally bounded predicates) do not. In our investigation of two children acquiring German, we found further differences between the two clause types with and without a copula. Functional material is mostly used in the clause type with a copula. This tendency is particularly strong for pronominal subjects. Word order in clauses with a copula follows the regularities of adult verb second clauses, i.e. topicalization of the predicate into the preverbal position takes place in a substantive number of cases. Word order in predicative clauses without a copula is variable: the majority of utterances are subject initial, but subject-predicate inversion is available as well, although less frequent than the predicate initial clauses in verb second clauses containing a copula. Any structural analysis of copulaless predication will have to account for this fact.

Besides the similar distribution of predicate types with respect to the presence or absence of the copula, we find another similarity between the acquisition of the copula in English and German: the copula, if present, is almost always finite. This is in contrast with most other verbs, which alternate between finite and non finite forms (root infinitives) during this

period of linguistic development, in both English and German. The absence of copulaless predication structures from Croatian acquisition coincides with the absence of root infinitives from Croatian acquisition. The whole picture is perfectly compatible with the hypothesis that copulaless predication structures are related to the root infinitive phenomenon. It is an empirical question whether presence or absence of root infinitives and occurrence or nonoccurrence of copulaless predication structures also cluster together in the acquisition of other languages. We leave this question open for further research.

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CHILDES - Child Language Data Exchange System: <http://www.childes.psy.cmu.edu>

## APPENDIX A

Table 12. Overview of analyzed data for Nico, predication with and without copula

<i>Nico</i> data- points	<i>file information</i>			<i>predication cases</i>		
	<i>age</i> (y;mm.dd)	<i>filename</i>	<i>duration of</i> <i>recording</i>	<i>cop.</i>	<i>no cop.</i>	<i>total</i>
1	2;3.30	Nico06	60 min.	7	41	48
2	2;4.10	Nico07	60 min.	19	15	34
3	2;4.20	Nico08	60 min.	7	30	37
4	2;5.1	Nico09	60 min.	40	16	56
5	2;5.11	Nico10	60 min.	18	10	28
6	2;5.22	Nico11	60 min.	13	21	34
7	2;6.1	Nico12	60 min.	28	17	45
8	2;6.12	Nico13	60 min.	11	22	33
9	2;6.22	Nico14	60 min.	11	32	43
10	2;7.3	Nico15	60 min.	27	21	48
11	2;7.13	Nico16	60 min.	28	19	47
12	2;7.24	Nico17	60 min.	24	54	78
13	2;8.7	Nico18	60 min.	29	14	43
14	2;8.21	Nico19	60 min.	41	9	50
15	2;9.4	Nico20	60 min.	69	7	76
<i>total</i>			15 hrs.	372	328	700

Table 13. Overview of analyzed data for Paul, predication with and without copula

<i>Paul</i> data- points	<i>file information</i>			<i>predication cases</i>		
	<i>age</i> (y;mm.dd)	<i>filename</i>	<i>duration of</i> <i>recording</i>	<i>cop.</i>	<i>no cop.</i>	<i>total</i>
1	2;4.6	Paul09	45 min.	3	5	8
2	2;4.20	Paul10	45 min.	1	11	12
3	2;5.16	Paul11	255 min	29	19	48
4	2;5.23	Paul12	60 min.	7	1	8
5	2;7.15	Paul13	45 min.	18	2	20
6	2;8.21	Paul17	45 min.	11	1	12
<i>total</i>			8 h. 15 min.	69	39	108

APPENDIX B

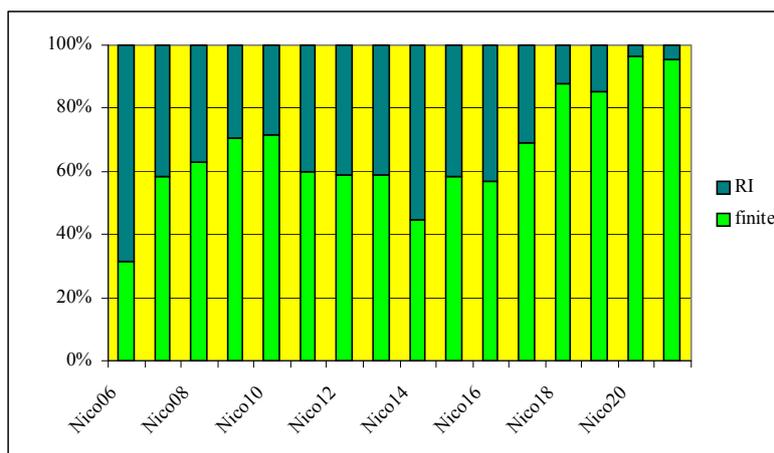


Figure 1. Ratio of finite verbs and root infinitives (RI), Nico06-21 (2;3.30 - 2;9.18), all verbs. Information on Nico06-21 is taken from Köhler & Bruyère 1995/96 and Schaner-Wolles 2000

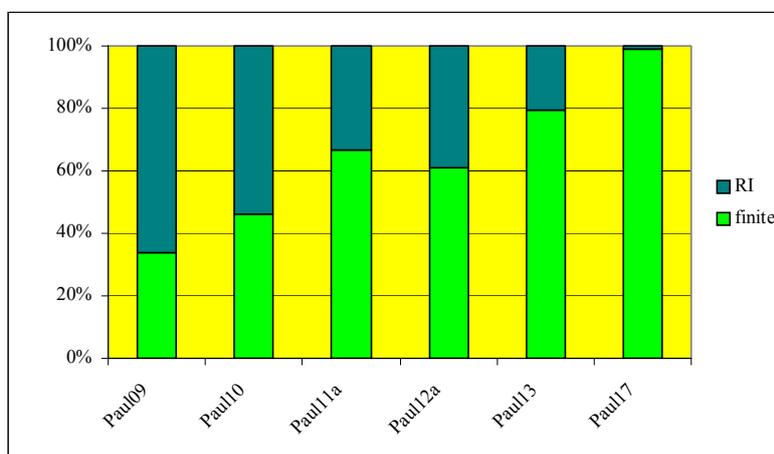


Figure 2. Ratio of finite verbs and root infinitives (RI), Paul09-17 (2;4.6 - 2;8.21), all verbs. For information on Paul09-13 we thank Katharina Korecky-Kröll (p.c.).

## APPENDIX C

*Table 14. Absolute numbers and relative frequencies of copulaless predication structures out of total predication structures for each type of predicate and for all types of predicates together, Nico (2;3.30 - 2;9.4)*

<i>PR</i>	<i>adjectival</i>		<i>locative</i>		<i>nominal</i>		<i>other</i>		<i>all predicates</i>	
<i>File</i>	<i>no cop</i>		<i>no cop</i>		<i>no cop</i>		<i>no cop</i>		<i>no cop</i>	
	<i>/total</i>	<i>%</i>	<i>/total</i>	<i>%</i>	<i>/total</i>	<i>%</i>	<i>/total</i>	<i>%</i>	<i>/total</i>	<i>%</i>
Nico06	3/3	100.0	18/19	94.7	11/17	64.7	9/9	100.0	41/48	85.4
Nico07	1/2	50.0	9/9	100.0	2/18	11.1	3/5	60.0	15/34	44.1
Nico08	3/3	100.0	17/17	100.0	2/9	22.2	8/8	100.0	30/37	81.1
Nico09	3/6	50.0	7/11	63.6	4/32	12.5	2/7	28.6	16/56	28.6
Nico10	1/1	100.0	5/9	55.6	2/14	14.3	2/4	50.0	10/28	35.7
Nico11	4/5	80.0	12/17	70.6	2/8	25.0	3/4	75.0	21/34	61.7
Nico12	3/3	100.0	8/9	88.9	5/31	16.1	1/2	50.0	17/45	37.8
Nico13	7/10	70.0	11/13	84.6	3/9	33.3	1/1	100.0	22/33	66.7
Nico14	4/4	100.0	23/25	92.0	4/13	30.8	1/1	100.0	32/43	74.4
Nico15	2/2	100.0	12/21	57.1	7/24	29.2	0/1	0.00	21/48	43.8
Nico16	0/2	0.0	15/20	75.0	3/24	12.5	1/1	50.0	19/47	40.4
Nico17	7/9	77.8	21/28	75.0	20/35	57.1	6/6	100.0	54/78	69.2
Nico18	4/5	80.0	7/12	58.3	3/24	12.5	0/2	0.00	14/43	32.6
Nico19	1/8	12.5	1/7	14.3	7/31	22.6	0/4	0.00	9/50	18.0
Nico20	3/36	8.3	2/12	16.7	2/25	8.0	0/3	0.00	7/76	9.2
<i>total</i>	46/98	46.9	168/229	73.4	77/314	24.5	37/59	62.7	328/700	46.9

Table 15. Absolute numbers and relative frequencies of copulaless predication structures out of total predication structures for each type of predicate and for all types of predicates together, Paul (2;4.6 - 2;8.21)

PR File	adjectival		locative		nominal		other		all predicates	
	no cop /total	%	no cop /total	%	no cop /total	%	no cop /total	%	no cop /total	%
paul09	1/2	50.0	2/2	100.0	2/2	100.0	0/2	0.0	5/8	62.5
paul10	2/2	100.0	7/7	100.0	1/1	100.0	1/2	50.0	11/12	91.7
paul11	3/5	60.0	9/19	47.4	1/16	6.25	6/8	75.0	19/48	39.6
paul12	0/1	0.0	1/5	20.0	0/0		0/2	0.0	1/8	12.5
paul13	2/7	28.6	0/8	0.0	0/5	0.0	0/0		2/20	10.0
paul17	0/4	0.0	1/5	20.0	0/3	0.0	0/0		1/12	8.33
<i>total</i>	8/21	38.1	20/46	43.5	4/27	14.8	7/14	50.0	39/108	36.1

## APPENDIX D

Table 16. Overview of analyzed data for Antonija07-23 (1;7.2 - 2;1.28)

data- points	file information		number of utterances	predication cases		
	age (y;mm.dd)	filename		cop.	no cop.	total
1	1;7.2	antbla07	79	10	0	10
2	1;7.15	antbla08	141	9	0	9
3	1;7.27	antbla09	101	2	0	2
4	1;9.15	antbla10	207	24	0	24
5	1;10.0	antbla11	152	10	0	10
6	1;10.10	antbla12	57	7	0	7
7	1;10.21	antbla13	74	2	0	2
8	1;10.30	antbla14	55	1	0	1
9	1;11.10	antbla15	34	0	0	0
10	1;11.17	antbla16	60	2	0	2
11	1;11.25	antbla17	77	1	0	1
12	2;0.2	antbla18	90	2	0	2
13	2;0.12	antbla19	93	2	0	2
14	2;0.28	antbla20	53	1	0	1
15	2;1.8	antbla21	35	3	0	3
16	2;1.17	antbla22	238	19	0	19
17	2;1.28	antbla23	97	2	0	2
<i>total</i>			1643	97	0	97