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The use of word order alternates in Croatian ditransitives

The role of animacy and givenness

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Roadmap

- Background: ditransitive structures, animacy, and givenness
- Aims of the study(ies)
- Outline of the papers
- Findings and conclusion

Ditransitive structures in Croatian

- All possible word order combinations of verb (V), direct object (DO) and indirect object (IO) in ditransitive sentences are attested, but the variants are not interchangeable, as they depend on pragmatic factors (Siewierska, 1998)
- In Croatian the theme (DO) is marked with the accusative case, the recipient (IO) with the dative case

a.	<i>Marlon je dao loptu Stigu.</i>	(VDI)	DO-IO
	Marlon-NOM is-AUX gave ball-ACC Stig-DAT		
b.	<i>Marlon je loptu dao Stigu.</i>	(DVI)	DO-IO
	Marlon-NOM is-AUX ball-ACC gave Stig-DAT		
c.	<i>Marlon je dao Stigu loptu.</i>	(VID)	IO-DO
	Marlon-NOM is-AUX gave Stig-DAT ball-ACC		
d.	<i>Marlon je Stigu dao loptu.</i>	(IVD)	IO-DO
	Marlon-NOM is-AUX Stig-DAT gave ball-ACC		

Animacy

- **Constant** property of a referent
- **Animate-first** order
- Human > animate > inanimate
- Animate entities are conceptually highly accessible (Branigan et al., 2008)
- Children grasp animacy very easily, and are very attentive to it but this attentiveness decreases with age (Snyder, 2003)

Prototypical and balanced animacy

- **Prototypical animacy** in ditransitives is when the IO is animate and the DO is not
- Majority of naturalistic data

Patka je dala mački jabuku.

Duck-NOM is-AUX gave cat-DAT apple-ACC

- **Balanced animacy**: when both IO and DO have the same animacy value: both animate or both inanimate
- Situation rarely found in naturalistic data, especially in child speech

Slon je poslao miša zecu.

Elephant-NOM is-AUX sent mouse-ACC bunny-DAT

- I do not investigate marked ditransitives: DO-animate and IO-inanimate

Givenness

- **Context-dependent** property of a referent
- [+given] when it is known to the listener
- **Given>new** order (Clark & Haviland 1977)

- **Discourse topic:** topic that bridges over a number of sentences in the same discourse
- in one of the tasks I use DT as discourse and it is seen as a salient form of givenness, as the discourse topic-referent is constantly given and at the centre of attention.

Givenness and word order in child language

- Challenge of taking the listener's perspective into account
- Concept of non-shared assumptions (Schaeffer and Matthewson, 2005): children consider what is known to them as part of the common ground
- The research shows divergent results on whether children take givenness into account
- By focusing on studies that investigated the effect of givenness in ditransitives, we can see that there is **an effect in languages that have dative alternation** (Snyder 2003, Anderssen et al. 2014, Stephens 2015), but still there is a preference for the prepositional dative; while in the **languages with case marking** (Mykhaylyk et al. 2013, Höhle 2014), a **preference for the IO-DO** order is found

Aims of the study

- **Provide insight into how children acquire ditransitive structures in Croatian**
- Investigates how the two object order alternatives (**IO-DO** and **DO-IO**) are used in Croatian with respect to a semantic (**animacy**) and pragmatic (**givenness**) factor
- Fresh approach: considering both animacy and givenness in a series of studies that balance one or both of these factors
- The effects of givenness are also investigated based on **global markers** (object order) and **local markers** (choice of referring expression)
- Child language as the main focus, but it provides insight on ditransitive structures in Croatian in general

Overarching research questions

1. How do children acquire ditransitive structures with regard to variation of the input?
2. What effect do animacy and givenness have on Croatian object order?
3. Are the two factors relevant in the same way in adults and children?

Articles contained in the dissertation

1. Velnić, M. 2018. The influence of animacy, givenness, and focus on object order in Croatian ditransitives. *Studia Linguistica* 72/2
2. Velnić, Marta (accepted). Acquisition of Ditransitive Structures in Croatian Child Language. *FDSL Workshop: L1 Acquisition of syntax in the Slavic languages*, Potsdam, Germany
3. Velnić, Marta (forthcoming). The effects of givenness on word order in Croatian child language: a ditransitive elicitation task. *Journal of Slavic Linguistics*
4. Velnić, Marta (forthcoming). The Effects of Discourse Topic on Global and Local markers in Croatian Ditransitives. *Glossa*

Paper 1: The influence of Animacy, Givenness, and Focus on Object Order in Croatian Ditransitives

The task tested how **animacy** and **givenness**, in addition to **focus**, influence the word order preference of adult speakers of Croatian

Methodology:

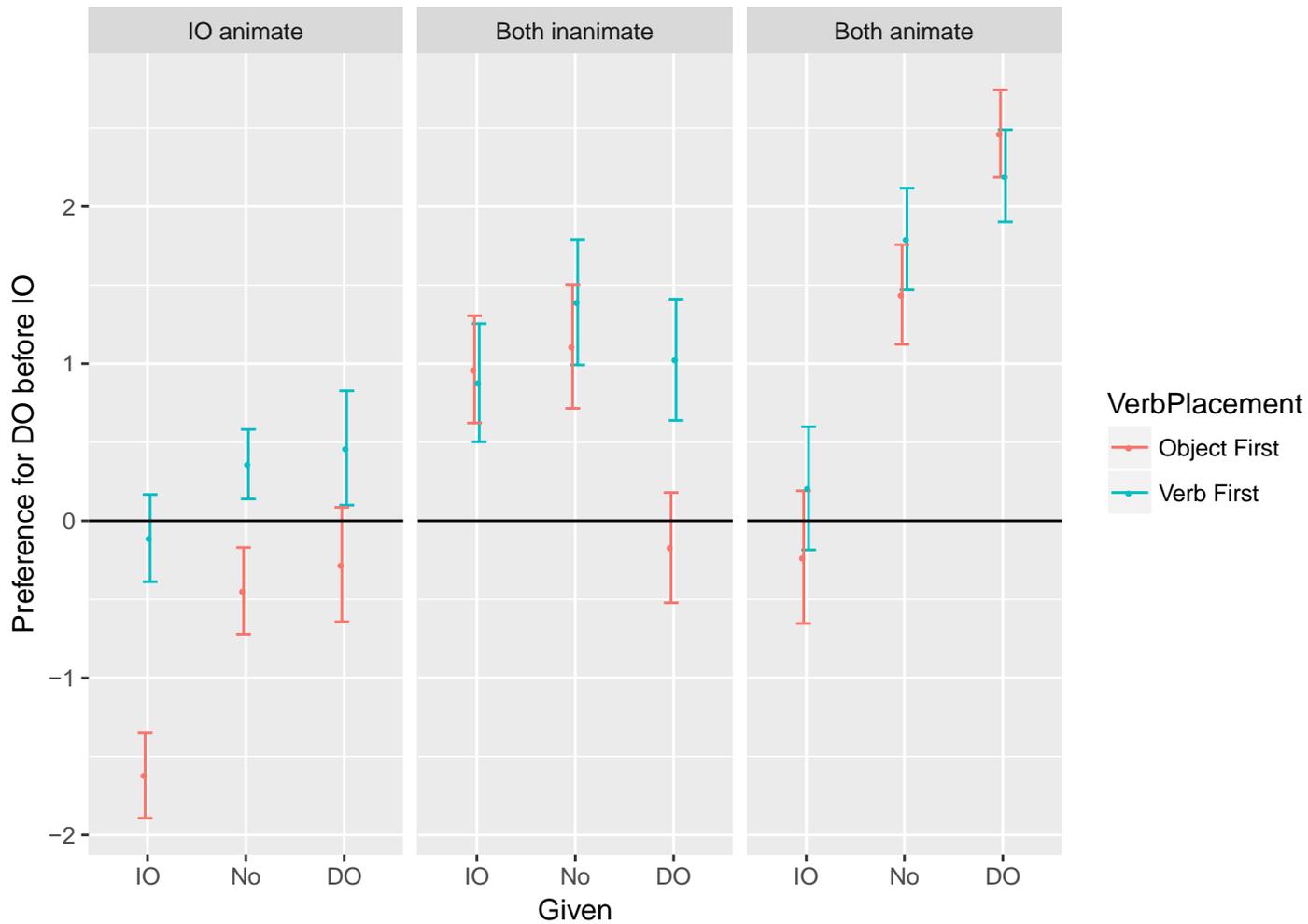
- **Acceptability judgment task (AJT)**
- Four word orders (**VID, IVD, VDI, DVI**) were judged
- Animacy: Prototypical, Balanced (both animate, both inanimate)
- Givenness: Given DO, IO, No given

Participants: 82 adult native speakers of Croatian

Results:

- **DO-IO** is preferred (VDI and DVI to the same extent) when the factors are neutral, also when only animacy is neutral
- VID is the least preferred order (most frequent in naturalistic data)
- Relevance of factors: **Animacy > Givenness**

Paper 1: interaction of animacy and givenness



Paper 2: Acquisition of ditransitive structures in Croatian child language

- This study compared the proportions of the input and the output

Methodology:

- Corpus study
- Occurrences taken from CHILDES (Kovačević 2004), structures in a database (DODB)
- 6 verbs: 'bring', 'give', 'offer', 'sell', 'show', and 'throw'

Participants: 3 children (age range=0;10-3;2) and the adults in the corpus

Results

- **IO-DO** (VID) is most frequently produced by both groups
- IO is mostly expressed as a clitic
- The naturalistic **data is uniformed**: IOs are animate and DOs inanimate, most of the objects are accessible
- Two instances of **new>given** order were found in the child data

Paper 2: distribution of the occurrences based on object order and referring expression

RE	Adult IO-DO	Adult DO-IO	Child IO-DO	Child DO-IO
NP-NP	55	18	0	2
NP-PR	3	0	0	1
NP-CL	0	26	0	6
PR-NP	15	2	25	1
PR-PR	0	3	2	1
PR-CL	0	10	0	8
CL-NP	144	1	170	0
CL-PR	15	0	38	0
CL-CL	12	n/a	4	n/a
Total	244	60	239	19
Total	304		258	



Paper 3: Object Order Variation in Croatian with regard to Animacy and Givenness: A Ditransitive Elicitation Task

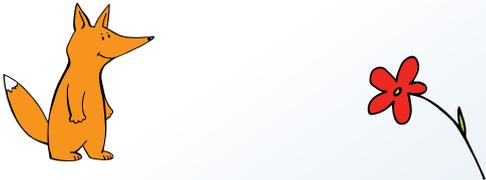
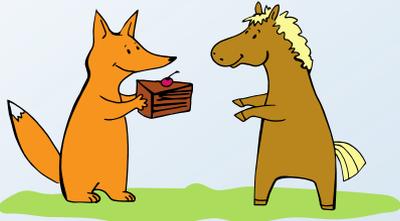
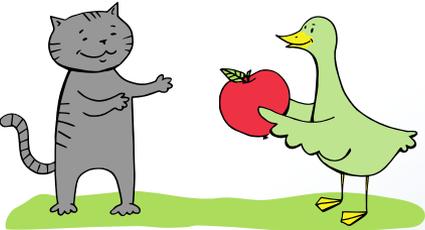
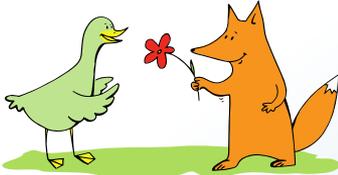
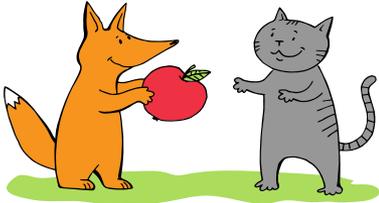
This paper elicits conditions of animacy and givenness that were not provided by naturalistic data.

Methodology:

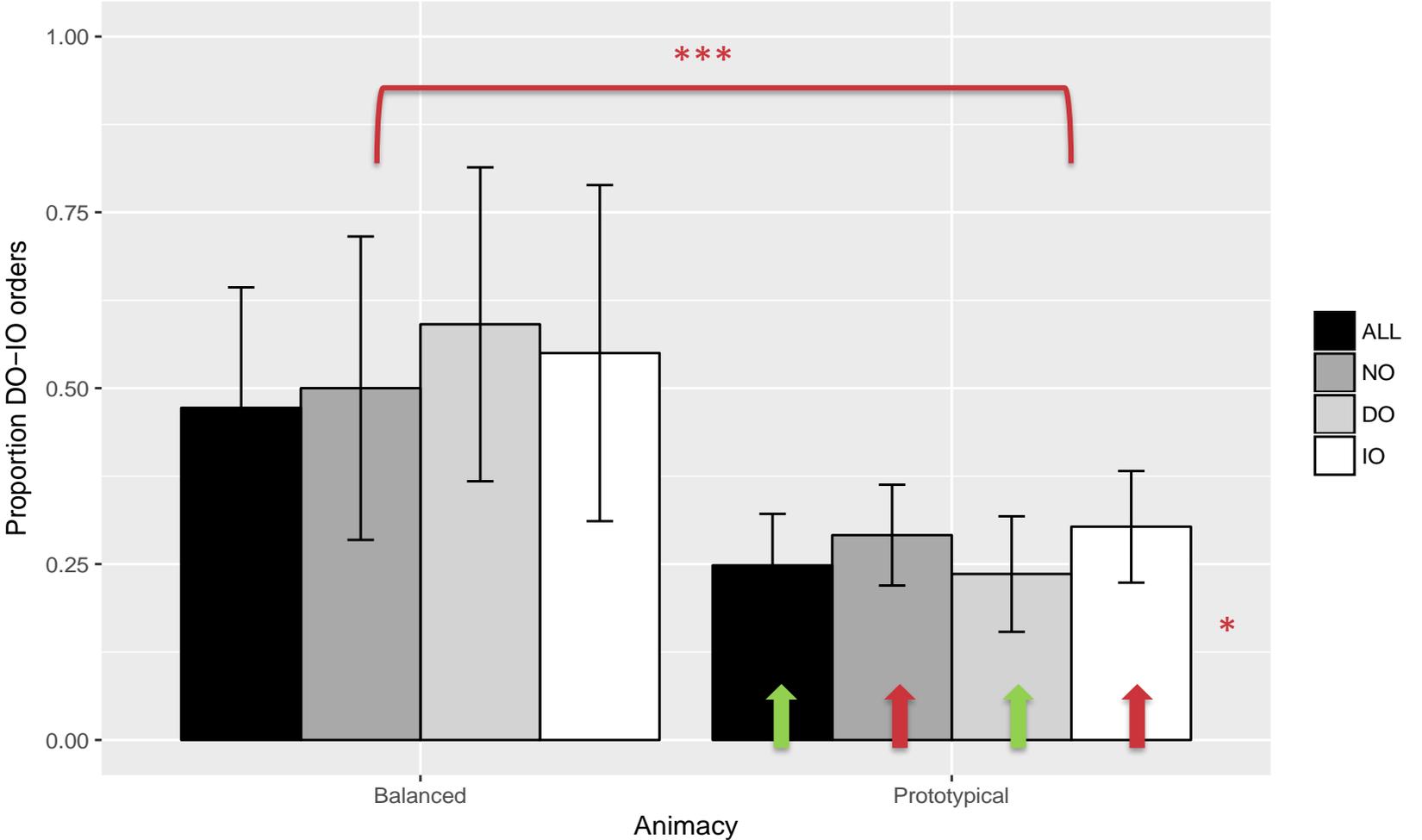
- Production, elicitation task
- Givenness conditions: *No object given*, *DO given*, *IO given*, and *both objects given*;
- Animacy conditions: *prototypical* (IO-animate DO-inanimate) and *balanced* (both animate)
- Verbs: *give*, *offer*, and *show*

Participants: 59 monolingual Croatian children (mean age=4;4) and 36 adult controls (mean age=21)

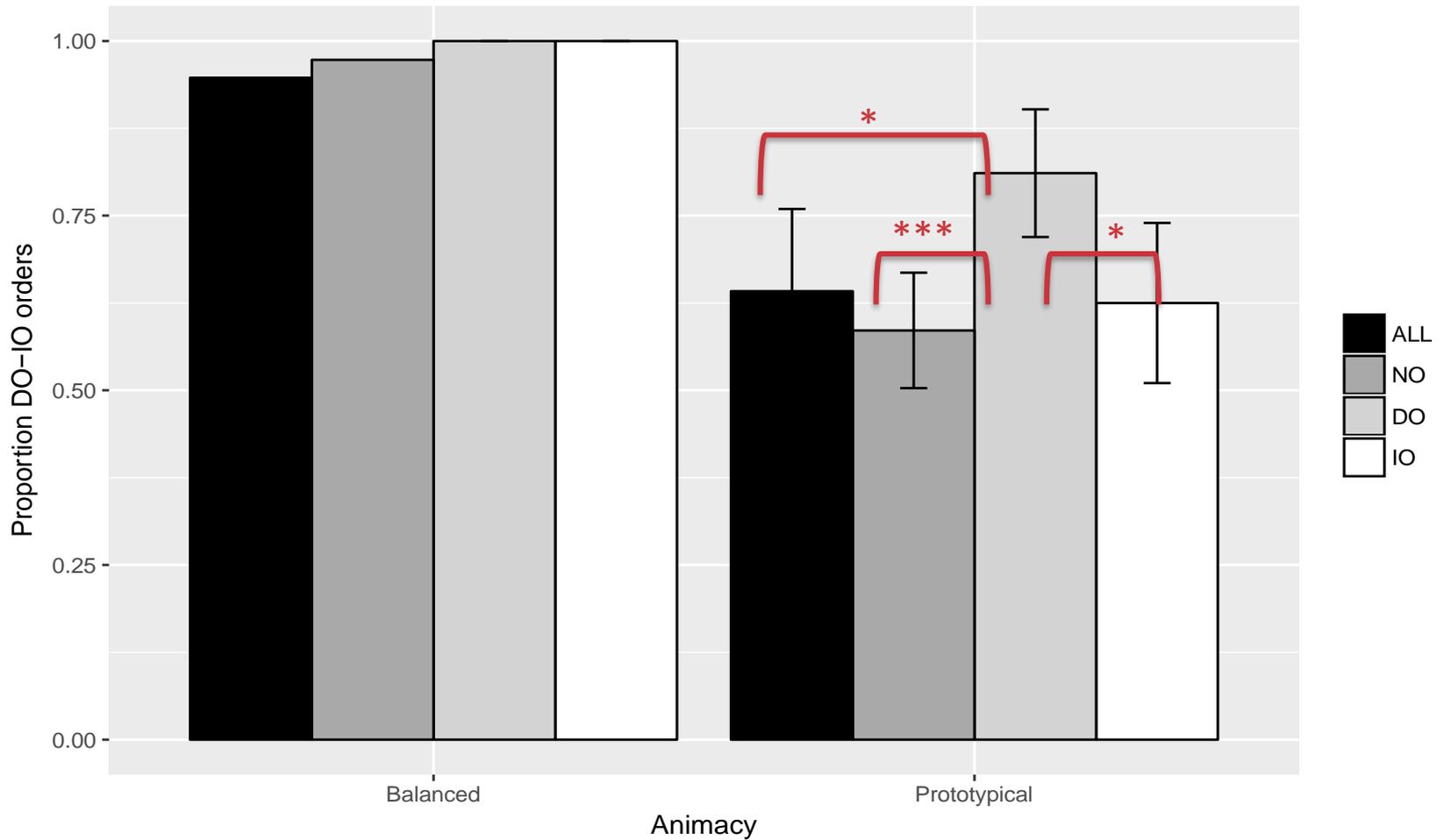
Paper 3: procedure



Paper 3: responses children



Paper 3: responses adults



Paper 3: overall results

- Adults: strong preference for **DO-IO** with balanced animacy
- Children used mostly **IO-DO**, but the proportion decreased significantly when animacy was balanced
- Marginal givenness effect with **given DO**: adults increase DO-IO productions (as expected), children decrease it (new>given)

Paper 4: The effects of discourse topic on global and local markers in Croatian ditransitives

This paper investigates the effect of **discourse topic** (DT) as a more specific representation of the notion of givenness, on object order (global) and referring expression (local)

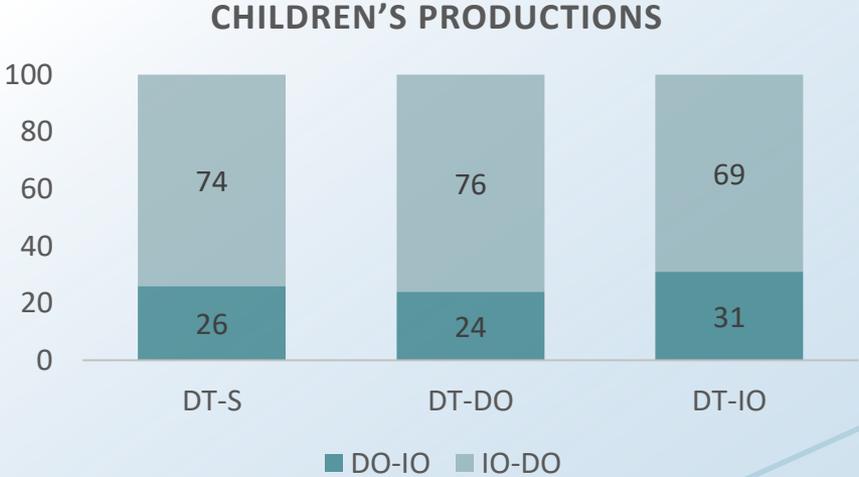
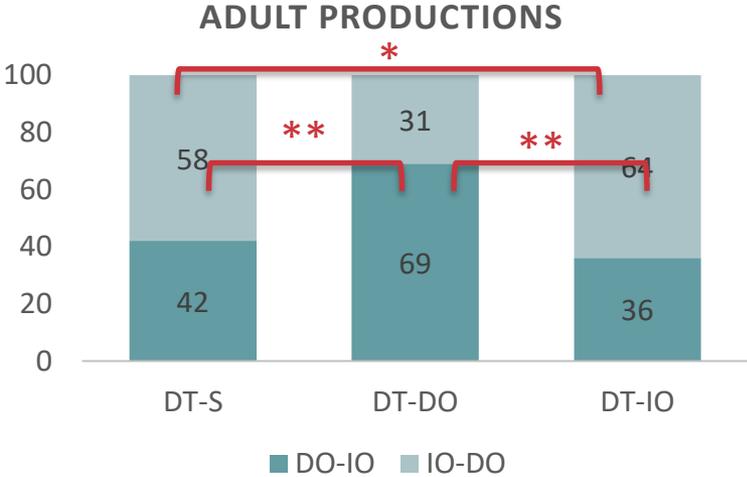
Methodology:

- Elicitation task (story books)
- Three conditions: subject-DT (baseline), IO-DT and DO-DT

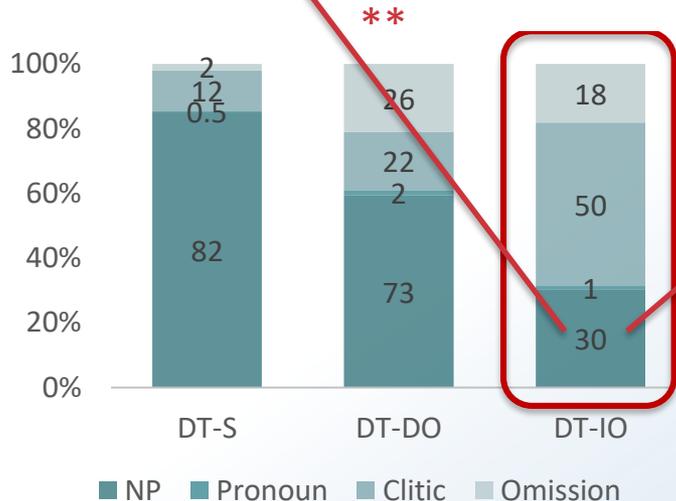
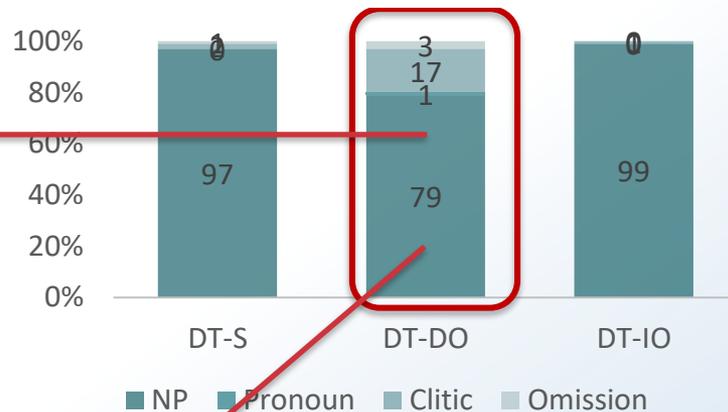
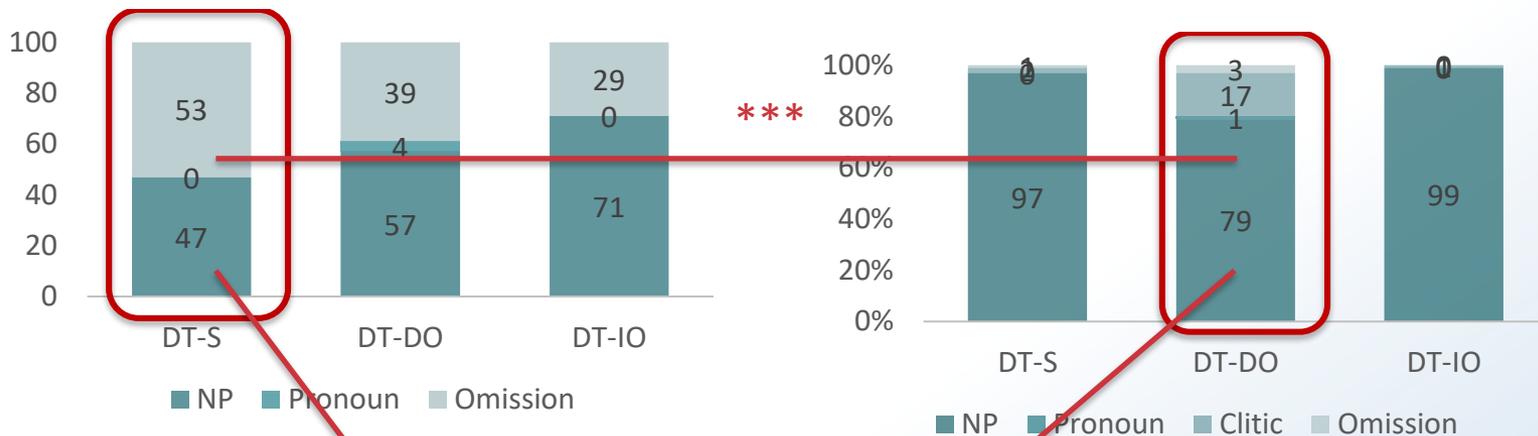


- **Participants:** 58 monolingual Croatian children (mean age= 4;4) and 36 adult controls (mean age=21)

Paper 4: Global marking results

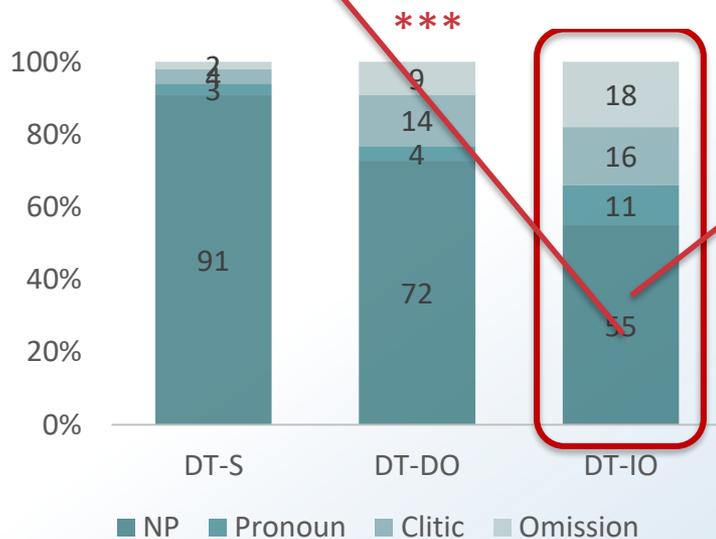
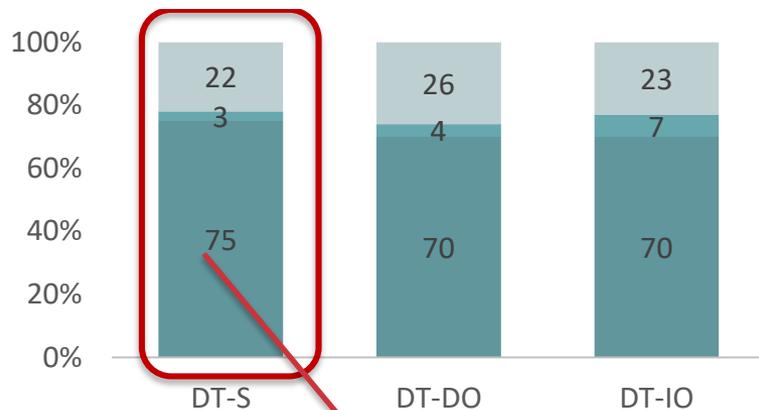


Paper 4: Local markings with regard to DT (adults)



	Odds. ratio	p.value
DT-S vs. DT-IO	1.081	0.0057
DT-S vs. DT-DO	-1.949	0.0007
DT-IO vs. DT-DO	-3.030	<0.0001

Paper 4: local markings with regard to DT (children)



	Odds. ratio	p.value
DT-S vs. DT-IO	1.349	0.0001
DT-S vs. DT-DO	-0.040	0.9964
DT-IO vs. DT-DO	-1.389	0.002

Paper 4: overall results

- A DT influences **word order in adults**, children use IO-DO in the same proportion in the task
- An effect on **Referring Expressions** was found in **both groups**
- Children use more omissions and more NPs than adults
- The use of RE is related to argument type

Main findings of the dissertation

- **Discrepancy** between production (naturalistic data and elicitation) and acceptance: VID is frequently produced but has a low acceptance rate
- When animacy is neutral, DO-IO surfaces as an **underlying order** (adults)
- Children do not display this preference yet as both object orders are used with balanced animacy (paper 3)
- Children's productions are more animacy-driven than adult productions (higher proportion of IO-DO throughout the tasks)
- At a **global level**, givenness had no effect on children but it did on adults (papers 3 and 4); it had a clearer effect at a **local level** for the children (paper 4)

Comparison of adults and children

	Adults	Children
Most frequently used word order	IO-DO	IO-DO
New>given order	No	Yes
Givenness effect on WO	Yes	No
Givenness effect on RE	Yes	Yes
Animacy effect on WO	Yes	Yes (stronger)
Animacy effect on RE	No	Yes

Conclusions

- Children are sensitive to the variation in the input as they use both object orders, but they are sensitive to the two factors differently than adults
- Animacy is a stronger factor than givenness
- My results show how strongly animacy shapes the naturalistic data of ditransitive structures, but also how exposure to the predominant IO-DO order does not alter the production for DO-IO when the triggers of movement (mostly animacy) are absent
- The DO-IO surfaces (especially in the adult data) when there are no factors that trigger movement of the IO across the DO: indication for being the underlying order
- Marking of givenness starts at a local level

Possible future directions

- Test older children (school age) and see if givenness has started to have an effect on global markers
- Balance for animacy in other case marking languages and see if the IO-DO preference prevails
- Test if animacy has the same effect on word order even in languages that have dative alternation

Thank You!

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