Is there any difference between ‘She gave a book to her daughter’ and ‘She gave her daughter a book’? English-Spanish bilingual children’s acquisition of ditransitive constructions

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1. Introduction

-Aim:
• To provide an answer for the dichotomy in the derivation of **ditransitive constructions** (*to*-dative and DOC) by looking at **their acquisition**

(1)a. She gave her daughter a book [*double object*]
   b. She gave a book to her daughter [*to-dative*]

-Methodology:
• Research focused on the acquisition of the verb “**give**” in three bilingual Spanish/English children
2. Theoretical background

What is a ditransitive construction? Dichotomy semantics vs syntax

- Analogous meaning
  (Green, 1973; Larson, 1988)

- Aka Dative Shift
- To-dative as the base structure
- -DOC as the base structure
  (Dryer, 1987; Borer and Wexler, 1967/1986)
2. Theoretical background: Theta & Case Theory

Theta Theory

- **UTAH** (Baker, 1988/1997): “The identical thematic relationships between items are represented by identical structural relationships at D-structure”

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Case Theory

(Baker, 1988; Chomsky, 1995)

- There’s a mismatch in Case Assignment:
  - To-dative ➞
    a) V assigns Structural Accusative (satisfying Adjacency and Government Conditions)
    b) Pre “to” assigns Dative Case

*She gave a book to her daughter*[to-dative]*

D-structure: same thematic roles

<table>
<thead>
<tr>
<th>She gave a book</th>
<th>to her daughter</th>
<th>to-dative</th>
</tr>
</thead>
<tbody>
<tr>
<td>theme</td>
<td>beneficiary</td>
<td></td>
</tr>
<tr>
<td>She gave her daughter</td>
<td>a book</td>
<td>double object</td>
</tr>
<tr>
<td>beneficiary</td>
<td>theme</td>
<td></td>
</tr>
</tbody>
</table>

- DOCs raise an issue for Case Theory:
  a) only one Case assigner (the V assigns Structural Case to Oi, satisfying Adjacency and Government Conditions)
  b) **Solution for the Od:** it receives Inherent Acc Case

*She gave her daughter a book*[double object]*

So, in view of Case Theory, DOCs are derived from to-datives
2. Theoretical background: syntactic derivation (Baker, 1997)

The beneficiary (after incorporation of the preposition to its adjacent NP) moves to the left of the theme, leaving a trace behind.

$\text{John gave}_i \text{to}_i \text{Mary}_j \text{ a book } t_i \ t_j$

(John gave Mary a book)
2. Theoretical background: syntactic derivation (Larson, 1989)

**Non-shifted version**

- **to-datives as base-generated**
- **verbal head-to-head movement to meet Case requirements**

**Shifted version**

**DOC as derived**

- **Reanalysis of V’ as V: Light Predicate Raising (or head-to-head mov) +NP-Movement**
- **Same process as passive: Oi as internal verbal argument & Od generates as adjunct**

**Mary gave everything that he demanded to John**

**Mary gave John everything that he demanded**

Any A-movement delays maturation (Borer & Wexler’s Maturation Ho)

To-dative as derived

Thus, if to-dative and passive are construed by NP-movement → DELAY IN MATURATION/ACQUISITION
2. Theoretical background: monolingual acquisition

- **To-dative acquired earlier**
- **Easy to produce and act out (pre “to” facilitates acquisition)** (Gropen et al., 1984)
- **DOC acquired earlier**
  - Spontaneous-speech studies (Snyder & Stromswold, 1997)

**Pre “to” delays the acquisition and children might start producing to-datives with the incorrect preposition** (e.g. *they gave the book for Bill*) or **prepositionless** (e.g. *they gave the book Bill*)

**DOC acquired earlier by significant test**, p=.0098 (mean age of acquisition for DOC was 2;2.5 and 2;6.8 for to-datives) and **t test** (t(11)=4.15, p=.002)
3. The empirical study: Research Questions

**RQ1.** Are both *to*-datives and DOCs acquired concurrently according to UTAH (Baker, 1988: 46)?

**RQ2.** Are DOCs, satisfying Chomsky’s Case Theory (Chomsky, 1981), derived ditransitive structures, and subsequently, acquired later?

**RQ3.** Does syntactic complexity of ditransitives have an effect on their acquisition?

**RQ4.** Does input play a role in the acquisition of ditransitive structures?
3. The empirical study: Methodology

DATA SELECTION

- Data selection from the CHILDES database (MacWhinney, 2000):
  - Simultaneous bilingual English/Spanish children:
    1. **Identical twins** (FerFuLice corpus, *Liceras et al.*, 2008):
       SIMON & LEO (age range 1;0-6;5)
    2. **MANUELA** (Deuchar corpus, *Deuchar & Quay*, 2000)
       (age range 1;3-3;3)
     - Child-directed speech (input)

- **Selection** of ditransitive instances of the verb “give” by using KWAL (CLAN program through the CHILDES database, MacWhinney 2000)—both for children and adults
3. The empirical study: Methodology

DATA CLASSIFICATION

- Data have been classified following these parameters:

<table>
<thead>
<tr>
<th>Participant</th>
<th>Sex</th>
<th>Age</th>
<th>MLUword</th>
<th>FORM OF THE OBJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Od</td>
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<td></td>
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<td></td>
<td>Full DP</td>
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<td></td>
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<td></td>
<td>Pronoun</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Null Od</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td>Full DP</td>
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<tr>
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<td>Pronoun</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Null Od</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TYPE OF DITRANSITIVE CONSTRUCTION</th>
<th>SYNTACTICALLY AMBIGUOUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>To-dative</td>
<td>Od+Oi (to-omission)</td>
</tr>
<tr>
<td>Double object</td>
<td>Od null+Oi (to-omission)</td>
</tr>
<tr>
<td>Canonical order</td>
<td>Oi +Od+to-Oi</td>
</tr>
<tr>
<td>To-Oi+Od</td>
<td>Oi null + Od</td>
</tr>
<tr>
<td>Od null+to-Oi</td>
<td></td>
</tr>
</tbody>
</table>

Type of ditransitive:

Give me the ball (canonical DOC)
Then give it to me (canonical to-dative)
I give to L apple juice (to-Oi + Od)
He gives to me (canonical to-dative but null Od)

Syntactically ambiguous:

I need to have it given me (Od+Oi)
Give me (null Od + Oi)
Why don’t you give me that clock to mommy, ok? (Oi+Od+to-Oi)
I want to give two dollars (Oi null+Od)
3. The empirical study: Methodology

DATA CLASSIFICATION

-DISCARDED INSTANCES:

• Idioms and collocations
  a. *Give it a push* (Grandmother, Deuchar corpus)- paraphrased as “to push”
  b. *I do not want to give you a kiss* (Leo 3;09, FerFuLiCe corpus)- paraphrased as “to kiss”
• Interruptions
• Ditransitive utterances with the preposition “for” in Oi
3. The empirical study: Results

AGE & ORDER OF ACQUISITION OF DITRANSITIVES

<table>
<thead>
<tr>
<th>TYPE OF DITRANSLIVE CONSTRUCTION</th>
<th>To-dative</th>
<th>Double object</th>
<th>SYNTACTICALLY AMBIGUOUS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Canonical order (Od+to-Oi)</td>
<td>To-Oi+Od</td>
<td>Od null+to-Oi</td>
</tr>
<tr>
<td>Age of 1st production</td>
<td>1:3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Manuela</td>
<td>1:3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Simon</td>
<td>3:06</td>
<td>3:10</td>
<td>3:10</td>
</tr>
<tr>
<td>Leo</td>
<td>3:08</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

-Manuela: canonical to-datives at 1;3 (no evidence of DOCs in her corpus)
  *CHI: mum give it to daddy (Manuela 1;3, Deuchar corpus)

-Simon: canonical DOC at 2;03→to-datives at 3;06
  *SIM: give me Tv (Simon 2;03, FerFuLice corpus)
  *SIM: then give it to me because it is for sharing, ok? (Simon 3;06)

-Leo: canonical DOC at 2;05→to-datives at 3;08
  *LEO: give me farmer (Leo 2;05, FerFuLice corpus)
  *LEO: and if you do not give all of those pieces to me I am going to turn into a big monster and I kill you (Leo 3;08)
3. The empirical study: Results

**AGE & ORDER OF ACQUISITION OF DITRANSITIVES**

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<tr>
<td>Double object</td>
<td>Od null+Oi (to-omission)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age of 1st production</th>
<th>To-Oi+Od</th>
<th>Od null+to-Oi</th>
<th>Od+Oi</th>
<th>Od null+Oi</th>
<th>Od null+Oi</th>
<th>Oi (to-omission)+Od+to-Oi</th>
<th>Oi null+Od</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manuela</td>
<td>1;3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Simon</td>
<td>3;06</td>
<td>3;10</td>
<td>3;10</td>
<td>2;03</td>
<td>0</td>
<td>0</td>
<td>2;07</td>
</tr>
<tr>
<td>Leo</td>
<td>3;08</td>
<td>0</td>
<td>0</td>
<td>2;05</td>
<td>3;09</td>
<td>0</td>
<td>3;08</td>
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**SYNTACTICALLY AMBIGUOUS: SNYDER AND STROMSWOLD’ S (1997) SOLUTION (priority to word order)**

1. **Od-Oi (with to-omission) → classified as to-datives.** Hence, later acquired (confirmed by Leo’s data (“I need to have it given me” at 4;10) than DOCs (“give me farmer” at 2;05).

2. **Od null +Oi (to-omission) → classified as to-datives.** Hence acquired later (confirmed by our results: Leo acquired this pattern later (at 3;09: “give (null Od) me”) than DOCs (at 2;05: “give me Tv”).

3. **Oi null+Od → classified as DOC.** Hence earlier acquired (confirmed by Simon acquired it earlier (“give that!” at 2;07) than canonical to-datives (“give it to me” at 3;06) whereas Leo acquired this pattern (e.g. “and if you do not give back those pieces I am going to call a bee”) concurrently with to-datives at 3;08 (“and if you do not give all of those pieces to me [...]”), as it was not expected.
3. The empirical study: Results

Age-matched language development

-Comparison of 1;3-3;3 age range for the 3 children:

a) **Canonical to-dative:** Simon is more linguistically developed in their acquisition

b) **Canonical double object:** acquisitional development in Simon
3. The empirical study: Results

**MLUw-matched language development**

- **MLUw 1**: Leo is more linguistically developed to produce *canonical DOC* (no cases of DOC in Manuela).
- **MLUw 2**: Manuela is more linguistically developed to utter *canonical to-dative*.

No linguistic development in Simon.

- Only Leo & Simon’s **MLUw 3-9** analysis (as Manuela’s **MLUw** ranges until 2.10):
  - Leo’s *canonical DOCs* linguistic development parallels his **MLUw**. No linguistic maturity displayed in the development of canonical to-datives.
  - Simon’s *canonical DOCs* linguistic development (particularly with **MLUw of 5**)+ *canonical to-dative constructions* (particularly with **MLUw of 9**).
3. The empirical study: Summary of results

- There are differences in age of acquisition: Manuela (canonical to-dative) vs the twins (canonical DOC).
- There is a coincidence in age-matched 1;3-3;3 acquisition: canonical to-dative.
- There are differences in MLUw as opposed to the ditransitive production:

  1. MLUw 1-2: Manuela (canonical to-dative) & Leo (canonical DOC). No evidence in Simon.

  2. MLUw 3-9: The twins have shown canonical DOCs. Only Simon has produced a concurrent linguistic development of both canonical to-datives and DOCs. No evidence found in Manuela.

<table>
<thead>
<tr>
<th></th>
<th>Age of acquisition (1st production)</th>
<th>Age-matched (1;3-3;3)</th>
<th>MLUw-matched (1-2 words)</th>
<th>MLUw-matched (3 to 9 words)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manuela</td>
<td>To-dative (canonical order)</td>
<td>To-dative (canonical order)</td>
<td>To-dative (canonical order: Od +to-Oi)</td>
<td>No evidence found</td>
</tr>
<tr>
<td>Leo</td>
<td>DOC (canonical order)</td>
<td>To-dative (canonical order)</td>
<td>Canonical DOC</td>
<td>DOC (canonical order)</td>
</tr>
<tr>
<td>Simon</td>
<td>DOC (canonical order)</td>
<td>To-dative (canonical order)</td>
<td>N evidence found</td>
<td>D O C (canonical order)</td>
</tr>
</tbody>
</table>
3. The empirical study: Results

The effects of input

-Manuela: canonical to-dative constructions: INPUT (100%) correlates with OUTPUT (100%)
-Leo: canonical DOC: INPUT (58.22%) correlates with OUTPUT (69.77%)
  canonical to-dative: INPUT (34.72%) does not correlate with OUTPUT (9.3%)
-Simon: canonical to-dative constructions: INPUT (34.72%) correlates with OUTPUT (42.55%)
  canonical DOC: INPUT (34.72%) correlates with OUTPUT (46.81%)
4. Conclusions

RQ1. Are ditransitive constructions acquired concurrently observing UTAH (Baker, 1988)?

No, despite the shared thematic roles, our results showed that *to-dative* & DOCs are hierarchically acquired in En/Sp bilingual children:
- Manuela: early acquisition of *to-dative* at 1;3
- Simon & Leo: early acquisition of **DOCs** at 2;03 and 2;05, respectively

RQ2. Are DOCs, concerning Case Theory, derived structures (and subsequently acquired later)?

Not confirmed by our results
- Simon & Leo: early acquisition of **DOCs** at 2;03 and 2;05, respectively
- Manuela: early acquisition of *to-dative* at 1;3 (no production of DOCs in her corpus)
4. Conclusions

RQ3. Is syntactic complexity affecting the order of acquisition of ditransitive constructions?

There’s no agreement in view of our results:

- to-dative as the base (Larson, 1989 and Chomsky, 1955/1975): partially confirmed in Manuela (at 1;3) as she does not produce DOCs to confirm their derivation

- DOC as the base (Borer & Wexler 1967/1986): confirmed in Simon and Leo at 2;03 and 2;05, respectively.

RQ4. Is adult input correlative with the order of acquisition of ditransitive constructions?

The most reliable index affecting the order of acquisition.

- Manuela: HIGH to-dative INPUT → HIGH to-dative OUTPUT
- Simon & Leo: HIGH DOC & to-dative INPUT → HIGH DOC & to-dative OUTPUT
5. Further research

• We will **broaden** our Eng/Sp bilingual children’s **corpora** to draw more standing conclusions.

• We will study **L1 Spanish ditransitive acquisition in the same participants** to confirm if they acquire them concurrently with their L1 English counterpart.

• We will analyze whether **syntactic constructions** which are generated by **the same syntactic process as ditransitives** (e.g. **passives & DOCs**, Larson, 1988) are simultaneously acquired.
THANK YOU

FOR YOUR ATTENTION