

# The Dative Alternation in Norwegian Child Language

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## Abstract

Research has shown that givenness is one of several factors that influence the choice of word order with the Dative Alternation in languages such as English. This paper investigates to what extent Norwegian children between the ages of 4;2 and 6;0 are sensitive to this factor in production. In order to test this, an experiment was carried out in which the children were prompted to produce structures involving ditransitive verbs when either the Theme or the Recipient was given. The results show that the children are sensitive to the impact of givenness, but while this is expressed through the choice of word order in Theme-given contexts (yielding the prepositional dative), it is expressed by argument omission in the Recipient-given contexts (resulting in one-argument responses with only the Theme overtly produced).

## 1. Introduction

The Dative Alternation (DA) has been extensively studied in English (see e.g. Baker 1988, Larson 1988, den Dikken 1995, Harley 2002, Beck & Johnson 2004). The term is used to describe the variation found in the order of the post-verbal arguments of ditransitive verbs in the so-called double object construction. Ditransitive verbs can either be followed by an indirect object and a direct object, here referred to as the Double Object Dative (DOD) and illustrated in (1a), or by a direct object and a prepositional phrase, here referred to as the Prepositional Dative (PD) and exemplified in (1b):

- (1) a. John gave [Mary] [a book] (DOD)  
b. John gave [a book] [to Mary] (PD)

The indirect object in (1a) and the prepositional phrase in (1b) have the thematic role of Recipient, while the direct objects in both examples carry the role of Theme.

In recent years, a number of corpus-based studies of the DA in English have considered which factors influence the choice of one word order over the other (e.g. Arnold et al. 2000, Wasow 2002, Bresnan et al. 2007, Bresnan and Nikitina 2009). One of the factors that have been found to have an impact on word order in these studies is givenness: the DOD is typically used when the Recipient is given, while the PD occurs when the Theme is given.

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This paper investigates the extent to which Norwegian children between the ages of 4;2 and 6;0 are affected by givenness in their choice of DOD or PD in Norwegian. In order to facilitate this, a semi-structured elicited production experiment was carried out. In the experimental set-up, the children were prompted to produce sentences involving the ditransitive verbs *gi* (give) and *vise* (show) in contexts where either the Recipient or the Theme had been previously introduced. The results of the study reveal that the children are sensitive to the impact of givenness. However, this is not only expressed through the choice of word order, which is what was expected; it is also apparent from one-argument responses, in which the Recipient, but not the Theme, is omitted when it is given.

## 2. The Dative Alternation

The Dative Alternation in Norwegian can be exemplified with the ditransitive verb *give*: (2a) is an example of the DOD structure, while (2b) is an example of the PD structure.

- (2) a. Jon ga [Marit] [en bok]  
*Jon gave Marit a book*  
'Jon gave Marit a book.'
- b. Jon ga [en bok] [til Marit]  
*Jon gave a book to Marit*  
'John gave a book to Marit.'

As we can see, the DA in Norwegian is very similar to that in English, at least in the most straightforward cases, such as the ones dealt with in this work. There is one difference between the two languages, however, and this pertains to the distribution of object pronouns. In American English, there is a restriction on the distribution of pronouns in the sense that pronominal Themes may only occur in the PD and not in the DOD, as illustrated in (3). In Norwegian, on the other hand, there exists no such restriction on the distribution of pronominal Themes, nor are there any limitations on the distribution of pronominal Recipients. This is shown in (4).

- (3) a. \*John gave [her] [it]  
b. John gave [it] [to her]
- (4) a. Jon ga [henne] [den]  
*Jon gave her it*  
'John gave it to her.'
- b. Jon ga [den] [til henne]  
*Jon gave it to her*  
'John gave it to her.'

Thus, even though the DA in English and Norwegian is very similar, there are some differences between the two languages with regard to the distribution of pronominal Themes that will be shown to be important for the present study.

As mentioned in the introduction, a number of studies have investigated the DA in English. Central to these studies have been two main questions: (i) whether the PD and the DOD are derivationally related or not, and (ii) which structure could be considered the basic one, if they are.<sup>1</sup> In this paper, we leave these issues aside. Instead we focus on the question of which factors determine the choice of word order.

Recent years have seen an upsurge in the number of corpus studies of structures such as the DA (e.g. Arnold et al. 2000, Wasow 2002, Bresnan et al. 2007, Bresnan & Nikitina 2009). One important reason for this is the increased availability of various electronic corpora, both written and spoken. As a result there has been a great deal of focus on the question of which factors influence the choice of word order when ditransitive verbs occur in context. A number of factors have been identified, such as definiteness, pronominality, length (weight) and givenness. Based on corpus data of spoken English, Bresnan et al. (2007) show that givenness is a significant predictor of word order with the DA. Furthermore, it is harmoniously aligned with the other factors mentioned here (see Aissen 1999), in the sense that given elements usually are either expressed by a definite DP or a pronominal element, and they also tend to be lighter than new elements. New elements are generally indefinite rather than definite or pronominal, and tend to involve longer (heavier) descriptions. Hence, in our study we decided to investigate the impact of givenness on word order with ditransitive verbs in Norwegian child language. This means that we pick out one of the factors that have been found to influence word order choices. However, as mentioned, all the factors are harmoniously aligned, and to the extent that one of these factors seems to be the cause of the others, this factor is most likely to be givenness.

### **3. Previous acquisition research**

So far, there exists no study of the DA in Norwegian child language. However, a number of studies have been carried out on these structures in English, based on both corpus and experimental data (Snyder & Stromswold 1997, Viau 2006, Roeper et al. 1981, Gropen 1989, Conwell & Demuth 2007, Stephens 2010, de Marneffe et al. 2011). To our knowledge there is

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<sup>1</sup> There are also a few studies of the dative alternation in Norwegian, most notably Hellan (1991), Åfarli (1992) and Tungseth (2006), and the kinds of issues discussed in these works are very similar to those dealt with in the literature on English.

only one acquisition study of a typologically different language, viz. Korean, where the two arguments are expressed by case-marked DPs (Cho et al. 2002). Due to the similarities between English and Norwegian observed in the previous section, we will base our literature review of the acquisition of the DA on English.

In the acquisition literature on the DA, there is an interesting asymmetry between corpus studies and experimental studies. On the one hand, corpus studies argue that the DOD is acquired before the PD (Snyder & Stromswold 1997, Viau 2006), suggesting that the PD is more difficult to learn than the DOD. On the other hand, experimental studies (both comprehension and production) suggest that the DOD is more difficult both to elicit and to comprehend (Gropen 1989, Conwell & Demuth 2007, Stephens 2010).

The first corpus study, Snyder & Stromswold (1997), argues that English monolinguals acquire DOD at the mean age of 2;2.5, which is about four months earlier than the PD. The authors propose a parametric account of this developmental lag, and argue that there is one parameter that alone determines the acquisition of the DOD, while a combination of this parameter with another one determines the acquisition of PDs. According to Snyder & Stromswold, this argument is also supported by the fact that DODs are acquired concurrently with V-NP-Particle constructions, while PDs are acquired concurrently with V-Particle-NP constructions. A similar delay in the acquisition of the PD is found in Viau (2006), who adopts a semantic decompositional approach according to which the DOD has CAUSE and HAVE as two primitive components, while the PD consists of CAUSE and GO. Having examined children's acquisition of verbs that decompose into primitives CAUSE (e.g. *open, close*), HAVE (e.g. *get, want*), and GO (e.g. *go to the store*), he argues that the delay in the acquisition of PDs may be attributed to the late acquisition of the primitive GO (revealed by the late use of directional *to* in the corpus).

Despite the fact that both DODs and PDs are found in the spontaneous production of two-year-olds, many researchers report that DODs are more difficult to elicit from children than PDs (Roeper et al. 1981, Gropen et al. 1989, Conwell & Demuth 2007).<sup>2</sup> In comprehension, DODs have been found to be erroneously interpreted as PDs before the age of four (Roeper et al. 1981). In priming studies, two- to eight-year-olds have been shown to have

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<sup>2</sup> As mentioned in Snyder & Stromswold (1997), there are some earlier comprehension and imitation studies that were carried out in the 1970s and 1980s (Cook 1976, Osgood & Zehler 1981, inter alia). These studies report that preschool English-speaking children have more difficulty comprehending and imitating DODs than PDs. However, various researchers notice that the methodology used in these studies may cast doubt on the results.

productive use of DODs and PDs with novel verbs in the unmodelled condition, i.e. they are able to use novel verbs with the DOD if they had heard them with the PD and vice versa (Gropen et al. 1989, Conwell & Demuth 2007). However, Conwell & Demuth observe that the children are more innovative with PDs than with DODs, as they are much more likely to go from a modelled DOD to a PD, than the other way around. Conwell & Demuth consider several possible explanations of this asymmetry in terms of weight, pronominalization effect, and the frequency of occurrence of the verbs in a particular construction, but find no satisfactory explanation for this phenomenon.

In an elicited production study of the DA in English, Stephens (2010) also finds an asymmetry in the word order choice of four-year-old children. Since the set-up of her investigation is similar to ours, we will go into it in more detail. Stephens examined givenness effects with four alternating dative verbs: *give*, *show*, *read*, and *throw*. According to her results, givenness has a significant effect in both Theme-given and Recipient-given contexts, but to different degrees (statistics compared to the baseline, in this case, the agent-given condition). While Theme-givenness has a categorical effect, yielding PDs 100% of the time, Recipient-givenness has a small effect, as DODs were produced in only 58% of these contexts.<sup>3</sup> This is similar to the results of Gropen et al. (1989)'s study of novel verbs, where Theme-questions were answered with the PD 88% of the time, while Recipient-questions were answered with the DOD only 44% of the time. Stephens suggests that Theme-givenness has a bigger effect on word order than Recipient-givenness due to the asymmetric restrictions on the placement of Theme and Recipient pronouns in English discussed above (*I gave it to him* vs. *\*I gave him it*). Note that this explanation for the asymmetry between the PD and the DOD in experimental studies makes fairly strong predictions for the DA in Norwegian child language; we would not expect to find the same asymmetry in Norwegian, due to the fact that there is no restriction on pronominal object placement in this language. Yet, a similar asymmetry in word order choice is in fact observed in our study, and we provide an alternative explanation for this here.

#### 4. The Present Study

The main aim of the present study is to determine to what extent Norwegian children's choice of DOD or PD in language production is influenced by givenness. As reported in section 2, a number of studies have shown that for

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<sup>3</sup> Note that these results are based on the verbs *give*, *show*, and *read*, since *throw* only occurred in PDs.

adult English speakers, the choice of word order in these structures is affected by pragmatics, especially by givenness (Wasow 2002, Bresnan et al. 2007, Bresnan & Nikitina 2009, Rappaport Hovav & Levin 2008 and many others). Given that Norwegian children (like children acquiring other languages) have been shown to be aware of pragmatic factors early on (e.g. Westergaard 2003, Anderssen 2006, Westergaard 2009 and Anderssen et al. 2010), we expect them to be sensitive to these factors when it comes to the DA as well. This means that in a context in which the Recipient has been previously introduced, the children should produce the DOD, while in contexts in which the Theme is given, we expect the children to produce the PD.

Furthermore, recall from section 3 that experimental studies of the DA in English child language revealed that English children are more likely to produce the PD when the Theme is given than they are to produce the DOD in Recipient-given contexts (cf. Gropen et al. 1989 and Stephens 2010). Recall also that Stephens (2010) suggested that the reason for this asymmetry was the more restricted distribution of pronominal Themes compared to pronominal Recipients in English, which makes the DOD illegitimate with a pronominal (direct object) Theme (*\*he gave her it*). However, as discussed in section 2, no such restriction exists in Norwegian, and as a consequence, we would not expect to find the same asymmetry in the production of PDs and DODs in the Norwegian child language data.

Hence, the goals of the present study are two-fold; to test whether Norwegian children pay attention to givenness when they make their choice of word order with alternating ditransitive verbs, and to probe whether they exhibit the same kind of asymmetry with the PD and the DOD as English speaking children. In order to answer these questions, we designed an experimental semi-structured elicitation task, which is described in the next section.

## **5. Method**

### *5.1 Participants*

24 monolingual Norwegian-speaking children participated in the study. The group included 15 girls and 9 boys. The children were aged between 4;2 and 6;0. They live in the city of Tromsø and have grown up with Norwegian-speaking parents. All the children attended a local day care centre, from which they were recruited to the study and where they were tested.

### *5.2 Materials and Stimuli*

The methodology used in the present study was based on a method developed to elicit DOCs from adult speakers of Dutch in order to test

effects of givenness on the Dative Alternation (Fikkert 2011). The set-up for the current child-directed experiment was somewhat less complex than the original experiment and semi-structured in the sense that it was an open-ended elicitation task. The participants were guided by the experimenter to tell stories to a hand puppet (Elmo) based on several series of pictures. All the picture series consisted of 3-4 pictures, including at least (and usually only) one picture involving a ditransitive action. The pictures were presented in the form of a slide show on the computer screen. The lexical material consisted of two verbs (*give* and *show*) and a number of noun phrases, functioning either as Theme or Recipient (e.g., *worm*, *stick*, *star*, *skates*, *scarf*, *car*, *fish*, *shell*, *hen*, *hare*, *sister*, *boy*). After hearing a short description of what the story was about, the participants were asked to tell the story to the hand puppet, who could not see the pictures. This involved going through each picture series one slide at the time and recounting what was happening in the relevant picture. The experimenter would help the child along whenever this was needed. The task was administered in two short sessions, so that the children would not get tired and would remain responsive.

The stimuli consisted of two conditions: Recipient-given (RC) and Theme-given (TC). Each condition included six contexts (three with the verb *give* and three with the verb *show*) triggering use of a certain word order structure, as shown in Table 1.

**Table 1.** Context types and target responses.

<b>Condition</b>	<b>Context type</b>	<b>Target argument structure</b>
RC	Recipient (IO) is introduced	IO DO
TC	Theme (DO) is introduced	DO PP

Each participant was tested on 12 test items (6 RC + 6 TC) in a randomized order, so that a total of 288 responses were expected from the 24 child participants.

Let us now consider in more detail how the story-telling design was used. In the experimental situation, the adult experimenter would start by giving the title and a brief summary of the story, and then the experiment would be carried out as described in (5) and (6) below.

The context presented in (5) exemplifies the Recipient-given condition with the verb *give*. To ensure that the Recipient was given, the Recipient would be introduced prior to the context in which the ditransitive activity was described. In these contexts it was important to make sure that the children explicitly mentioned the Recipient (*a hen*), as illustrated in the dialogue accompanying the first picture. The Theme (*a worm*) appears in the target

picture only, and thus it is new information for the speaker (Child) and the hearer (Elmo). Such contexts were expected to trigger the use of the Double Object Dative.<sup>4</sup>

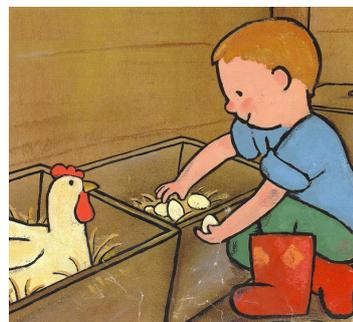
(5) RC: Recipient-given context

Exp: This story is about a boy Peter. His grandparents live on a farm. Peter likes to help them when he visits. Look, here is Peter. Can you tell Elmo what he is doing?

Child: He is gathering eggs.

Exp: Can you tell Elmo who laid the eggs?

Child: **The hen.**



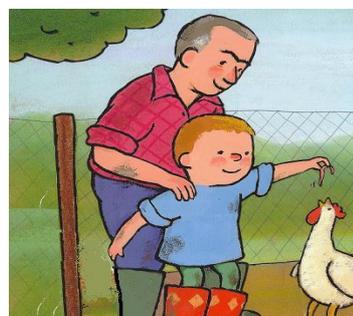
Exp: Akkurat. Kan du fortelle Elmo hva Peter gjør nå?

‘Right. Can you tell Elmo what Peter is doing now?’

Child: **Han gir høna en mark.**

*He gives hen.the a worm*

‘He is giving the hen a worm.’



The TC contexts (described in (6)) were presented according to the same procedure (here illustrated with an example involving the verb *show*) but in these contexts, the child would be shown the Theme (*a dummy*) and prompted to mention it before the picture of the ditransitive event was introduced. In this condition, the Recipient (*a duck*) would be introduced with the picture describing the ditransitive event. The target response for this context is the Prepositional Dative.

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<sup>4</sup> In the experimental design, a DOD construction with the verb *tell* was used to elicit the target sentence. In fact, in Norwegian this verb is often used mono-transitively, unlike *tell* in English (as in the equivalent of *John told that he was tired*). Although *tell* is ditransitive in our stimuli, we used the same question in both conditions, and the results do not show any priming effect of this structure.

(6) TC: Theme-given context

Exp: This story is about Paul. Look, here he is, going for a walk. But look, he has something in his mouth. Can you tell Elmo what he has in his mouth?

Child: **A dummy.**



Exp: Akkurat. Kan du fortelle Elmo hva Peter gjør nå?  
 ‘Right. Can you tell Elmo what Paul is doing now?’

Child: **Han viser smokken til en and.**

*He shows dummy.the to a duck*

‘He is showing the dummy to a duck.’



The goal of our design was to elicit linguistic data that would replicate the Dative Alternation as it is found in natural speech. It should be noted, however, that during the elicitation procedure the children sometimes were assisted to ensure that they produced the target sentence. For example, if the child failed to answer the question accompanying the second picture in (6), the experimenter would say: *What is he doing? He’s showing...* This kind of prompting was especially useful with children who were very shy and hesitant to answer the questions, but also with children who tended to be a bit too elaborate in their replies. In such cases, the participants would produce utterances in which either the subject or both the subject and the verb were omitted. However, as these utterances included the two elements that we wanted to test the order of, they have been included in the study. Furthermore, these structures also exhibited the relevant kind of word order alternation, so it is unlikely that these responses had any effect on the experimental results. All the responses were recorded, transcribed, coded and analysed as presented below.

## 6. Results

The two conditions in the experimental design tested the effect of Theme-given and Recipient-given contexts on word order with the Dative Alternation. In this section, the results of the experiment are analysed with regard to types of responses. As will become clear, there are mainly two types of responses: One type included both arguments, and hence will be analysed according to whether givenness can be said to have an effect on

word order choice. However, somewhat unexpectedly, there was also a high proportion of one-argument responses, and these results will be considered in light of which types of elements are omitted and in which contexts this occurs.

### 6.1 Types of Responses

The total number of relative responses elicited from the children in both conditions was 247 out of 288 possible.<sup>5</sup> As mentioned, contrary to expectations, the children did not always produce two-argument responses; there was also a high proportion of one-argument replies. However, there was a striking difference between the two conditions in this respect. As shown in Table 2, most of the structures in the Theme-given condition included two arguments (80%), while a large percentage of responses in the Recipient-given condition had only one argument (56%).<sup>6</sup>

**Table 2.** One and two argument responses in two conditions

Condition	Two arg, % (N)	One arg, % (N)	Total, N
RC:Recipient-given	44% (53)	56% (69)	122
TC: Theme-given	80% (100)	20% (25)	125
Total	62% (153)	38% (94)	247

Naturally, it was only possible to analyse word order patterns for those responses that included both arguments. Such responses constituted 62% of the data, and they are discussed in detail below.

<sup>5</sup> The remaining 41 responses (14% 41/288) were either irrelevant (not involving a ditransitive verb) or contexts in which no response at all was given. An example of the former would be if a child described the target picture, such as (5) above, by using some other grammatical structure than the DA. In the case of (5), one example of this would be *Peter fed the hen. Feed* is not a ditransitive verb in Norwegian.

<sup>6</sup> As was mentioned in section 5, the investigator would sometimes prompt the children by starting the target sentence for them by saying either *he's showing...* or *he's giving...* to make sure the correct verb was used. This was done in 115 of the 247 relevant responses (46.5%). Consequently, in these examples, the children's responses did not include verbs. In Table 2 and subsequent tables in this paper both responses with and without verbs have been included. The reason for this is that the exclusion of these results had little impact on the percentages. To illustrate this, an overview of the results with the prompted responses excluded is provided in the appendix.

*Word Order Patterns*

The children were expected to produce full sentences comprising a subject, a verb, a Theme (Direct Object) and a Recipient (Indirect Object or Prepositional Phrase), either in the order S-V-DO-PP (the PD, illustrated in 7) or S-V-IO-DO (the DOD, illustrated in 8).

(7) det er Petra ho viser løva til han bestevennen (U5 5;8.10)  
*it is Petra she shows lion<sub>DEF</sub> to he best.friend<sub>DEF</sub>*  
 ‘It is Petra, she is showing the lion to her best friend.’

(8) han gir storesøstra fotballske (U21 4;9.4)  
*he gives big.sister<sub>DEF</sub> football.shoe<sub>INDEF</sub>*  
 ‘He is giving his older sister a football shoe.’

However, as mentioned in the methodology section, the experimenter would occasionally start the target sentence for the children for various reasons. As a result, the children would occasionally produce structures in which the subject or both the subject and the verb were omitted. Examples of such sentences are shown in (9), and these structures were also considered for the analysis of the word order patterns.

(9) a. viser sommerfugelen til musa (U12 5;8.11)  
*shows butterfly<sub>DEF</sub> to mouse<sub>DEF</sub>*  
 ‘(He) is showing the butterfly to the mouse.’

b. vise Karsten tegninga (U36 4;10.4)  
*shows Karsten drawing<sub>DEF</sub>*  
 ‘(She) is showing Karsten the drawing.’

c. en lang pinne til kanin (B14 5;4.22)  
*a long stick to rabbit*  
 ‘(He is giving) a long stick to the rabbit.’

The group results with regard to the effect of givenness on word order are summarized in Table 3, which shows that there is a clear asymmetry in the use of word order patterns between the two conditions. The TC contexts, in which the Theme has been previously introduced, trigger the use of the PD more often than the DOD: 75% vs. 25%. A preference for PD structures over DOD structures is also evident in RC contexts, but to a much lower degree: 57% vs. 43%.



**Table 4.** Number of omitted arguments across condition

	<b>RC: Recipient-given</b>	<b>TC: Theme-given</b>	<b>Total</b>
Recipient omitted	61	19	80
Theme omitted	8	6	14

As also shown in Table 4, Themes are infrequently omitted in both conditions, and are not more likely to be dropped in Theme-given contexts.

Summarizing, these results show that children omit both Themes and Recipients, but the latter are omitted much more frequently than the former. Furthermore, Recipients are more likely to be omitted when they have been previously introduced, while givenness does not seem to have an effect on the omission of Themes.

## 7. Discussion

In Section 4 we hypothesized that if Norwegian children's choice of word order in the Dative Alternation is affected by givenness, they should show a preference for PDs in contexts where the Theme is given and a preference for DODs in contexts where the Recipient is given. Our results are not straightforward, since the effect of givenness on word order is shown to be prominent in the Theme-given contexts, where PDs are produced at a rate of 75%, but not in the Recipient-given contexts, where DODs are produced at a rate of only 43%.

These results are parallel to those of Stephens (2010) who observes a very similar asymmetry in the dative construction choice of English-speaking four-year-olds. In her study, givenness had a categorical effect in Theme-given contexts, where PDs were produced at a rate of 100%; however, the effect of givenness in Recipient-given contexts was only marginal, as DODs were produced there at a rate of 58%. Stephens suggests that this asymmetry in word order choice may be due to the asymmetric restriction on pronominal Theme vs. Recipient placement in American English illustrated in (11) and (12) (from Stephens 2010:102).

- (11) a. She read the boy a book.  
 b. ??She read the boy it.  
 c. ??She read him it.
- (12) a. She read a book to the boy.  
 b. She read a book to him.  
 c. She read it to him.

This assumption is based on the observation that givenness has a strong correlation with pronominality (and definiteness) in the child language data, in the sense that over 80% of the arguments were realized as pronouns and pronominal Themes always occurred first, i.e. in PDs, regardless of whether the Theme was given or new. Given this categorical effect of Theme-pronominality, Stephens concludes that it may be that givenness influences the dative construction choice indirectly via pronominality. In other words, the reason why Theme-givenness had a stronger effect than recipient-givenness is the asymmetric restrictions on the placement of Theme and Recipient pronouns in English.

As mentioned in section 4, if a similar asymmetry is found in the Norwegian data, it cannot be explained in terms of the syntactic restrictions on pronominal Themes, as these may freely occur in both DODs and PDs in Norwegian (cf. the discussion in Section 2 and example (4), repeated here as (13)):

- (13) a. Jon ga [henne] [den]  
*Jon gave her it*  
'John gave it to her.'
- b. Jon ga [den] [til henne]  
*Jon gave it to her*  
'John gave it to her.'

In the Norwegian data, object pronouns occur in 52% (80/153) of all two-argument responses produced by the children. Table 5 shows the distribution of object pronouns in the two conditions. The total number given in the table does not include 14 pronominal objects that occurred in prn>prn responses. Consequently, Table 5 provides an overview of the 66 responses in which *one* of the arguments is realised by a pronoun. It is clear from these data that pronominal objects tend to occur as the first argument: this is true of 57 of the 66 responses (39+18 in Table 5). Furthermore, 86% (57/66) of the time, pronouns are used to refer to given arguments (these numbers are highlighted in the table). Thus, similarly to Stephens, we can conclude that givenness has a strong correlation with pronominality in the Norwegian children's data. However, there are also five pronominal Themes (marked in bold in Table 5) that occur as the second argument in the Norwegian data (cf. (13a)). This is something that is ungrammatical in English (see (11b, c)) and that English children do not do according to Stephens. The fact that Norwegian children occasionally place pronominal Themes last reveals that they make use of all the options allowed by the target grammar.

**Table 5.** The distribution of pronominal objects in the children's data, excluding prn>prn responses (N)

	Theme-given (PD-target)		Recipient-given (DOD-target)		Total
	prn>NP	NP>prn	prn>NP	NP>prn	
PD	38	0	7	4	49
DOD	1	4	11	1	17
Total	39	4	18	5	66

Given the distribution of pronominal Themes in our experimental data and the fact that there is no asymmetric restriction on the placement of Theme and Recipient pronouns in adult Norwegian, the asymmetry in the construction choice that we observe in the Norwegian children's data must have a different explanation.<sup>7</sup> We further suggest that this asymmetry is directly related to the patterns of argument omission observed in our data, and more specifically, to the low number of two-argument responses in the Recipient-given condition. In Table 4, we showed that Themes are less likely to be omitted than Recipients. In Table 6 this result is compared to the distribution of one-argument responses in the NoTa corpus of spoken adult Norwegian that has been searched for structures containing the verbs *gi* 'give' and *vis* 'show'.<sup>8,9</sup>

**Table 6.** Argument omissions in the experimental data and the NoTa corpus

	Recipient omitted, N	Theme omitted, N	Total, N
Our study	80 (85%)	14 (15%)	94
NoTa corpus	47 (100%)	0	47

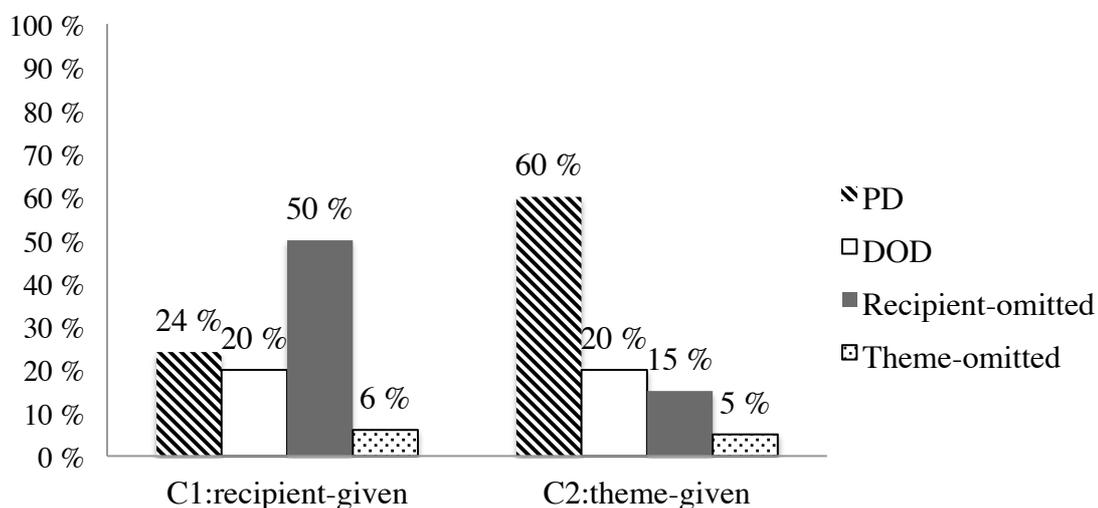
<sup>7</sup> Naturally, we cannot draw any conclusion about whether the different distribution of pronominal Themes and Recipients in English can explain the asymmetry in English child language. However, the Norwegian results suggest that we might need a different account for the behaviour of the English children as well.

<sup>8</sup> NoTa - Oslo Norsk talespråkskorpus - Oslodelen, Tekstlaboratoriet, ILN, University of Oslo <http://www.tekstlab.uio.no/nota/oslo/index.html>

<sup>9</sup> Please note that Table 6 was included to show that there is a difference between the omission of Themes and Recipients in adult Norwegian in the sense that the latter but not the former can be omitted.

As shown in Table 6, Themes are never omitted by adults, while Recipients are omitted rather frequently. We can thus conclude that the children's unwillingness to omit Themes mirrors the behaviour of adults. Importantly, the data presented in Table 4 also show that the vast majority of contexts in which Recipients are omitted are contexts in which the Recipient is given (76% 61/80), and in which it thus is more natural to do so.

To draw all the results together, let us consider the distribution of all types of responses produced by the children in the two conditions. This is summarized in Figure 1 below. When it comes to the question of argument omission, Figure 1 shows that Recipients are omitted 50% of the time when they represent given information and only 15% of the time when they represent new information.



**Figure 1.** Types of responses in Recipient- and Theme-given contexts

Most importantly, however, the data presented in Figure 1 show that the majority of responses in both conditions were pragmatically felicitous: This is true of 70% of the total responses in RC (20% were DODs and 50% were structures in which Recipients were omitted). Similarly 65% of the responses in TC were pragmatically appropriate (60% were PD and 5% were structures in which Themes were omitted). This suggests that the children's behaviour is largely target-like in both conditions: in the Theme-given context, this is mainly shown by word order choice, and in the Recipient-given contexts, it is mainly expressed through the omission of the given argument. To put it differently, the fact that the children choose to omit given information in the Recipient-given contexts rather than use the non-

target word order (i.e. PDs) reveals that they are sensitive to givenness with the Dative Alternation.

## 8. Conclusion

The goal of the present study was to investigate the extent to which Norwegian children use givenness as a criterion for determining the choice of word order with the Dative Alternation. The results of the study suggest that givenness indeed plays a role. This pragmatic sensitivity is expressed in two ways: either by the use of the appropriate word order (PD vs. DOD) or by the omission of a previously mentioned argument. The latter is most clearly true of given Recipients. Thus, despite the fact that the children are more likely to produce PDs when the Theme is given than DODs when the Recipient has been previously introduced, we argue that our results show that child grammar is guided by the general principles of pragmatics in a target-like way.

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## Appendix

In this appendix we provide an overview of the results discussed in this paper with child responses without verbs excluded (see section 6, footnote 6). All of these tables originally appeared in subsection 6.1. The first of these is Table 2 (repeated from p. 10), which provides an overview of both one and two argument responses. Next, Table 3 (from p. 12) shows the distribution of the two word order patterns in the two conditions, and then finally, Table 4 (from p. 13) shows the number of one-argument responses in the two conditions. In each case, the original table is followed by the modified one.

**Table 2.** One and two argument responses in two conditions (p.10)

Condition	Two arg, % (N)	One arg, % (N)	Total, N
RC:Recipient-given	<b>44%</b> (53)	<b>56%</b> (69)	122
TC: Theme-given	<b>80%</b> (100)	<b>20%</b> (25)	125
Total	<b>62%</b> (153)	<b>38%</b> (94)	247

**Table 2-1.** One and two argument responses *with No-Verb responses excluded*

Condition	Two arg, % (N)	One arg, % (N)	Total, N
RC:Recipient-given	<b>54%</b> (35)	<b>46%</b> (30)	65
TC: Theme-given	<b>97%</b> (67)	<b>3%</b> (2)	69
Total	<b>76%</b> (102)	<b>24%</b> (32)	134

**Table 3.** Distribution of the two types of word orders across conditions (p.12)

Condition	PD, % (N)	DOD, % (N)	Total, N
RC: Recipient-given (target - DOD)	<b>57%</b> (29)	<b>43%</b> (24)	53
TC: Theme-given (target - PD)	<b>75%</b> (75)	<b>25%</b> (25)	100

**Table 3-1.** Distribution of the two word orders across conditions *with No-Verb responses excluded*

Condition	PD, % (N)	DOD, % (N)	Total, N
RC: Recipient-given (target - DOD)	57% (20)	43% (15)	35
TC: Theme-given (target - PD)	81% (54)	19% (13)	67

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**Table 4.** Number of omitted arguments across condition (p.13)

	RC: Recipient-given	TC: Theme-given	Total
Recipient omitted	61	19	80
Theme omitted	8	6	14

**Table 4-1.** Number of omitted arguments across condition *with No-Verb responses excluded*

	RC: Recipient-given	TC: Theme-given	Total
Recipient omitted	25	5	30
Theme omitted	5	0	5

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