### AG 7 Information Structure in Language Acquisition

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The role of topic in the acquisition of pronominal anaphors in German 24.02.2010, 14.00–14.30 Uhr, Raum 1.205

To realize on what an utterance is going on, i.e. on what the speaker is giving a new bit of information, is a natural prerequisite of human interaction and, conclusively, of linguistic communication. This consideration leads to the assumption that humans are born with the ability to detect and distinguish the object an information is given about from the bits of new information. By a series of experiments, Tomasello and colleagues demonstrated young children's pre-linguistic ability to recognize the focus of attention of their partners in interaction and to interact in appropriate way, e.g. by opening the door of a cupboard when their partners intend to put a pile of books into the cupboard. It has also been shown that children in the pre-linguistic phase can infer what is old and what is new information for both themselves and their partners. The development of the linguistic expression of topic follows a phase of topic omission typically occurring as subject omission or subject drop. Even this indicates existing knowledge on that there is something, i.e. a topic, on what the expressed information is given about.

The aim of the proposed talk is to identify the knowledge on topic in early production and comprehension of personal and demonstrative pronouns and the development of anaphoric knowledge correlated with topic continuation and topic change in linguistic discourse. Starting with an analysis of early (longitudinal) production data - from age 2;0 - 2;4 - it can be shown that German children apply a functional opposition between full vs. pronominal noun phrases: While pronouns are used to continue communication on the referent which already is in the shared focus of attention (Tomasello), i.e. the topic, full noun phrases are used to direct the focus of attention to a new referent. In case of topic continuation children initially use demonstrative pronouns more frequently than personal pronouns. This is confirmed by the results of a repetition experiment with 3-year-olds who tend to omit personal pronouns presented in topic position or to replace them with demonstrative pronouns. In the same experiment, 5-year-olds, to the contrary, tend to replace demonstrative pronouns by personal ones. Two possibilities of explaining this finding will be discussed: a) children initially follow a deictic strategy or b) the demonstrative pronoun is used anaphorically and not deictically but it is the default pronoun, i.e. it is appropriate for all types of anaphoric relations in the early stage.

As a next step, it will be shown that children up to age 5;0 acquire differences in the anaphoric capacities of personal and demonstrative pronouns comprehending personal pronouns as the default pronoun which, nevertheless, prototypically indicates topic continuation. The demonstrative pronoun, to the contrary, becomes a specific anaphoric mean for topic change. Evidence for these developmental changes comes from a series of experiments investigating the comprehension of

personal and demonstrative pronouns including the German demonstrative II (diese) by 3;0 to 5;0 year old monolingual German children.

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(1) Max-Planck-Institut für Psycholinguistik / (2) Johannes Gutenberg Universität Mainz Second language learners' and native speakers' interpretation of German pronouns in discourse in real time

24.02.2010, 14.30-15.00 Uhr, Raum 1.205

In a series of eye-tracking and sentence completion studies, we have investigated the referential properties of German pronouns in discourse, comparing adult native speakers' interpretations to those of L2 learners (Finnish, Dutch). Specifically, we examine the differing influences of information status, grammatical role and word order on pronoun resolution. In one set of experiments, we investigated how pronouns are resolved in texts where the potential antecedent is either a maintained topic throughout the discourse [1i] versus a shifted topic [1ii] and in both canonical (SVO) and non-canonical (OVS) word orders; the general question was whether learners would preferentially interpret the ambiguous pronoun as referring to the global (discourse) topic, or the local topic. In another set of studies, we compared the interpretation of the personal pronoun er versus the demonstrative der in discourse [2]. Both Dutch and Finnish also have a demonstrative pronoun that can refer to an animate entity and monolingual studies of Dutch (Ellert, 2009) and Finnish (Kaiser, 2004) have found that the demonstrative pronoun is more sensitive to discourse constraints (including word order and information status) than personal pronouns, which appear to favour a resolution towards a nominative-marked NP, irrespective of where it appears in the previous discourse. In the main experiments, participants heard the experimental texts, and their eyes were tracked as they viewed a screen which contained images of the potential NP referents. By examining which picture participants fixated when hearing the ambiguous pronoun, we were able to assess their preferred interpretation of the referential item.

There are two major findings from this set of studies. Firstly, (and in contrast to earlier studies of Dutch and Finnish native speakers) in German it is the personal pronoun, rather than the demonstrative, that is more sensitive to overall discourse constraints, whereas the demonstrative is robustly interpreted as referring to an accusative-marked NP, irrespective of whether it appears post- or pre-verbally. The second major finding is that the L2 learners do not perform exactly like the native Germans, but neither do they perform like native speakers of their mother tongue. In general, the learners' pronoun resolution strategies are even more sensitive to changes in the discourse context/information structure than native speakers. We will discuss these findings in relation to a) models of pronoun resolution in discourse, and b) theores of L2 discourse processing.

- [1] In dieser Geschichte erfährst du etwas über einen Assistenten und einen Professor. Der Assistent ging zur Universität und betrat gut gelaunt den Hörsaal.
- (i) Dort begrüßte der Assistent den Professor. Die Studentinnen klatschten. Angeblich war er ein äußerst fähiger Wissenschaftler.

(ii) Dort begrüßte der Professor den Assistenten. Die Studentinnen klatschten. Angeblich war er ein äußerst fähiger Wissenschaftler.

[2]

(i) SVO

Der Zauberer wollte den Arzt umarmen, weil die Sonne schien.

Aber er/der war (viel zu klein.)

The magician-NOM wanted the doctor-ACC to-hug, because the sun-NOM was-shining.

But he-NOM/he-DEM-NOM was (much too small.)

(ii) OVS

Den Arzt wollte der Zauberer umarmen, weil die Sonne schien.

Aber er/der war (viel zu klein.)

The doctor-ACC wanted the magician-NOM to-hug, because the sun-NOM was-shining.

But he-NOM/he-DEM-NOM was (much too small.)

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### Acquisition of anaphoric topic-shift in contrastive contexts - Evidence from Bulgarian

24.02.2010, 15.00-15.30 Uhr, Raum 1.205

Anaphoric relations, building upon information structure, often depend upon topic determination and topic-shift. Due to the extremely complex interaction between world-knowledge, syntax, and pragmatic factors, determination of topic is so subtle that one can only identify contexts where topic-continuation or topic-shift can occur (Bosch et al. 2007). The strongest domain of topicshift is where negation and contrastive stress or specific types of pronominal anaphora occur under association of focus (Rooth 1992). In null subject languages like Bulgarian, the association of negation with overt subject pronouns promotes topic-shift (1), whereas null pronouns are understood as topic-preserving markers (2).

- 1) Telefonăt M SG DEF padna vărxu budilnika M SG DEF, no toj PERS 3SG M prodălzhi da zvăni.
- 2) Telefonăt M SG DEF padna vărxu budilnika M SG DEF, no Ø prodălzhi da zvăni.

The  $telephone_i$  fell on the  $clock_k$ , but  $it_k$  /  $NULL_i$  continued to ring.

In our study we explore the questions: what mechanisms exist for pronominal topic-continuation and topic-shift and how children acquire them. We argue that topic-continuation via linking parallelism and null subjects is a grammatical default, while topic-shift requires a complex language-specific mechanism with several ingredients that must be acquired.

We present data from a listening comprehension experiment with 5- and 6-year-old monolingual Bulgarian children and adults. The experimental method explores the influence of world knowledge on the availability of syntactic resolution. Therefore we use semantically neutral and semantically biased contexts. The biased contexts

include conditions in which the semantic and the syntactic cues either fully diverge or converge towards a specific antecedent.

Our prediction that children initially acquire a default null subject form of topiccontinuation was born out. Bulgarian 5-year-olds reliably resolve NULL pronouns to subject antecedents independently from the semantic bias, even in anti-pragmatic utterances. With age this behaviour changes gradually towards greater sensitivity to semantic inferences. With regard to personal pronouns we obtained a different developmental pattern. The results suggest that the topicshifting function of personal pronouns is more prone to factors like parallelism and semantic inferences in children but not in adults. The younger group does not associate PERS with topic change in contrastive contexts, reaching at best chance resolution. However, the 6-year-old children already associate personal pronouns with topic change in contexts without conflicting semantic cues. The adults show a stable correlation of overt personal pronouns with topic-shift, which tends to resist even semantic inferences in favour of topic-continuation. Our method yields results which demonstrate that children's anaphora resolution strategy is not always based upon world knowledge only. The obtained acquisition pattern suggests that 5-yearold children do not associate personal pronouns with topic-shift in contrastive contexts. Instead they rely more on parallelism and interpret both pronouns as topic-continuation means. In contrast, the 6-year-olds perceive contrastive utterances with overt pronominal subjects as contexts promoting topic-shift. Their performance in unbiased contexts points towards a targetlike division of labour between null and personal pronouns as topicpreserving and topic-shifting devises.

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Rooth, M. A. (1992). Theory of Focus Interpretation. *Natural Language Semantics* 1, 75-116.

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Contrasting entities, contrasting predicates. Perspective-taking within the focal domain in native and learner production

24.02.2010, 15.30-16.00 Uhr, Raum 1.205

From a textual perspective, the information flow of ongoing discourse sets limits to the way speakers can organize the information structure of single utterances. However, ongoing discourse acts in a non-deterministic way as in the same context speakers can adopt different perspectives, and different information structures, in order to convey the same linguistic content. Moreover, lexical and morphosyntactic means, in providing ready-to-use marking devices, can steer speakers of different languages towards different perspectives (cf. Slobin's «thinking for speaking»).

In this presentation we concentrate on the selection of the utterance focal information by taking into account contexts where, given the previous information flow, two elements within the utterance can in principle assume focal status, namely the main entity and the predicate polarity. It is the case when speakers have to express that a situation previously occurring for some entities – in (1) 'jumping out of the window' – does not apply to a another one (1c).

- (1) The house of Mr Red, Blue and Green is on fire.
  - a. Mr Green does not jump out of the window
  - b. Mr Red does not jump of the window
  - c. Mr Blue on the other hand jumps out of the window

In (1c) at least two different perspectives can be adopted with respect to the utterance information organization: either highlighting the new entity for which the previously mentioned situation holds (focus on the entity), or highlighting the fact that the situation does in fact hold for the new entity (focus on the polarity value).

With respect to such specific information configuration, we compare native and learner narrative production data elicited with the support of the video Finite story (Dimroth 2006), in order to tackle the following research questions:

- which specific means do native speakers use when competing focal points are concerned? Are there clearcut crosslinguistic preferences related to typological differences?
- which means do L2 learners adopt in the same contexts? does L2 production reflect the L1 preferred information organization?

The analysis of native speakers' retellings for German, Italian, French and Dutch (20 subjects for each language) reveals remarkable crosslinguistic differences. Speakers of Germanic languages heavily rely on particles like *doch/toch* in order to focus on the polarity contrast, while speakers of Romance languages show a number of different devices (adverb(ial)s as *invece*, *par contre*, strong pronouns and marked syntactic structures such as cleft sentences) mainly to highlight the entity contrast. Moreover, differences between Italian and French can be seen both in the frequency of the different means and in the syntactic structures produced. We now intend to analyze data of L2 French (Italian and German learners) and L2 Italian (German and French learners) of both intermediate and advanced learners in order to answer the second set of questions. Our first results show that, independently of the source language, learners initially rely on lexical means (particles, adverbials), while marked syntactic devices appear only at very advanced stages.

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Dimroth, C. 2006. The Finite Story. Max-Planck-Institute for Psycholinguistics, http://corpus1.mpi.nl/ds/imdi\_browser?openpath=MPI560350%23

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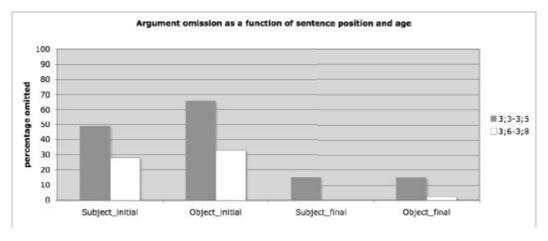
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Information Structure and the Subject-Object-Asymmetry 24.02.2010, 16.30–17.00 Uhr, Raum 1.205

The subject-object asymmetry is a pervasive phenomenon in child language. The reasons for the asymmetry are unclear; explanations revolve mainly around the

contextual, pragmatic cues given and new: Subjects tend to contain known or recurring information (DuBois 1987) and thus are more expendable (Greenfield and Smith 1976). A problem with these accounts is that they look to grammatical subjects and objects regardless of their information structural distribution. In English, the most frequent word order is SVO and thus, both arguments are studied in situ. Given that in most transitive constructions subjects are topical and objects are focal, and thus exhibit different information structural properties, an in situ SVO comparison presents a far from ideal test case for the subject-object asymmetry. Word order in German is more variable than in English and allows for both SVO and OVS constructions in which S and O can assume either topic or focus status. German, despite being a non pro-drop language, allows null references for both subjects and objects in utterance initial position. We assessed the relation between word order and argument omission with an elicited production study. German-speaking children of two age groups ([1] M=3;4, [2] M=3;8) completed a sticker book for a 3<sup>rd</sup> person referent (an elephant). Some stickers in the book were missing while some were already in place. The experimenter drew a sticker and then asked the child to check the elephant's book. She used a model utterance in order to elicit a response, either in SVO (Der hat den oder der will den?) or in OVS (Den will der oder den hat der?). The results indicate that both age groups omit both subject and object referents according to their position in the sentence: Initial arguments are omitted significantly more often than final arguments (see Figure below). Whereas the older children omit initial subjects and objects alike, younger children omit initial objects significantly more often than subjects. Thus, when information structure is taken into account, the subject-object asymmetry is neutralised. Furthermore, for younger children it is even reversed. Arguments are omitted due to sentence position and information status.



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#### The impact of information status on referential choice: Narratives of Russian-German bilinguals

24.02.2010, 17.00-17.30 Uhr, Raum 1.205

The present study investigates topical referential expressions in narrative discourse of bilingual Russian-German children. It examines (a) the impact of the information status (new, given, and accessible) of a referent on its linguistic form, (b) the influence of language-universal/-specific factors on the choice of a referential expression.

Although the role of the information structure in constructing a coherent discourse has a long history of discussing, the questions we address are still far from being clarified in monolingual and bilingual child language (Chafe 1976, Gundel 1988, Stutterheim & Klein 1989, Givón 1990, Vallduví 1992, Lambrecht 1994, i.a.).

Two narratives, the CAT (Hickmann 2003) and the FOX (Gülzow & Gagarina 2007) stories, were collected with the picture stimuli from 60 early sequential bilinguals (L1 Russian / L2 German) at age 4-, 5-, and 6-years. Monolingual data collected in the previous studies (Gülzow & Gagarina 2007), were used for comparison. A variety of types of referential expressions, such as bare noun (bareN), indefinite and definite noun phrases (indefNP/defNP), demonstrative pronoun (DEM), personal pronoun (PRO), zero pronoun (0PRO), etc. were examined with respect to their information status.

Results show, that in Russian, for "new" (previously unmentioned) information the children predominantly use preverbal and postverbal bareNs (with preference for preverbal Ns). In German, for "new" referents, children predominantly use defNPs and indefNPs with few cases of bareNs and DEMs. In order to maintain reference ("given" information, mentioned in the same or previous clause) in Russian, the children use PROs in the first instance, followed by 0PROs and bareNs, while in German PROs and defNPs are predominate for this purpose, followed by DEMs and 0PROs. For reintroducing topical referents ("accessible" information status; mentioned two or more clauses prior to the target NP), the children frequently employ bareNs and defNPs in Russian and German, respectively.

These findings suggest that bilingual children are sensitive to grammatical and pragmatic use of language-specific means in both languages across all age groups, and show similar performance compared to monolinguals (cf. Bamberg 1987, Kail & Hickmann 1992, Hickmann & Hendricks 1999, Gülzow & Gagarina 2007, i.a.). From a bilingual acquisition perspective, our results corroborate a non-autonomous version of a hypothesis on early differentiation of grammatical systems in bilingual children (Meisel 1989).

While the grammatical performance of bilingual children varies due to different linguistic devices available in the analyzed languages, on the one hand, and to different language proficiency of children, on the other hand, the pragmatic performance – with respect to the information status – is more uniform in both languages. Our findings provide evidence for the early understanding of the central role of information structure in children's narrative discourse. Furthermore, the ability

to construct a coherent discourse in a more systematic way as far as the system of reference is concerned is still developing (Karmiloff-Smith 1987, Kail & Hickmann 1992, i.a.).

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### Subject positions in L1 acquisition: On information structure and subject placement

24.02.2010, 17.30-18.00 Uhr, Raum 1.205

In Swedish, DP-subjects occurring in the middle field can either precede or follow a negation (1), whereas pronominal subjects can only precede a negation (unless stressed) (2).

- 1. a. Varför kommer **mannen inte** imorgon istället? why comes man-the not tomorrow instead
  - b. Varför kommer inte mannen imorgon istället?
- 2. a. Varför kommer **han inte** imorgon istället? why comes he not tomorrow instead
  - b. \*Varför kommer inte han imorgon istället?

In recent work, it has been proposed that there are two subject positions, a high position for informationally given subjects and a low position for informationally new subjects (e.g. Westergaard 2008, Bentzen, forthcoming). As pronouns generally refer to known referents, they occur in the high position. In a recent study, Waldmann (2008) reported that Swedish children move subjects to the higher position from early on; however, the information structural properties of different subject types were not

taken into consideration. This presentation deals with the interaction between position and the information structural properties of the subject in L1 acquisition of Swedish. A corpus consisting of 45,000 spontaneous child utterances from 4 monolingual children aged 1;3–4;0 has been investigated.

Results show that the children prefer the high position for pronominal subjects (84% pron-neg) and the low position for DP-subjects (80% neg-DP). This pattern is clear in main clauses, and for pronominal subjects in embedded clauses, whereas DP-subjects seldom occur in embedded clauses. Chronologically, pron-neg and neg-DP precede neg-pron and DP-neg by approximately 6 months in main clauses. In embedded clauses, pron-neg also precedes neg-pron.

In addition, a corpus consisting of child-directed speech (54,000 of adult utterances) will be investigated, and the data will be compared to the child data. This work is currently in progress; however, preliminary results from the input of one child show that children's production largely mirrors the patterns in main clauses and the patterns for pronominal subjects in embedded clauses. Thus, it seems that children are sensitive to information structure early on.

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<sup>(1)</sup> Pädagogische Universität Vilnius / <sup>(2)</sup> Universität Konstanz **The Vorfeld in Second Language Acquisition of Chinese Learners of German**24.02.2010, 18.00–18.30 Uhr, Raum 1.205

Chinese is a topic-prominent language (Li and Thompson 1989: 15, 86f.). The topic always comes first in a sentence and it has either a frame-setting function or it refers to something about which the reader/hearer is assumed to have some knowledge. In German, the Vorfeld is often related to the topic. However, it is recently argued that there is a Mittelfeld peripheral topic position in German (Frey 2004). Corpus studies support this hypothesis (Speyer 2005, 2007). The quantitative data suggests that the realization of topics in the Vorfeld is an epiphenomenon of the fact that the first position is obligatorily filled. Speyer identifies four kinds of elements that are preferred in the Vorfeld: (i) brand-new elements (Prince 1981), (ii) frame-setting elements (Jacobs 2001), (iii) elements that belong to a salient set of elements (Prince 1999), and (iv) "backward-looking centers" which are previously mentioned elements (cf. Grosz et al. 1995). Only elements of type (ii) and type (iv) correspond to the Chinese topic.

Our hypothesis is that Chinese L2 learners of German transfer the presentation of information structure from their L1 into German (cf. von Stutterheim und Carroll 2005: 11 for English L2 learners of German). We therefore expect that they overuse frame-

setting elements and previously mentioned entities in the Vorfeld and underuse brand-new elements and elements that belong to a salient set of elements.

In this talk we will present an investigation of the Vorfeld in a learner corpus of Chinese L2 learners of German. The corpus consists of 43 argumentative texts, which are annotated with topological fields and referential information. The learner data will be compared with argumentative texts of German L1 speakers of the FALKO corpus (FALKO [online]).

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The acquisition of Object Shift: A challenge at the syntax-pragmatics interface 25.02.2010, 9.00–9.30 Uhr, Raum 1.205

Scandinavian object shift (OS) has traditionally been analysed as a contrast between full DP and contrastive/stressed pronominal objects vs. weak/unstressed pronominal objects (cf. Holmberg 1986, Vikner 1994, 2006). The former remain in a position following negation, Neg>DP/Pron<sub>CONTR</sub>, whereas the latter shift across negation, Pron<sub>WEAK</sub>>Neg. However, OS is more complex than previously assumed. In Norwegian, weak pronouns shift when referring to a DP, but not when referring to a clause or a VP (cf. Andréasson 2008). Furthermore, indefinite, possessive, and contrastive pronouns do not shift, regardless of what they refer to. Holmberg (1999) and Mikkelsen (2006) have proposed that non-shifting elements are focused, whereas shifting elements are defocused. We adopt this view and take OS to be a process of *defocusing*. OS thus involves both a prosody-pragmatics interface (defocused elements tend to be unstressed) and a syntax-pragmatics interface (defocused elements are moved).

Considering the acquisition of focus marking in European Portuguese (EP), Costa&Szendröi (2006) argue that EP-speaking children do not have problems acquiring syntactic focus marking, but struggle with prosodic focus marking. In Norwegian, the default position of both sentential stress and focus is clause-final, and defocussing of weak/unstressed objects is achieved through OS. In an elicitation

study with 27 monolingual Norwegian-speaking children aged 4;8-7;0, we compared the placement of weak pronominal objects and indefinite/possessive/contrastive pronominal objects in focused and non-focused contexts. We found that Norwegian children acquire OS fairly late (Table 1). The children often fail to shift defocused pronouns, producing ungrammatical structures like those in (1). However, they never erroneously shift focused pronouns. This is true of even the youngest children, who almost consistently fail to shift non-focused pronouns, suggesting that their object placement is not random. Older children, who shift non-focused pronouns much more frequently, never overgeneralize this to focused pronouns. Importantly, none of the children have any problems with stress marking and focus. In non-focused contexts pronouns are always unstressed, even when they are left in a non-shifted/clause-final position, as in (1), while in focused contexts they are consistently stressed, as in (2). Based on these results, we claim that Norwegian-speaking children, just like EPspeaking children, struggle with defocusing. However, whereas the EP-speaking children display problems acquiring the stress patterns of focus marking, we argue that delayed acquisition of OS indicates a problem marking defocusing through syntactic movement in Norwegian children. Thus, the challenge for these children lies at the syntax-pragmatics interface, rather than the prosody-pragmatics interface.

(1) Han mata ikke **ho**. he fed not her 'He didn't feed her.'

(M23 6;5.10)

(2) Han kjenner *ikke HAN*. (M23 6;5.10) he knows not him 'He doesn't know him.'

Target-structure: Han mata *ho* ikke.

Table 1. Overall production of shifted and non-shifted pronouns

Age groups	Weak pronouns		Total	Contr/Indef pronouns		Total
	Shifted	*Non-shifted		*Shifted	Non-shifted	
4;5-5;6	15	64	79	0	39	39
	(19%)	(81%)			(100%)	
6;1-7;0	96	40	136	0	55	55
	(70.6%)	(29.4%)			(100%)	

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Focus in Hebrew Ditransitives: Evidence from Adult and Child Language 25.02.2010, 9.30–10.00 Uhr, Raum 1.205

This paper reports the results of a study on the encoding of focus in Hebrew Ditransitive Constructions (HDC). Our results suggest that Hebrew speaking adult and children, as young as two-and-a-half years old, capitalize on their awareness of

an unmarked sentence final focus position. When focus does not occur in this position, it is encoded prosodically.

We hypothesize that the order of the verbal complements in adult HDC with the verb *give* depends on the focus encoding strategy used by the speaker. Adults are predicted to produce the DO-IO order when the IO is focused (and the DO is topical), and similarly an IO-DO order if the DO is focused. Moreover, we predict that when speakers produce a focus-topic order, they will mark the focus prosodically.

As for children, we follow the proposal that Information-Structure is part of UG, and therefore part of the child's early knowledge (e.g. Baker and Greenfield 1988, Erteschik-Shir 1997, De Cat 2002, among others). Following the Strong Continuity Hypothesis, we predict that children will behave adult-like from the onset of language production.

An Elicited Production task was piloted on ten adults and thirty children, 5 in each age group: 2;6-3;0, 3;0-3;6, 3;6-4;0, 4;0-5;0, 5;0-6;0, 6;0-7;0. The experiment included different contexts, depicting the action of giving by means of pictures. The experimenter presented the pictures, and then a puppet was used to ask questions, randomly eliciting both a focused DO and a focused IO.

As predicted, the adult participants consistently preferred the order in which the focused complement follows the topic complement (92%). When the focused object was not final (7%), it was unambiguously marked prosodically by high pitch and prosodic restructuring, placing the focus in its own phonological phrase. In 1% of the results, the topical object was omitted. This conforms to one of the strategies used in Hebrew to encode the topic. Overall, the adult results provide clear psycholinguistic evidence for the impact of information structure on HDC.

Similarly to the adults, when children produced both complements (oldest 88%, youngest 74%), they either followed the linear order with focus sentence finally (oldest 84%, youngest 60%), or marked the non final focus prosodically (oldest 4%, youngest 14%). Moreover, when a verbal complement was omitted (oldest 12%, youngest 26%) it was always the topic and never the focus. Based on the child adult-like behavior, we conclude that (a) children know the notion of 'focus', in support of the hypothesis that the notion of focus is innate; (b) the language particular encoding strategies are available to the child from the onset of language production.

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The effects of givenness on young children's locative and dative constructions 25.02.2010, 10.00–10.30 Uhr, Raum 1.205

Adults generally order given information before new information (e.g. Bock & Warren 1980), but little is known about the influence of discourse status on childrens' syntactic choices (cf. MacWhinney & Bates 1978, Narasimhan & Dimroth 2008). This

paper shows that preschool children use given-before-new ordering for arguments in the verb phrase. These effects emerge across verbs, except where the verb's argument structure is *entrenched* (i.e. the child has learned that the verb resists alternate orders, see Brooks *et al.* 1999).

In two production studies with monolingual English-learning children (ages 3-5), I investigated the effects of discourse on the two postverbal arguments in locative (1) and dative alternation (2).

- (1) a. She squirted THE KETCHUP on the hotdog. (FIGURE first)
  - b. She squirted THE HOTDOG with the ketchup. (GROUND first)
- (2) a. She gave THE HAT to the man. (THEME first)
  - b. She gave THE MAN the hat. (RECIPIENT first)

In Study 1, 28 children were tested on six locative verbs (alternating verbs: *squirt*, *stuff*; FIGUREobject verbs: *pour*, *drop*; GROUND-object verbs: *fill*, *cover*). In Study 2, 64 children were tested on four alternating dative verbs (*give*, *show*, *read*, *throw*). The experimenter prompted participants to describe videotaped vignettes and manipulated the discourse status of the two postverbal arguments in the prompt via three discourse conditions: a control condition where neither argument was given, an experimental conditions where one argument was given, and an experimental condition where the other argument was given.

Mixed-effects binary logistic regression models revealed significant effects of discourse on word order. FIGURES (Study 1), and THEMES and RECIPIENTS (Study 2) were each more likely to be mentioned first when they were given in the discourse. The only experimental condition that failed to produce givenness effects was the GROUND-given condition (Study 1). This was primarily due to ceiling performance with FIGURE-object verbs. Overall, discourse effects were found for children of all ages, and there were no interactions between age and discourse condition. Importantly, some verbs were more sensitive to discourse pressure than others. Follow-up CHILDES studies showed that these patterns reflect the input. Verbs that are high-frequency and fail to alternate in child-directed speech (e.g. pour, throw) showed no word-order variation in the experimental data. But there was discourse-motivated variation with high-frequency verbs that alternate in CDS (e.g. give, show) and with low-frequency verbs whether they alternate (squirt, stuff) or not (fill). This suggests that children use given-before-new ordering with postverbal arguments unless they have learned from experience with the input to avoid alternation.

Ultimately, preschoolers' syntactic choices reflect an integration of information the verb's lexical properties and properties of the discourse. The current data are consistent with a processing account of given-before-new ordering—that given information is more accessible, retrieved from memory faster, processed more easily, and, therefore, expressed earlier (see Bock & Warren 1980).

- Bock, J. & D. Warren. 1980. Syntactic effects of information availability in sentence production. *Journal of Verbal Learning and Verbal Behaviour* 19.467-84.
- Brooks, P., et al. 1999. Young children's overgeneralizations with fixed transitivity verbs. *Child Development* 70.1325-37.
- MacWhinney, B. & E. Bates. 1978. Sentential devices for conveying givenness and newness. *Journal of Verbal Learning and Verbal Behavior* 17.539-558.
- Narasimhan, B. & C. Dimroth. 2008. Word order and information status in child language. *Cognition* 107.317-329.

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### Word order and information structure in German language acquisition 25.02.2010, 10.30–11.00 Uhr, Raum 1.205

The relatively free word order in German allows a SVO and an OVS sequence in main clauses. In comparison to the unmarked SVO order the marked OVS order results in increased processing difficulties in reading time studies (e.g. Hemforth, 1993), has a lower frequency in corpora (Kempen& Harbusch, 2004) and is claimed to be more complex with regard to its syntax. This raises the question why such a structure exists. It is argued that there are specific contextual factors, which motivate an OVS ordering (e.g. Lenerz, 1977).

We examined the comprehension of SVO and OVS orderings in German speaking children and within two theories concerning contextual factors, according to Hörnig, Weskott and Kliegl (submitted). Greenspan and Segal (1984) assume with their Topic-Comment-Model (TCM) that the context must provide the topic of a sentence, which is claimed to be presupposed. Logan's (1995) Visual Spatial Attention Theory (VSAT) implies that the context has to provide a reference object (relatum) relative to which the located object (locatum) of a statement has to placed. The finding of Huttenlocher and Strauss (1968) in their study with English speaking children supports VSAT (1.b easier than 1.c), but does not rule out that presupposition plays a role, too.

We tested two age-groups (group 1  $\sim$  3;6 and group 2  $\sim$  4;7) of German speaking children with a picture-placement-task. Constituent order of spatial relational sentences was varied to cross-combine semantic role (relatum vs. locatum) with NP position (NP1 vs. NP2 referent), yielding the four conditions (1.a) to (d). Participants added a mobile picture to a fixed picture after being verbally instructed with a spatial relational sentence of type (a) to (d). VSAT predicts a semantic role effect, with (a)/(b) yielding more accurate placements than (c)/(d); TCM predicts an NP position effect, with (a)/(c) yielding more accurate placements than (b)/(d).

- (1) frog=fixed, fish=mobile
- (a) OVS, fixed picture = relatum and topic, +VSAT, +TCM

  Unter dem Frosch ist der Fisch.

  Under the frog is the fish.
- (b) SVO, fixed picture = relatum and comment, +VSAT, -TCM Der Fisch ist unter dem Frosch.

  The fish is under the frog.
- (c) SVO, fixed picture = locatum and topic, -VSAT, +TCM Der Frosch ist über dem Fisch. The frog is above the fish.
- (d) OVS, fixed picture = locatum and comment, -VSAT, -TCM Über dem Fisch ist der Frosch. Above the fish is the frog.

For group 1 our results confirm the VSAT prediction (for results see table 1). This also shows that even the younger children had no difficulties with the OVS order when it was contextually appropriate. Group 2, however, did not perform worse in condition (c) compared to (b), in disagreement with Huttenlocher's finding for children of about the same age. This finding corroborates that presuppositions play a role for children's comprehension at the age of about 4;7 years. Both groups showed consistent difficulties in condition (d), the condition rated as difficult on both theories, in agreement with what Hörnig et al. (submitted) found for German adult speakers.

Group	VSAT	TCM	Condition	mean	(StdDev)
young (N=12) —	+	+	Α	,8750	,12563
		-	В	,9167	,11237
	-	+	С	,5556	,41641
		-	D	,4583	30256
old (N=14)	+	+	Α	,8810	,16575
		-	В	,9048	,15627
	_	+	С	,7738	,31762
		-	D	.5595	,31082

Table 1: Mean proportion of correct reactions

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A corpus analysis of word order variation in child language 25.02.2010, 11.30–12.00 Uhr, Raum 1.205

Definiteness, pronominalization and information structure are factors proposed to control the ordering of double objects in the German middle field (Lenerz, 1977; Büring 2000, Müller, 1999). We report a corpus analysis of the CHILDES corpus (MacWhinney, 2000) investigating how these factors control the word order in twoyear, three-year and four-year old children and their mothers. Children and adults differ in the frequency of the word order variations. Adults produced higher proportions (18%) of the marked word order (direct before indirect object, DO-IO) than two-year-old children (5%). Both children and adults respect the constraints for the unmarked word order, i.e. indirect before direct object (IO-DO). We found no violations of definiteness (indefinite before definite, indef<def) and few violations of pronominalization (noun before pronoun, nppron) and givenness (new<old). Violations of the constraints are more frequent for the marked DO-IO order: Both children and adults rarely violate the definiteness constraint and more often the givenness constraint. However, they differ regarding the pronominalization constraint that the three-year olds violate more often than adults. While violations of the constraints occur, they often go together with the fulfilment of the other constraints, i.e. definiteness and pronominalization. Violations of the givenness constraint often involve the linearization of two pronouns. The unmarked word order for weak pronouns is DO-IO (Lenerz, 1977; Müller, 1999). Both adults and children respect this reordering: direct objects are more frequent in the IO-DO order when they are demonstrative or indefinite pronouns, but more frequent in DO-IO when they are clitics and personal pronouns. While demonstrative pronouns, being indicators of focus, occur more often in the IO-DO linearization in all groups, in the two-year olds most of the direct objects in the DO-IO order are demonstrative pronouns (60%).

Topicalisations to the prefield show that three-year olds differ from older children in the placement of focused direct objects (demonstrative pronouns). Two-year olds use the unmarked IO-DO order more often than older children and adults (82% vs. 50%), but move a focused object equally often to the middle field and prefield (10% vs. 7%). Older children and adults, however, place the object more often in the prefield than the middle field (40% vs. 7%). While three-year old children respect the focus constraint, i.e. the order "non-focus before focus" (Müller, 1999; Büring, 2000), they violate the givenness constraint. Adults also violated the givenness constraint in the marked word order. However, in half of the cases, direct objects referred to propositions mentioned in the previous discourse and thus were not completely new. The four-year olds never violated the givenness constraint, however, the data for this group is sparse (N=9, DO-IO). The results thus can only partly support proposals that even five-year old children prefer a "new before old" strategy (Narasimhan & Dimroth, 2008). Nevertheless, our results show that even two-year old children respect the definiteness and pronominalization constraints and reorder weak pronouns. Information structural constraints are respected later: While focus is considered by three-year olds, givenness is not.

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### L1 and L2 differences in the acquisition of information structure: Examining an interface-based account

25.02.2010, 12.00-12.30 Uhr, Raum 1.205

Research on the acquisition of information structure (i.e. topic and focus) across different languages has revealed a different pattern of behavior for L1 and L2 learners, in particular children master the way their target language encodes information structure at an early age (Costa and Szendroi 2006, De Cat 2007) even in those languages where canonical word order alterations occur (Grinstead and Elizondo 2001). In contrast, second language learners seem to find this area persistently problematic with even advanced learners usually not reaching native-like competence in this domain. The root of this difference remains unexplained although a prevailing hypothesis is that learners find it difficult to acquire focus because it lies at the syntax/discourse pragmatics interface. This Interface Hypothesis (Sorace and Filiace 2006) is based on the assumption that narrow syntactic properties are fully acquired whereas a representational impairment is expected in other grammatical areas that syntax interacts with, such as discourse interpretation.

This study provides experimental evidence for second language acquisition competence of focused structures in non-native grammars. We investigate English

learners' developmental patterns of Spanish word order as they acquire the rules which constrain these structures and alter the basic SVO word ordering. It also aims to distinguish whether syntactic or pragmatic competences are the source of learners' comprehension errors in this domain.

In Spanish, word order variation can be accounted for as an effect of focus marking which is ruled by both syntactic and pragmatic constraints: whether subjects appear preverbally (SV) or postverbally (VS) depends on both the syntax of the verb (unergative vs. unaccusative) and the type of information encoded in the sentence (broad vs. narrow focus). An experiment (consisting of a context-dependant word order preference test) was carried out to investigate whether 60 speakers of English learning Spanish at three different levels of proficiency acquire the syntactic and pragmatic restrictions of word order variation and are able to accept inverted (VS) constructions when required. The results show that the acceptability of VS orders is in strict correlation with the level of proficiency of the learners since subject-verb inversion (an option not allowed in their L1) is not selected by learners in the lower two groups but is correctly preferred by the advanced group. The syntax of the verb (i.e. unergative or unaccusative) barely affects the answers of the advanced group. This is relevant since the acceptability of both SV and VS clause types in sentences with unaccusative verbs weakens the hypothesis that syntactic constraints ruling inversion are properly acquired from early on and, consequently, mismatches between native and non-native forms have to be analysed as the result of a pragmatic deficit.

Consequently, we argue that the observed problems in acquiring focused word orders can be explained as the result of an overgeneralization - one of the options in the target language is used in contexts where neither syntactic nor pragmatic rules would allow them - and not because of a representational deficit in one particular grammatical domain.

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Defocusing objects and interpretation of indefinites
25.02.2010, 12.30–13.00 Uhr, Raum 1.205

Children have difficulty with the wide scope interpretation of indefinite objects with respect to negation (1b) crosslinguistically (Lidz & Musolino, Krämer 2000, among others). This study examines children's comprehension of such objects in Turkish and relates children's difficulty to the late(r) acquisition of (de)focusing of objects.

- 1. Mickey Mouse didn't eat an apple.
  - a. It is not the case that MM ate an apple.

neg > an apple

b. There is an apple such that MM didn't eat.

an apple > neg

In Turkish, an agglutinating SOV language with fexible word order, the immediately preverbal field hosts the neutral focus constituents (Erguvanli 1984, and the subsequent work). Accusative-marked indefinites in Turkish are typically interpreted as wide scope indefinites and are interpreted as defocused constituents regardless of their word order. Their scope interpretation is attributed to their dislocated position ((2) and (3) in 2.) outside of the focus field ((1)), which is typically occupied by non-case marked objects.

#### 2. [....(2) [NegP... [AgrOP... (1) [VP V]]](3)]

In this study indefinite objects in (3)-(7) were tested using a Truth Value Judgment Task (Thornton & Crain 1998). It was observed that Turkish speaking children (n=150, Mean Ages 4;0, 5;0, 6;0) have difficulty in attributing wide scope reading to accusative-marked indefinites. Although they clearly appear in the positions (2) and (3) in the test sentences, they are interpreted as if they appear in (1). Following Santos' (2008) generalization who proposes that children have a tendency to put *the mostly embedded constituent* (a la Cinque's Nuclear Stress Rule) in the focus field, we propose that children's difficulty is related to a difficulty with the focus shift. In transitive sentences the direct object is the mostly embedded constituent and children's tendency to place the objects (regardless of case marker) in the focus field results in a narrowscope interpretation with respect to negation.

#### Acc-marked indefinites:

\*neg>an apple; an apple>neg

- 3. Miki Fare **bir elma-yı** ye-me-di. MM **a/one apple-acc** eat-neg-past
- 4. **Bir elma-yı** Miki Fare ye-me-di. **a/one apple-acc** MM eat-neg-past
- Miki Fare ye-me-di bir elma-yı.
   MM eat-neg-past a/one apple-acc
   'MM didn't eat a(n particular) apple'

#### Non-case marked indefinites: neg>an apple; \*an apple>neg

- 6. Miki Fare **elma** ye-me-di. MM **apple** eat-neg-past
- 7. Miki Fare **bir elma** ye-me-di. MM **a/one apple** eat-neg-past 'MM didn't eat an(y) apple(s)'

This proposal is in line with the earlier findings on related issues: Crosslinguistically, children tend to focus the object rather than another constituent. Children have an adult-like interpretation of only, for instance, when it modifies an object. When only modifies the subject, they interpret it as if it is modifying the object. Similar treatment of focus is observed in typologically different languages (See Santos (2008) for the literature). In a repetition experiment conducted by Batman-Ratyosyan and Stromswold (1999), Turkish children were asked to repeat short sentences with various word orders. When objects were dislocated in the test sentences, children put them back in the immediately preverbal position in their utterances. Note also that the generalization predicts that similar kind of behaviour will not be observed in assigning scope to other constituents with respect to negation. This is exactly what is borne out: Children do not seem to have difficulty with the wide scope interpretation of subjects (Musolino 1998, Bergsama-Klein 1996). Based on these results and related data reported in the literature, we proposed that children have a difficulty with defocusing the direct objects and this difficulty results in a particular scope interpretation of indefinite objects (narrow scope with respect to negation). The findings and the proposal are in line with the findings reported in the focus literature

and can capture the pattern observed in the acquisition of indefinites crosslinguistically.

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### Achieving Written Narrative Competence in L2: Comparing German and Hebrew Learners of English

26.02.2010, 11.30-12.00 Uhr, Raum 1.205

In re-narrating a set of events, as in other modes of discourse, language users need to select information from a given knowledge base and decide what to say (or write) first and what next (selection, segmentation, linearization). The information about these events must also be consistently anchored in space and time (specification of a spatio-temporal frame) and the selected components structured with respect to informational status (e.g. topic, focus assignment), mapped into form (main, subordinate clause), and linked in sequence by appropriate semantic relations (temporal, causal, etc.). These processes of information organization are viewed as proceeding in both global (macro-planning) and local terms (micro-planning) in tasks that go beyond the production of isolated utterances, and are crucial for the achievement of narrative competence in the sense of linking different elements of a story together, highlighting some elements, and suspending others. Cross-linguistic comparisons of German, English and Modern Standard Arabic have shown that certain grammatical structures (e.g. the presence or absence of tense or aspect) lead to language specific differences in information organization in narrative texts (Carroll & Lambert, 2003; Carroll & v. Stutterheim, 2003; v. Stutterheim & Nüse, 2003). However, very little is known about the extent by which adult L2 speakers can achieve similar degrees of competence in narrative text production in their non-native language.

The present study examines the differences between very advanced second language writers and native writers in their abilities to organize narrative texts. The study is based on three corpora of 24 texts each (72 texts in total). All texts are (re)narrations of a 7-minutes version of a film that tells the story of a clay figure in search of water entitled "Quest" that were elicited under controlled and highly comparable experimental conditions. We compare the texts produced by native speakers of English to those of very advanced learners of English, who are native speakers of German and Hebrew. Very advanced L2-learners, whose language production is relatively unconstrained by lack of linguistic means, provide a good source of insight into more general properties of information organization as compared with that of L1 speaker-writers.

We argue that patterns of information construal are driven by grammaticalized features rooted in the linguistic system of L1. Specifically, we focus on the expression of *Figure* and *Ground* distinctions, for example, by the distribution of main and subordinate clauses, as well as other formal devices, such as tense and aspect, used for shifting between main and side structures. Our analyses show that advanced L2 speakers may succeed in learning the forms and their appropriate functions in the target language, but may not be successful in mapping these forms as part of the target language principles of information organization. We interpret our results in light

of relevant features of the two L1s, and provide evidence for the persistence of L1-specific patterns of structuring information in the target language.

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How the understanding of focus particles develops: Evidence from child

German

26.02.2010, 12.00-12.30 Uhr, Raum 1.205

This study investigated the understanding of the focus particle (FP) *nur* 'only' in 4-year-old and 6-year-old children. FPs are associated with a specific constituent (generally the focus of the sentence) that must be interpreted in relation to a set of alternatives (König, 1991). In (1) *nur* specifies the subject, presupposing that there is no other person with a boat. In (2) *nur* specifies the object, presupposing that the duck has nothing other than a boat.

(1) pre-subject *nur*: <u>Nur die Ente</u> hat ein Boot. <u>Only the duck</u> has a boat.

(2) pre-object *nur*: Die Ente hat <u>nur ein Boot</u>. The duck has <u>only</u> a boat.

Paterson et al. (2003) reported that up to age 7 English-speaking children did not distinguish between these FP-sentences and suggested that children fail to evaluate the set of alternatives and instead ignore the FP. Müller et al. (2007) [MUE] found that at age 6 German-speaking children interpret *nur*-sentences basically adult-like if the FP is licensed by an adequate preceding verbal context. In contrast to Paterson et al. they reported a significantly better performance with pre-object than with pre-subject FPs. According to MUE, this asymmetry is caused by the different position of the focus: in (2) the focus occurs sentence final, which is the default focus position in German.

These studies leave open, how the comprehension abilities of German-speaking children for FP-sentences develop, and whether an asymmetry between pre-subject and pre-object FPs exists for younger children. To address these questions we tested 4-year old children, using the MUE design. Two hypotheses were tested: (H1) 4-year-olds perform on *nur*-sentences significantly worse than 6-year-olds. (H2) 4-year-olds interpret pre-object *nur*-sentences significantly better than pre-subject *nur*-sentences.

A truth-value-judgement task was administered to 21 4-year-olds (mean: 4;8), testing the sentence-types: (1) and (2) (n= 24 test items). Each picture depicted four characters. Test sentences were preceded by an introduction of all characters and

the objects depicted on the picture. Each participant saw one picture at a time and had to decide whether the sentence matched the picture or not.

The analysis was based on the number of correct *no*-responses. A significant difference was found between the 4-year-olds and the 6-year-olds for both conditions, confirming H1. The 4- year olds interpreted pre-object *nur* significantly better than pre-subject *nur*, confirming H2. An analysis of individual responses of the 4-year olds showed that 43% of the children interpreted both conditions adult-like. 14% interpreted both conditions incorrectly, i.e. they ignored the FP, and 24% of the children interpreted pre-object *nur* correctly, but not pre-subject *nur*; 20% answered the *nur*-sentences by chance.

These results suggest three stages in the FP comprehension: 1) Children do not understand *nur*, ignoring the FP. 2) Children master pre-object, but not pre-subject *nur*. 3) Adult-like understanding of both FP-sentences types. In contrast to Paterson et al., we do not assume that in stages 1) and 2) children fail to evaluate the set of alternatives but that children's failure is due to difficulties with the analysis of the information structure of FP-sentences.

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### Assessing 4-year olds' comprehension of the German additive particle *auch* ('also')

26.02.2010, 12.30-13.00 Uhr, Raum 1.205

Several studies show that focus particles like only (Paterson et al. 2003) and also (Hüttner et al. 2004, Bergsma 2006) are not interpreted by children in an adult-like fashion until school age. However, children produce them much earlier (Nederstigt 2003, Höhle et al. 2009). In order to account for this delay in comprehension, Paterson et al. argue that children often fail to instantiate alternative sets in the discourse model of focused expressions. As a result, they treat sentences containing a particle like sentences not containing a particle. A corresponding pattern was found by Paterson et al. using a picture selection and a truth-value judgment task examining the comprehension of isolated sentences with only. While these particular methods also show poor performance with children's computation of scalar implicatures (SIs), Papafragou & Tantalou (2004) and Papafragou & Musolino (2003) show that children's performance on SIs is strongly task-dependent. In the present study we examine the comprehension of the German unaccented additive particle auch (also) in 4-year olds by adopting a method that was created by Papafragou & Tantalou. Whereas previous methods judge the appropriateness of an isolated sentence towards one (or more) visually presented scenario(s), this technique assesses children's performance without requiring children to make metalinguistic judgments. This is a more natural task, and the hypothesis is that it will strongly improve their performance. Children are told to judge whether a character has completed a task he was asked to perform. The character's statement contains the test sentence that children must interpret in a target-like fashion in order to judge correctly if the character has performed the requested action. In a typical trial of the present experiments the request was (1). Following the experimenter's utterance (2), children were presented with one of the lion's statements in (3). They should reward

the animal under a target-like interpretation of auch in (3a), whereas they should not reward after statements with nur (only) (3b) and without a particle (3c). In this context, the presence of auch in the test sentence becomes meaningful, since it carries the crucial information for the (non-)rewarding. Additionally, the alternative (banana) to the focused constituent is made more salient by the sentence in (2). Preliminary results of our study with 32 children show that children's performance is boosted by these factors: They rewarded the animal more often after test sentences with auch than with nur (96.25% vs. 7.50%, Experiment I). Similarly, they rewarded more often after test sentences with auch than without a particle (93.75% vs. 36.25%, Experiment II). Our results thus show that 4-year olds display a target-like interpretation of sentences containing unaccented auch. Therefore they are able to put the focused constituent into additive relation to an alternative that is given in the discourse. This assumption has already been made by Höhle et al, based on results of an eye-tracking experiment in the Visual World Paradigm. The results of the present study extend the validity of this assumption to children's offline interpretation of auch, particularly when assessment does not rely on metalinguistic demands that might mask their linguistic skills.

- (1) Request: The child is told that in order to get a reward, the lion should have eaten a banana and an apple
- (2) Exp.: Löwe, Du hast bestimmt die BANANE gegessen! Lion, I am sure, you have eaten the BANANA!
- (3) Lion: a) Weißt Du was? Ich hab auch den APFEL gegessen! Guess what? I have also eaten the APPLE!
  - b) Weißt Du was? Ich hab nur den APFEL gegessen! Guess what? I have only eaten the APPLE!
  - c) Weißt Du was? Ich hab den APFEL gegessen! Guess what? I have eaten the APPLE!

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The temporal relationship between production and comprehension of the focus-to-accentuation mapping revisited

26.02.2010, 13.00-13.30 Uhr, Raum 1.205

It is widely acknowledged that children's production precedes their comprehension in intonation. One particular aspect of sentence-level intonation well-known in this context is the focus-to-accentuation mapping in West Germanic languages. The alleged asymmetry is that children can use accentuation to mark focus at about 4 and yet they are poor at interpreting and exploring the focus-to-accentuation mapping in language comprehension at 4 or 5 (e.g. Cruttenden 1985; Cutler and Swinney 1987).

While there is substantial production evidence that children can use accentuation to mark focus at 4 or 5 in simple SV(O) sentences (e.g. Hornby and Hass 1970, Müller et al. 2005, Chen 2007), the existing evidence for children's inefficiency or inability in interpreting and processing the focus-to-accentuation mapping at 4 or 5 is seriously

questionable. Previous studies have examined children's comprehension regarding various functions of accentuation (e.g. pronominal disambiguation in coordinate sentences; marking of focus scope in complex sentences with the focus particle 'only'; directing attention to certain words in narratives). However, none of the studies has directly addressed children's processing of the focus-to-accentuation mapping.

To provide first direct evidence for or against children's ability to process the focus-to-accentuation mapping, two Reaction Time (RT) experiments were conducted on Dutch 4- to 5-year-olds and adults (the controls). 'Focus' in these experiments was non-contrastive, and realised with full NPs, serving as arguments of the verb. Participants listened to question-answer dialogues between two speakers, accompanied with pictures (see Appendix). The questions were either WHO-questions or WHAT-questions, putting the subject and the object respectively in focus in the answer sentences. Accent placement in the answer sentences was pragmatically appropriate in half of cases and inappropriate in the other half of the cases.

In Experiment 1, twenty children and fifteen adults judged whether the 'answerer' gave a good answer or not by pressing the corresponding button of the button box. Participants' attention was focused on the meaning of the sentences (active language comprehension) by including filler dialogues, in which answer sentences contained either a modest pronunciation error or a lexico-semantic error in the focal noun. The ANOVA on the RTs (measured from the end of answer) showed that as in the adults' data, appropriate accent placement triggered significantly shorter RTs than inappropriate accent placement in children.

In Experiment 2, seventeen children and twelve adults judged whether the 'answerer' sounded emphatic or not. The attribute 'emphatic' is independent of the meaning of a sentence and primarily realised with the pitch range of the accent, not location of the accent. Consequently, participants' attention was not draw specifically to the meaning of the sentences during the experiment (passive language comprehension). The ANOVA on the RTs showed that again, appropriate accent placement triggered significantly shorter RTs than inappropriate accent placement in children.

Taken together, our results show that children can process the focus-to-accentuation mapping in both active and passive on-line language comprehension. This indicates that children's comprehension is as good as their production regarding the focus-to-accentuation mapping in syntactically simple sentences at the age of 4 or 5.

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### German children use prosody to identify participant roles in transitive sentences

26.02.2010, 13.30-14.00 Uhr, Raum 1.205

In language acquisition, a construction of particular importance is the basic transitive construction, prototypically used to indicate an agent acting on a patient, as in "The Flomer weefs the Miemel". To interpret such transitive constructions one needs to understand and to distinguish the different roles of participants and thus the grammatical conventions used to mark these in the particular language being learned. In most languages, the transitive construction marks the roles of two participants with multiple, redundant cues. (e.g., word order, case marking or animacy). For German, a language with case marking and the possibility of OVS word order, Dittmar et al. (2008) found that two year olds only understood transitives with novel verbs, where several cues supported each other. Five year olds were able to use word order by itself but not case marking and only 7-year-olds behaved like adults by relying on case marking over word order when these two cues conflicted (e.g. "Den (+accusative) Löwen wieft der (+nominative) Hund" – "The (+accusative) lion is weefing the (+nominative) dog").

However, most studies examining children's understanding of transitive constructions focus on the morphosyntactic properties of sentences and ignore an additional cue: prosody. But it has been established that different prosodic realizations guide listeners' interpretation of ambiguous sentences. Grice, Weber & Crocker (2006) found that adult-listeners use prosodic information in the interpretation of ambiguous SVO and OVS sentences when no clear morphological information is available.

In the current study we investigate whether or not German children aged five use prosody for the assignment of participant roles in order to distinguish their semantic roles, as has been found for adults. Using a video-pointing task, we embedded transitive OVS utterances in a natural context and presented these utterances as either clearly case-marked (e.g. "Den (+accusative) Hund wieft der (+nominative) Hase") or ambiguous (e.g. "Die (+accusative) Katze wieft die (+nominative) Kuh"). In order to examine the specific role of prosody for children in resolving the semantic function of the participants, the intonational realization of these constructions was either flat or, to support the syntactic marking of the utterance, characterized by a strong, contrastive pitch accent on the first Nominal phrase.

The results show that the prosodic cue has a main effect for children for the assignment of participant roles in transitive OVS-utterances (F(1,15)=5.8, p= 0.029). Children were better in judging the correct agent acting on the correct patient when this was clearly marked by intonation compared to unnatural realizations. Even when no clear case marking was available, children understood participant roles significantly better by using the prosodic cue (p=0.009). These findings show that, when reliable cues contradict each other, 5-year-old children are still able to understand the semantic roles in transitive OVS sentences when appropriate

intonation is available. We argue that, to fully understand young children's skills at interpreting sentences online, the role of intonation must be taken into account.

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