Information Structure in Child English:
Contrastive Topicalization and the Dative Alternation

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1. Introduction

This paper investigates the interface between syntax and discourse in first language acquisition and reports the results of an elicited production experiment designed to assess how four-to-five-year-old children acquiring English make use of the so-called dative alternation in contexts of contrastive topicalization.

A number of authors (Gropen et al. 1989; Krifka 2003; Bresnan et al. 2007; Rappaport Hovav and Levin 2008, a.o.) have shown that the dative alternation, illustrated in (1), is not free, but rather it is subject to semantic and pragmatic conditions. In the specific case of the verb *give*, which is the prototypical verb of the dative alternation, the (near-)identical semantics of the two alternating constructions allows for the role of Information Structure to be highlighted.[1]

(1) a. John gave his book to Mary. *Prepositional Dative construction*
     b. John gave Mary his book. *Double Object construction*

Importantly, as a pre-requisite for any discourse-related inquiries on the use of the dative alternation by children, one critical question is when young children master the syntax of such constructions. Gropen et al. (1989) and Snyder and Stromswold (1997) have independently shown that the prepositional dative and the double object constructions are both acquired before the child's third birthday. Therefore, the dative alternation can be taken to be an ideal syntactic domain in which to test the acquisition of contrastive topicalization.

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[1] Krifka (2003:13) writes, "Information Structure appears to be the decisive factor for verbs like *give* that essentially mean the same in the [prepositional dative] construal and in the [double object] construal"; for Snyder and Stromswold (1997:291), "with *give* it is largely a matter of choice which dative form one uses." This "choice", the literature shows, is heavily influenced by Information Structure.

According to Büring (2003), the primary function of contrastive topics is "to indicate a strategy" towards answering a question (p.535). Rather than directly address the *question under discussion* (QUD) (in the sense of Roberts 1996), a contrastive topicalization strategy indicates an answer to a *sub-question* of the QUD. The dialogue in (2) illustrates how a dative construction can be used for that informational purpose. While the main question in (2)A is directly addressed by (2)B, (2)B' addresses an implicit (context-dependent) sub-question of (2)A, namely (3)a, which is contrasted to other sub-questions like (3)b and (3)c.

(2)   A: Who did John give his things to?   *Question under discussion (QUD)*
        B: He gave his things to his friends.   *Addresses QUD*
        B':   He gave <u>his book</u> to *Mary*.   *Addresses a sub-question of QUD*

(3)   a.   *Who* did John give <u>his book</u> to?
        b.   *Who* did John give <u>his computer</u> to?
        c.   *Who* did John give <u>his toys</u> to?

Contrastive topicalization additionally marks a relation between two sets of alternatives (see also Wagner 2012). The first set of alternatives is the source of the topicalized element (underlined in the relevant examples), whereas the second set of alternatives is the source of the focalized element (italicized in the relevant examples). As schematized in (4), the element chosen from the first set (SA1) is associated/linked to an element of the second set (SA2). Topic and focus are thus *linked alternatives*. Choosing which set provides the topics and which set provides the foci is a context-dependent move. In the dialogue in (5), the discursive roles of themes and recipients are switched with respect to the dialogue in (2) (this alternation is called "topic-focus swap" by Neeleman and van de Koot 2008).

(4)
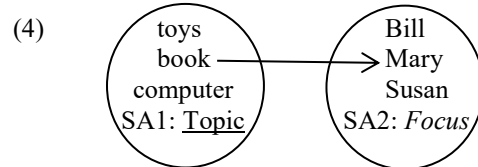
(5)   A: What did John give his friends?   *Question under discussion (QUD)*
        B: He gave his friends some gifts.   *Addresses QUD*
        B':   He gave <u>Mary</u> *his book*.   *Addresses a sub-question of QUD*

The main pragmatic factor affecting the dative alternation in adult English is *discourse givenness*, as was shown by Bresnan et al. (2007). In particular, the dative alternation obeys a given-before-new preference, that is, prepositional datives are preferred when themes are more topical than recipients, while double objects are preferred when recipients are more topical than themes. One important acquisitional question is thus whether children exhibit such discourse sensitivity in their production of dative constructions in scenarios that allow for contrastive

topicalization. The experiment was thus set up to assess whether four-to-five-year-old children are able to make use of contrastive topicalization strategies, by producing answers to implicit sub-questions in the face of a general QUD of the type "What did John do?", especially while adhering to the topic-focus distinction.

The given-new distinction has been argued to be present in child-directed speech (Fisher and Tokura 1995; Rohde and Frank 2014), and also in young children's production (Baker and Greenfield 1988; Dimroth and Narasimhan 2012). That such distinction is operative in the choice of dative constructions by English-acquiring children was recently suggested by Stephens (2015), after an elicited production experiment. Her experiment is however inconclusive about whether that was a direct effect of discourse givenness or an indirect effect of pronominalization (the author herself points that out), given that over 80% of given themes and recipients were realized by children as pronouns (and pronouns highly correlate with givenness and independently tend to appear before full noun phrases in a sentence; Wasow 2002; Bresnan et al. 2007). Contrary to Stephens's experiment, though, the experiment reported here involved contrast, which was expected to reduce or even prevent the use of pronouns, and as a consequence highlight the independent role of Information Structure in children's use of dative constructions in contexts that allow for contrastive topicalization.

2. Experiment
2.1. Participants

Ten children (3;11–5;02, M=4;09) recruited through the UConn K.I.D.S. database and ten control adults (UConn undergraduate students) were tested.

2.2. Materials and procedure

Test items consisted of child-appropriate stories narrated by an experimenter, presented to the children with the help of slide animations. Children were prompted by a puppet manipulated by a second experimenter. Each story included one main animate character in the role of *agent*, which appeared first in the plot and was explicitly conferred the discursive status of *aboutness topic*, as well as three inanimate objects in the role of *themes*, and three animate characters in the role of *recipients*. The agent performed three subsequent actions of *giving*, explicitly referred to by the mono-transitive expression *give away*. The potential for contrastive topicalization thus fell upon the internal arguments of the verb, as each one theme was paired with one recipient.

The experiment consisted of three factors with two levels each:

(6) a. Givenness: Themes Given, Recipients Given
     b. Contrast Status: Optional Contrast, Enforced Contrast
     c. Ditransitive Prompt: No Prompt, With Prompt

The first factor is **Givenness**. The **Themes Given** level was meant to confer given status and contrastive topic potential to the themes, with the recipients being their potential associated foci. All three themes of the story were presented before any recipients appeared. Themes were mentioned twice in the plot of the story, and after the second mention of each theme, its corresponding recipient had its only mention (while appearing on the screen). An example of a plot is given in (7). Note that the puppet is always absent during this part of the experiment.

(7) *Aboutness*: This is a story about Becky.
    Scenario: Becky is a sports teacher. Today she is teaching in the circus!
    Topics: She brought several balls with her:
        a soccer ball, a basketball, and a football.
    Give: Becky will teach the animals of the circus.
        So she wants to give these balls away.
    Focus 1: Look! Becky is grabbing the soccer ball! Oh, here comes *a lion*!
    Focus 2: And now Becky is grabbing the basketball! Look, that's *a zebra*!
    Focus 3: Finally, Becky is grabbing the football! Here comes *an elephant*!
    End: That's how Becky takes care of her circus! She has a lot of fun!

After the plot, the puppet finally shows up and is given a brief recap of the story, as in (8). At this moment, the themes are made given to the puppet, who emphasizes the topicality of the themes, but crucially inquires of the child about the *agent's* action(s). Importantly, the child is expected to introduce the recipients as new information to the puppet. Prepositional datives were thus expected ("Becky gave the balls to the animals" or "Becky gave the soccer ball to the lion, the basketball to the zebra, and the football to the elephant").[2]

(8) EXP: This was a story about Becky.
    She teaches sports in the circus and she had a few balls to give away:
    a soccer ball, a basketball, and a football.
    Then the animals showed up in the circus.
PUPPET: That is so cool! Hey, CHILD [*name*], you saw the story!
    I wanna know what happened with the balls.
    So please tell me: *what did Becky do*?

The **Recipients Given** level followed the same pattern, but crucially had the discursive roles of themes and recipients switched. Recipients appeared first and were given contrastive topic potential, whereas themes were given focus potential. Double objects were expected ("Becky gave the animals (some) balls" or "Becky gave the lion a soccer ball, the zebra a basketball, and the elephant a football"). A plot of a *Recipients Given* story is illustrated in (9). The discursive status of the

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[2] In order not to tax children's memory, all participants of the story remained accessible to them, as the last scene of the plot (which showed all three theme-recipient pairings) was still visible on the computer screen. See the Appendix for examples of slide animations.

agents was kept constant across the levels of the *Givenness* factor. The puppet's question about the agent (rather than the potential contrastive topics) was meant to leave for the child to decide whether she would report one single event of giving or divide it into sub-events, indicating a contrastive topicalization strategy.

(9) *Aboutness*: This is a story about Becky.
　　Scenario:　Becky has a big circus. She does lots of fun stuff there!
　　Topics:　One thing she does is take very good care of the animals:
　　　　a lion, a zebra, and an elephant.
　　Give:　Becky wants to teach them how to play sports!
　　　　She has a few things to give away that might help.
　　Focus 1:　Look! Becky is going to the lion. "Here's *a soccer ball* for you!"
　　Focus 2:　Now Becky is going to the zebra! "You can have *a basketball*!"
　　Focus 3:　Finally, Becky is going to the elephant! "And here's *a football*!"
　　End:　That's how Becky takes care of her circus! She has a lot of fun!

The second factor is **Contrast Status**. In the **Optional Contrast** level, the context was such that it did not really matter what each character was given in the end (i.e. there was no clear/needed association between a theme and a recipient). This level included a puppet that was not so demanding, who simply inquired of the child about the agent's action. The example in (7)-(8) above illustrates an *Optional Contrast* story. In the **Enforced Contrast** level, the plot was such that it did matter that the theme-recipient pairings were done properly by the agent. The example in (10) illustrates the end (i.e. the experimenter-puppet interaction) of an *Enforced Contrast* story (in this case, there was a clear association between themes and recipients: bones–dog, fish–cat, bananas–monkey). A different puppet was used in the conditions of this level, one that was more demanding and keen to learn. The plot and the puppet's question enforced that the child stated what happened to each of the objects/characters. He would inquire of the child about the agent's action(s) in a manner that expected a more comprehensive answer. Children were expected to provide more answers with the expected construction (prepositional datives for *Themes Given*, double objects for *Recipients Given*) in the *Enforced Contrast* conditions than in the *Optional Contrast* conditions, as the former increases the necessity to break down the *giving* event into sub-events, therefore increasing the necessity to distinguish topics from foci.

(10) EXP:　This was a story about Bob the farmer. He had a farm,
　　　and he had different kinds of animal foods to give away:
　　　bones, fish, and bananas.
　　　Then the animals showed up in the farm.
　PUPPET:　That is so nice! I wanna have a farm too!
　　　I need to know how to do things around the farm in the right way!
　　　Hey, CHILD [*name*], you know the right way to run a farm!
　　　I need to know what happened with the animal foods.
　　　So please tell me: *what did Bob do*?

The third factor is **Ditransitive Prompt**. In the level **No Prompt**, the expected ditransitive construction was not employed either in the plot or in the experimenter-puppet interaction. That was the case of the sample stories above. In the second level, **With Prompt**, the expected ditransitive construction was employed once by the experimenter and once by the puppet during the experimenter-puppet interaction, in accordance to *Givenness* (prompts that mismatched Givenness were not employed, in order the keep the interactions as felicitous as possible). A prompt was only used for the first theme-recipient pairing, as in (11) (which is the end of a *Themes Given*, *Optional Contrast* story). Children were expected to adhere to the sub-question strategy initiated by their interlocutor (the puppet) and to employ the expected dative construction.

(11) EXP: This was a story about Grandma.
            She was at home, and she had a number of desserts to give away:
            a candy, an ice-cream, and a cookie.
            Then the kids showed up in the house.
            She gave the candy to *the girl*…
 PUPPET: Another yummy story! Hey, CHILD [*name*], you saw the story!
            I wanna know what happened with the desserts.
            I know that Grandma gave the candy to *the girl*,
            but please tell me: *what else did she do*?

The experiment was conducted in the following way. Children were divided in two groups of five subjects each. Children in Group 1 (3;11–5;0, M=4;06) were shown the *Themes Given* conditions and children in Group 2 (4;07–5;02, M=5;0) were shown the *Recipients Given* conditions.[3] The experiment was divided in two sessions (to keep a maximum of 15-20 minutes per session), conducted in different days up to one week apart. *No Prompt* conditions were presented in the first session and *With Prompt* conditions were presented in the second session. Within a session, *Optional Contrast* conditions were presented before *Enforced Contrast* conditions. Each test condition consisted of a set of three stories, and before each set the child saw a training story, which served to introduce the puppet of that set (training stories only included one theme-recipient pairing, that is, one single giving event). Each subject thus saw 12 test items.

2.3. Coding

Recall from the last section that, when asked "What did [the agent] do?", subjects in principle had the choice to report the agent's action of giving as one single event or divide it into sub-events. When the latter was the case, indicating a sub-question strategy, each theme-recipient pairing was considered a "token" of

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[3] This division was made for practical reasons and was not expected to affect the results, given that the two syntactic constructions targeted are acquired at least one year before the age of the children tested in this experiment (cf. Introduction).

contrastive topicalization (CT). CT tokens were then classified according to type of construction (PD: prepositional dative; DO: double object), as in (12). Answers that directly addressed the question under discussion ("What did [the agent] do?") or that did not include the verb *give* and both of its internal arguments were not considered CT tokens, such as those in (13).

(12) **CT tokens**
    a.   PD   He gave the bucket to the cleaner (…)   (C1G1, 5;0)
               (…) and the hat to the whale   (M1G1, 4;05)
    b.   DO   He gave the dog bones (…)   (E1G2, 4;07)
               (…) and he gave the whale a hat   (S1G2, 5;01)

(13) **Not CT tokens** ("Other"-type answers)
    a.   She gave the balls to them   (A1G1, 4;09)
    b.   He gave all the animals footballs   (S1G2, 5;01)
    c.   He gave them away forever   (E1G1, 4;03)
    d.   She gave the cookie and ice-cream away   (N1G2; 5;0)

We may now proceed to the results.

2.4. Results

Figure 1 below shows the rate of contrastive topicalization tokens used by adults and children, as well as the construction preference in each group. Each subject could produce up to 30 CT tokens, thus each group could produce up to 150 CT tokens.[4] Adults employed contrastive topicalization strategies in over 90% of the cases, whereas children did so in only about 50% of the cases. However, adults and children showed similar preferences with respect to the choice of a dative construction according to the context. Those who saw the *Themes Given* stories (Group 1) preferred PDs, while those who saw *Recipients Given* stories (Group 2) preferred DOs.[5] In order to assess the significance of those results, I made use of a generalized linear mixed model (GLMM) and Asymptotic Wald Tests.[6] A binomial model was run to predict the type of answer by the factor Givenness/Group and found a significant difference between groups in both the

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[4] Each of the six stories of the first session could give rise to up to three CT tokens per subject, as there were three theme-recipient pairings. Each of the six stories of the second session could give rise to up to two CT tokens per subject, as the first theme-recipient pairing in each story was used in the prompt by the puppet.

[5] In fact, 100% of children in Group 1 opted for prepositional datives in their CT tokens. The one double object in that group was artificially inserted so that the statistical model discussed below could converge.

[6] GLM modeling was performed using *R* (version 3.2.5; R Foundation for Statistical Computing, 2016) and the *lme4* software package (Bates et al. 2015). I used the function *glmer* with *logit* as the link function and *subject* as a random effect. I am particularly indebted to William Snyder for his help with the statistical analysis.

adult and the child data. In the adult data, prepositional datives in Group 2 were significantly less frequent than in Group 1 (Z=–2.559, p=.0105). An even stronger result obtained in the child data (Z=–3.067, p=.00217).
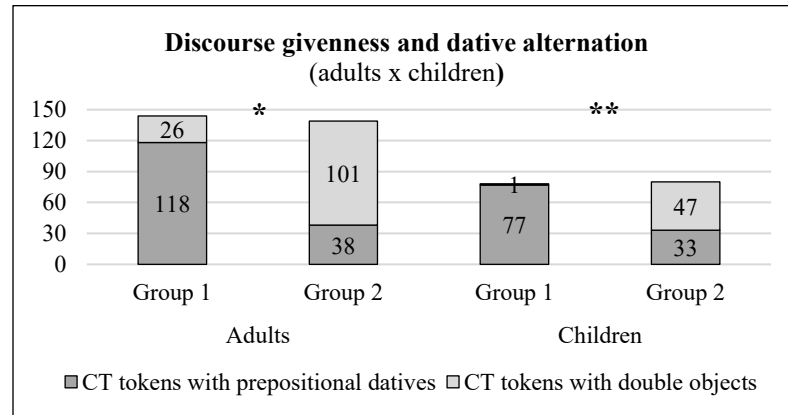

Fig. 1. Use of CT tokens and construction choice per group/givenness

In order to test for the effects of the factors *Contrast Status* and *Ditransitive Prompt*, I collapsed the data of Group 1 and Group 2 (in each of the adult and child data) by coding whether the dative construction in each token was expected or not (according to the *Givenness* value of each group). More specifically, all PD tokens in Group 1 were counted as *expected* (with DO tokens and all other types of answers being counted as *non-expected*), whereas all DO tokens in Group 2 were counted as *expected* (with PD and others being counted as *non-expected*). In total, the adult data had 219 expected and 81 non-expected tokens (total=300), as shown in Figure 2, whereas the child data had 124 expected and 176 non-expected tokens (total=300), as shown in Figure 3.[7]

A binomial GLMM with the factor *Contrast Status* was fitted to the adult data. The model based on construction expectedness with Group 1 and Group 2 combined did not converge. I therefore ran an alternative model based on type of construction (PD=156 or DO=127, excluding other-type answers), and searched for an interaction between Group and Contrast Status. The latter model converged, and there was a significant interaction (Z=–2.721, p=0.0065). In the child data, a model based on construction expectedness with Group 1 and Group 2 combined converged, with non-expected answers significantly less frequent in the *Enforced Contrast* stories than in the *Optional Contrast* stories (Z=–1.993, p=.0462).

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[7] Observe that including all sorts of answers (rather than just the alternative dative construction) in the non-expected category is a *conservative count*, and still all manipulations turned out to be significant, as shown below.
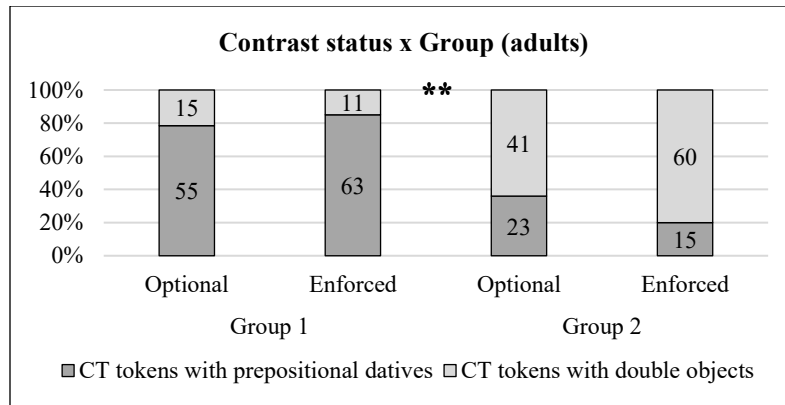
Contrast status x Group (adults)

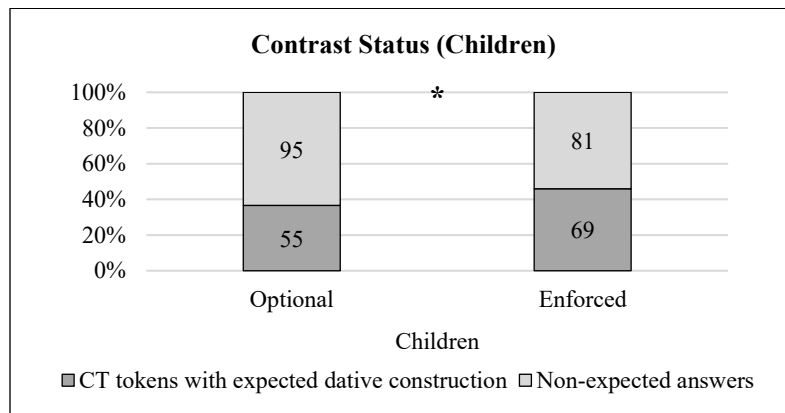|		**		
15	11		41	60
55	63		23	15
Optional	Enforced		Optional	Enforced
Group 1			Group 2	

□ CT tokens with prepositional datives □ CT tokens with double objects

Fig. 2. Effect of contrast status x group (adults)

Contrast Status (Children)

	*	
95		81
55		69
Optional		Enforced
Children		

□ CT tokens with expected dative construction □ Non-expected answers

Fig. 3. Effect of contrast status (children)

Ditranstive Prompt
(adults x children)

	***			***	
71	10		129	47	
109	110		51	73	
No Prompt	With Prompt		No Prompt	With Prompt	
Adults			Children		

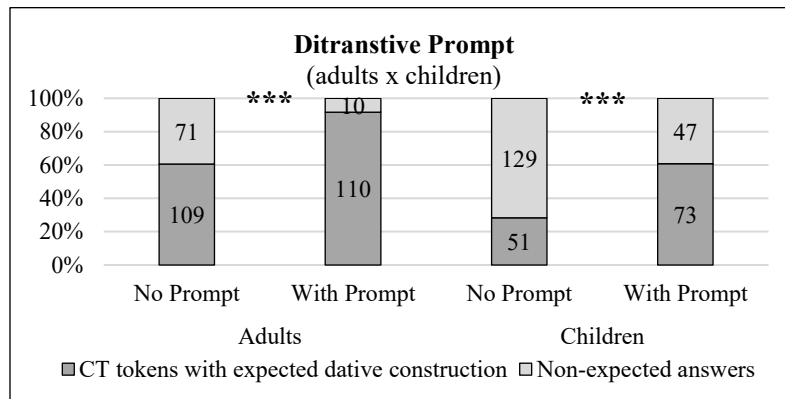□ CT tokens with expected dative construction □ Non-expected answers

Fig. 4. Effect of ditransitive prompt (adults x children)

Figure 4 above shows the effect of the *Ditransitive Prompt* factor, which was found to be highly significant, in both adults and children. A binomial model (with +/– Prompt as a fixed effect) found that non-expected answers were significantly less frequent in *With Prompt* stories than in *No Prompt* stories (Z=–6.172, p<.0001). A similar result obtained in the child data (Z=–6.301, p<.0001).

3. Discussion

The investigation of contrastive topicalization is embedded in the more general discussion about whether children are sensitive to the distinction between given and new information in discourse. The results shown in Figure 1 above indicate that four-to-five-year old children are adult-like in obeying a given-before-new preference in their use of dative constructions. In particular, when children are presented with two sets of alternatives with distinct roles in discourse — a situation that allows for contrastive topicalization —, they are able to define which set is the source of topics and which set is the source of foci. The next question is then whether children are able to select elements from each of the sets of alternatives and properly link them, that is, associate a focus to a contrastive topic (which is a core characteristic of contrastive topicalization). In this respect, it is crucial to bear in mind that the puppet's prompt question (that is, the relevant *question under discussion*) did not explicitly require that children included each of the relevant foci in their answers. Rather, in the prompt to e.g. (8) above ("I wanna know what happened with the balls. So please tell me: what did Becky do?"), the puppet's line mentioned the potential topics and asked for a predication (more precisely, a comment) about the *agent*. The experiment showed that children are able to select the relevant contrastive topics and add the foci as new information to their interlocutor, evidencing their active knowledge of contrastive topicalization. Especially, children are able to take a general question under discussion and subdivide it into relevant sub-questions.

The experiment also raised the question of whether manipulating pragmatic conditions would affect children's overall use of contrastive topicalization strategies and their choice of a dative construction. Figures 2 and 3 above show that children, like adults, are sensitive to different levels of contrast, that is, they can observe discourse and the situational context and assess the necessity of contrast. As we saw above, strengthening the conditions by enforcing the necessity of contrast significantly increased the use of the dative construction that better matched the context according to givenness/topicality. While there is evidence in the literature that children are sensitive to contrast in new information (see e.g. Gökgöz et al. 2016), the results of the current study show that children are also sensitive to contrast in given information.

Finally, the presence of the expected ditransitive construction in the prompt also had a significant effect (Figure 4 above). According to Bresnan et al. (2007), structural parallelism (that is, "the existence of the same kind of structure in the same dialogue"; p.77) is one of the conditioning factors of the dative alternation in adult English. The current experiment replicated that finding, while extending

it to child language. It is important to note here that even though the use of a ditransitive construction in the prompt expectedly triggered the same construction in the child's speech (that is, the prompt functions as syntactic priming), it says nothing about whether children would report the two remaining theme-recipient pairings with one single dative construction or two. In principle, children could reply to a question like "I know that Grandma gave a candy to the girl, but what else did she do?" with a one-event answer such as "She also gave desserts to the other children". However logically possible (and also pragmatically relevant), that was rarely the case. The use of a ditransitive prompt, beyond triggering the expected construction, facilitated the perception of sub-events, a strategy which children were robustly able to adhere to, by using contrastive topicalization tokens. In other words, children are able to perceive a sub-question strategy in their interlocutor's speech.

Put together, the results above show that children's choice of a syntactic construction can be influenced by matters of Information Structure. In particular, the current study corroborates the suggestion made by Stephens (2015) that children's choice of dative constructions reflects their ability to distinguish given information from new information. Importantly, the current experiment did not encounter the confound of pronominalization: out of all themes and recipients used in CT tokens, only one was pronominalized by a child (clearly because she did not remember the character's name).[8] Recall that in Stephens's experiment an overall 80% of given themes and recipients were realized as pronouns by children, since no contrast was involved in her test items. Children's near-categorical avoidance of pronouns in the relevant elements of the current study can be taken as providing evidence for the independent effect of discourse givenness and topicality on their word-order choices, beyond providing evidence for their sensitivity to contrast itself as well as its contextual relevance.

Children's avoidance of pronouns can also be taken to follow from another property of the design of the current study. Recall from Section 2 that while themes and recipients were the potential contrastive topics and foci (depending on the level of *Givenness*), the aboutness topicalization always fell upon the *agents* of the stories. In other words, aboutness topics and contrastive topics were teased apart. Consequently, the tendency to pronominalize (given) aboutness topics did not affect the relevant contrastive topics (needless to say, agents were frequently realized as pronouns). For the sake of comparison, a study by De Cat (2009) on the acquisition of topicalization in French conflated aboutness and contrastive topicalization on the agents (while the foci fell upon the verbal predicates). While in her experiment contrastive topicalization was also expected to minimize the use of pronouns, children before the age of 4;06 used full noun

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[8] In 68 answers by children (out of 120; 12 stories x 10 subjects) that involved contrastive topicalization in this study, only one included a pronominalized theme or recipient. When a contrastive strategy was not employed by children, pronouns were expectedly much more frequent. For instance, the pronoun "them", as in (i) below, appeared in 16 answers.

    (i)   He gave the gifts to them. (A1G1, 4;09)

phrases to refer to the agents in only about 45% of the cases, while children between the ages of 4;06 and 5;06 used full noun phrases in 84% of the cases.[9] By having separate aboutness and contrastive topics, and also by having narrower foci (which are more likely to be marked than broader foci), the design of the experiment reported here is able to provide more reliable evidence for the independent role of contrast (and Information Structure in general, for that matter) in the speech of four-to-five-year-old children.

Finally, while the results reported here suggest that children are competent with contrastive topicalization, there still remains the important question of why they employed sub-question strategies in only about half of the cases (bearing in mind that in those cases their construction preferences were adult-like). In order to address that question, I would like to present one unexpected but interesting result of the experiment. In the kind of contrastive topicalization used here, all possible alternatives of themes and recipients in a given story were known by the subjects and expected to be used in their answers, while the agent and the verb remained constant within the story. This combination created a perfect scenario for *gapping* constructions where the verb is omitted.[10] However, as Figure 5 below shows, only adults made frequent use of that strategy. Gapping was possible in up to 18 CT tokens per subject, but while answers like (14)a were pervasive in the adult data, children used gapping only about 14% of the time.[11] Usually children who provided complete and detailed answers resorted to strategies like (14)b, employing full sentences for each of the theme-recipient pairings. If for some reason gapping is not fully mastered by English-acquiring four-to-five-year-olds, one could hypothesize that its rarity in their production contributed to their non-adult-like rate of contrastive topicalization. Without gapping productively at their disposal, children often chose a less informative, more economical (but still relevant) answer that addressed the main QUD directly, instead of dividing it into the relevant sub-questions, which would require up to three full sentences (and such long utterances would presumably require a larger processing load).

(14)   a.   Becky gave the lion a soccer ball, the zebra a basketball,
           and the elephant a football.   (S2P2, adult)
          b.   Becky gave the lion a soccer ball, and Becky gave the zebra
           a basketball, and Becky gave the elephant a football.   (D1G2, 5;02)

Regardless of the implications of this finding to the acquisition of complex ellipsis and coordination constructions, what is important here is that children did make use of contrastive topicalization to a satisfactory extent, and most importantly were adult-like in being sensitive to the topic-focus distinction.

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[9] For space reasons, I cannot do justice to De Cat's (2009) work here; see Lacerda (2016).
[10] I use the term *gapping* broadly. The exact syntactic structure of the constructions in (14)a is irrelevant to our purposes here (see Konietzko and Winkler 2010 for contrastive ellipsis).
[11] All tokens but the first in a sentence allowed for gapping. Stories with and without a ditransitive prompt allowed for up to 6 and 12 gapping instances, respectively.
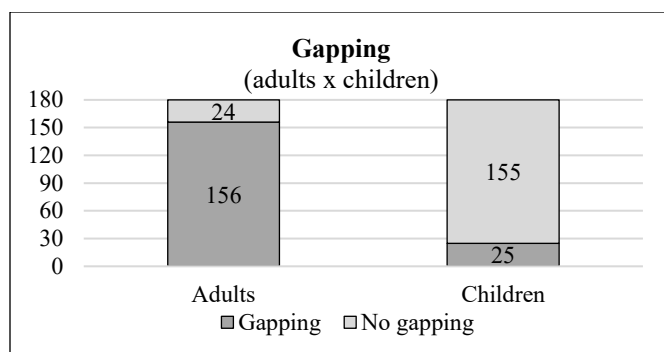
Gapping
(adults x children)

	Adults	Children
Gapping	156	25
No gapping	24	155

■ Gapping □ No gapping

Fig. 5. Use of gapping constructions by adults and children

4. Final remarks

This study indicates that children acquiring English as a first language are sensitive to the distinction between given and new information in discourse, as well as contrast. Information Structure was shown to have an independent role in children's choice of dative constructions, as pronominalization was factored out; before age five, children are adult-like in obeying a given-before-new preference. Especially, children were shown to be able to identify and adopt sub-question strategies in the face of a general question under discussion, indicating their active knowledge of contrastive topicalization. These results thus provide support for a body of work evidencing early pragmatic competence in language acquisition.
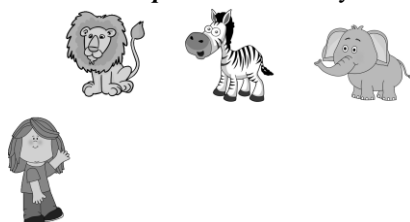
Appendix: Slide animation samples

Intro of a *Themes Given* story:

Last scene of a *Themes Given* story:

Intro of a *Recipients Given* story:

Last scene of a *Recipients Given* story:

References

Baker, Nancy D. & Patricia M. Greenfield. 1988. The development of new and old information in young children's early language. *Language Sciences* 10. 3–34.

Bates, Douglas, Martin Maechler, Ben Bolker & Steve Walker. 2015. Fitting Linear Mixed-Effects Models Using lme4. *Journal of Statistical Software* 67. 1–48. doi:10.18637/jss.v067.i01.

Bresnan, Joan, Anna Cueni, Tatiana Nikitina & R. Harald Baayen. 2007. Predicting the dative alternation. In Gerlof Bouma, Irene Krämer & Joost Zwarts (eds.), *Cognitive Foundations of Interpretation*, 69–94. Amsterdam: Royal Netherlands Academy of Science.

Büring, Daniel. 2003. On D-trees, beans, and B-accents. *Linguistics and Philosophy* 26. 511–545.

De Cat, Cécile. 2009. Experimental evidence for preschoolers' mastery of "topic". *Language Acquisition* 16. 224–239.

Dimroth, Christine & Bhuvana Narasimhan. 2012. The development of linear ordering preferences in child language: The influence of accessibility and topicality. *Language Acquisition* 19. 312–323.

Fisher, Cynthia & Hisayo Tokura. 1995. The given-new contract in speech to infants. *Journal of Memory and Language* 34. 287–310.

Gökgöz, Kadir, Ksenia Bogomolets, Lyn Tieu, Jeffrey Levi Palmer & Diane Lillo-Martin. 2016. Contrastive focus in children acquiring English and ASL: Cues of prominence. In Laurel Perkins, Rachel Dudley, Juliana Gerard & Kasia Hitczenko (eds.), *Proceedings of the 6th Conference on Generative Approaches to Language Acquisition – North America (GALANA 2015)*, 13–23. Somerville, MA: Cascadilla Proceedings Project.

Gropen, Jess, Steven Pinker, Michelle Hollander, Richard Goldberg & Ronald Wilson. 1989. The Learnability and acquisition of the dative alternation in English. *Language* 65. 203–257.

Konietzko, Andreas & Susanne Winkler. 2010. Contrastive ellipsis: Mapping between syntax and information structure. *Lingua* 120. 1436–1457.

Krifka, Manfred. 2003. Semantic and pragmatic conditions for the dative alternation. Paper presented at KASELL International Conference on English Language and Linguistics, Seoul, June 25–26.

Lacerda, Renato. 2016. Contrastive topicalization in child English: The case of the dative alternation. Unpublished general examination paper, University of Connecticut, USA.

Rappaport Hovav, Malka & Beth Levin. 2008. The English dative alternation: The case for verb sensitivity. *Journal of Linguistics* 44. 129–167.

Roberts, Craige. 1996. Information Structure in discourse: Towards an integrated formal theory of pragmatics. In J. H. Yoon & Andreas Kathol (eds.), *OSU Working Papers in Linguistics 49: Papers in Semantics*, 91–136. Columbus, OH: The Ohio State University.

Rohde, Hannah & Michael C. Frank. 2014. Markers of topical discourse in child-directed speech. *Cognitive Science* 38. 1634–1661.

Snyder, William & Karin Stromswold. 1997. The structure and acquisition of English dative constructions. *Linguistic Inquiry* 28. 281–317.

Stephens, Nola. 2015. Dative constructions and givenness in the speech of four-year-olds. *Linguistics* 53. 405–442.

Wagner, Michael. 2012. Contrastive topics decomposed. *Semantics & Pragmatics* 5. 1–54.

Wasow, Thomas. 2002. *Postverbal Behavior*. Stanford: CSLI Publications.