

POSTERS PRESENTATIONS SESSION 2

Khawla Aljenaie and Abbas Benmamoun

The acquisition of Kuwaiti Arabic Questions: The Movement and In-Situ Strategies (p.4)

Nikolaos Angelopoulos Arhonto Terzi and Dafni Bagioka

Exploring Syntactically Encoded Evidentiality (p. 6)

Guro Busterud Anne Dahl and Kjersti Faldet Listhaug

Acquisition of verb placement in L3 French (p. 8)

Anna Cardinaletti, Sara Cerutti and Francesca Volpato

Clitic pronouns in Italian school-age TD and SLD children: Case Person and placement with restructuring verbs (p.10)

Francesca Costa and Maria Teresa Guasti

Double literacy effects on language and reading skills in Italian-English primary school children (p.12)

Silvia D'Ortenzio and Francesca Volpato

The assessment of movement-derived structures in Italian-speaking children with cochlear implants through a sentence repetition task (p.13)

Lena Dal Pozzo and Alex Craincross

The Acquisition of Postverbal New Information Subjects in Italian (p.15)

Rodrigo Delgado

The mesa: A phonetic analysis of code-switched Determiner Phrases in heritage speakers of Spanish in Chicago (p. 17)

Naama Friedmann, Adriana Belletti, Julia Reznick and Luigi Rizzi

Growing trees: On the order of acquisition of the left periphery and the functional structure of the clause (p.19)

Aijun Huang, Jingjing Li and Luisa Meroni

Collectives in Mandarin Chinese: contextual and grammatical factors (p. 22)

Takayuki Kimura and Takaaki Hirokawa

Exploring the Syntactic Structure of Silence in Japanese-English Inter-language (p.24)

Nadine Kolb, Natalia Mitrofanova and Marit Westergaard

Crosslinguistic influence in child L3 acquisition: German-Russian bilinguals acquiring English (p. 26)

Loes Koring, Cory Bill, Rosalind Thornton and Stephen Crain

Disjointness in Child Language (p.28)

Daixin Li, Xiaolu Yang, Tom Roeper, Michael Wilson, Rong Yin, Claudia Manetti and Carla Contemori

Acquisition of re-cursion in child Mandarin (p.30)

Claudia Manetti and Carla Contemori

The production of Object Relative clauses in Italian-speaking children: a syntactic priming study (p.32)

Fabienne Martin, Hamida Demirdache, Isabel García del Real, Angeliek van Hout and Nina Kazanina

Children's Non-Adult-like Interpretations of Telic Predicates across Languages (p.34)

Elena Pagliarini, Marta Andrada Reyes, Stephen Crain and Anna Gavarró

The acquisition of negative disjunctive sentences in Catalan from both a logical and a pragmatic perspective (p.37)

Daniele Panizza and Maik Thalmann

Adults are not always faster than children. An eye-tracking study on the online comprehension of Indirect Scalar Implicatures (p.39)

Tom Roeper and Bart Hollebrandse

Below Elementary Merge. An iPad Game on the Acquisition of PP-recursion (p. 41)

Lina Rouvoli, Vina Tsakali and Nina Kazanina

The development of Counterfactuals: comparative evidence from English and Greek (p. 43)

Neal Snape, Makiko Hirakawa and John Matthews

Japanese and Thai L2 acquisition of English tense and aspect agreement (p.45)

Irina Stoica

Lexical and pragmatic factors in the acquisition of extraction in L2 English (p.47)

Mirta Vernice, Marta Tironi, Martina Caccia and Daniela Sarti

Reading comprehension in adolescents with L2 Italian: the role of degree of bilingualism (p. 49)

Antonio Verolino

Online processing of adjective placement in L2 Italian: data from picture-sentence matching (p. 51)

Sofja Volkova, Raffaella Folli, Christina Sevdali and Juliana Gerard

Comprehension of morphological case: evidence from Russian (p. 53)

Merle Weicker

Is everything either big or small? Evidence from children's judgements of relative gradable adjectives (p. 55)

Magdalena Wojtecka

Acquisition of subordinate clauses in early second language learners of German (p. 57)

Jiangling Zhou and Virginia Yip

Cross-linguistic Influence in the Interpretation of Lexically Unrealized Objects by Cantonese-English Bilingual Children (p.59)

The acquisition of Kuwaiti Arabic Questions: The Movement and In-Situ Strategies

This first study that examines the development of *wh*-questions in Kuwaiti Arabic (KA) child language focusing on the strategies of question formation: *wh*-movement and *wh*—in-situ. Like a number of Arabic dialects (Aoun et al. 2010), KA displays two strategies for forming questions, the movement strategy (1a) and the in-situ strategy (1b).

1a. *wein il-walad naam*
where the- boy slept
'Where did the boy sleep?'

1b. *il-walad naam wein*
the-boy slept where
'Where did the boy sleep?'

In the movement strategy, the interrogative particle or phrase is fronted (to a position characterized as a complementizer phrase within the Principles and Parameters framework) but in the in-situ strategy the interrogative particle or phrase is left in the original position. Besides there are no pragmatic/semantic differences in the use of fronted *wh* or in-situ *wh* in KA. Children learning a language such as KA are exposed to more than one type of *wh*-structure in their input which differs in form but not in interpretation, and such language provides a valuable testing ground for issues related to the acquisition of *wh*-question formation raises the question of which strategy emerges first., since both movement and in-situ options are available.

In this longitudinal study, the files of five Kuwaiti children (age range 1;8-2;6) were divided into three periods in order to mark the development more easily (Tables 1a-1e). The tables focus on two *wh*-words that allow the two positions and were present in the data of all five children. Excluding echo questions, only 3% of questions were in-situ and the other 97% showed *wh*-movement which seems to be used from the first sessions and the preferred strategy. Further, the data of the mother of two of the participants (AMD & BDR) show that *wh*-movement predominates in the input (84%) while *wh*-in-situ is less frequent (5%) while the 11% were mainly using bare *wh*-elements. The children seem to be displaying the same patterns as their parents.

Economy-Based Markedness (EBM; Hulk and Zuckerman 2000; Zuckerman and Hulk 2001) claims that children employ principles of economy to resolve evident optionality in the input. At early stages of development, children adopt the more economical option. They do not acquire their preferences based on the input, but rather by integrating two aspects: the input and their tendency for economy (Zuckerman and Hulk 2001). The prediction would be that acquiring *wh*-questions will reflect two stages: the marked fronted *wh*-questions will appear later than less marked in-situ questions.

In this study, *wh*-movement is manifested early in child KA, and there is no stage reflecting a preference for *wh*-in-sit which speaks strongly against EBM. These children acquire *wh*-movement prior to *wh*-in-situ which also happen to be the more frequent forms in the input. In the view of the preferred use of the question words involved *wh*-movement, we can conclude that in situations where two structures with different derivation that has the same interpretation, the least economical question structure used early and preferably by the five children during the study period. It seems that children grammar is not driven by economy

Table 1a: The use of *wh*-questions, MHD

Age	<i>wein</i> 'where'		<i>šono</i> 'what'	
	M	I	M	I
1;8.20-1;11.2	5			
2;0.09-2;1.20	5		3	
2;2.20-2;2.26	19		3	
Total	29		6	

Table 1d: The use of *wh*-questions, BDR

Age	<i>wein</i> 'where'		<i>šono</i> 'what'	
	M	I	M	I
1;11.28-2;2.22	50	1	2	
2;3.07-2;4.25	101	1	8	
2;5.06-2;6.06	72		3	
Total	223	2	13	

Table 1b: The use of *wh*-questions, SAR

Age	<i>wein</i> 'where'		<i>šono</i> 'what'	
	M	I	M	I
1;11.23-2;1.20	4		1	
2;2.02-2;3.28	2		1	
2;4.14-2;5.23	12	1	1	1
Total	18	1	3	1

Table 1e: The use of *wh*-questions, OSM

Age	<i>wein</i> 'where'		<i>šono</i> 'what'	
	M	I	M	I
2;0.17-2;1.08	12			
2;2.15-2;4.10	23			
2;4.21-2;6.07	50	1	1	
Total	85	1	1	

Table 1c: The use of *wh*-questions, AMD

Age	<i>wein</i> 'where'		<i>šono</i> 'what'	
	M	I	M	I
1;11.28-2;2.22	43			
2;3.07-2;4.19	93	3	1	2
2;4.25-2;6.06	52		10	
Total	188	3	11	2

Selected References

- Aoun, J., Benmamoun, E. and Choueiri, L. (2010). *Arabic Syntax*. Cambridge: Cambridge University Press.
- Hulk, A. and Zuckerman, S. (2000). The interaction between input and economy: acquiring optionality in French *Wh*-Questions. In: Catherine Howell, Sarah A. Fish, and Thea Keith-Lucas, *BUCLD Proceedings 24*: 438-449.
- Zuckerman, S. and Hulk, A. (2001). Acquiring optionality in French *Wh*-questions: an experimental study. In *Revue québécoise de linguistique*, Volume **30**, numéro 2, 2001, p. 71-97.

Introduction This study is concerned with the acquisition of evidentiality, namely, the ability to encode in grammar the speaker's source of evidence for a proposition (Aikhenvald 2003). Comprehension of structures encoding evidentiality, either morphologically (Korean, Turkish, Papafragou et al. 2007; Aksu-Koç et al. 2009 respectively), or syntactically (English, Rett & Hyams 2014; Winans et al. 2015), has been found to lag behind production. This study presents results from the comprehension of evidentiality in Greek which, like English, encodes evidentiality syntactically. We employ a novel task, assessing children's discrepancies in comprehending indicative, (1b), vs. (pseudo)relative clauses, (1c). Indicatives convey either direct or indirect evidence, while relatives only direct. Our findings suggest that there is a critical point after which children clearly associate indicatives with indirect evidence, namely, after 9. The age at which children comprehend syntactically encoded evidentiality is a new finding. Nonetheless, given that, on the basis of naturalistic data, English-speaking children are believed to acquire evidentiality by age 2-3 (Rett et al. 2013), we consider whether our findings reflect indeed late mastery, or are an experimental artifact.

The experiment The picture-selection task we developed comprised the following four conditions, tested in six blocks, with sentences pseudorandomized within conditions and the target pictures pseudorandomized within the task. Each block of four sentences employed the same verb and characters, but sentences differed in terms of evidence as below.

- | | |
|-----------------------------------|----------------------------------|
| (i) Indicatives–Indirect evidence | (ii) Relatives–Indirect evidence |
| (ii) Indicatives–Direct evidence | (iv) Indicatives–Direct Evidence |

Participants were familiarized with direct and indirect evidence (e.g. of someone painting or just the painting respectively, Figure 1). They were then shown sets of three pictures (two open pictures and one hidden, Figures 2-3), and received (1a), followed by either (1b) or (1c). Participants' task was to identify the open picture that best corresponded to their intuition and, if neither was suitable, to uncover the third. For Figure 2 the open picture, depicting direct evidence, is the only option for relatives. Indicatives are compatible with either the open picture, or the covered picture, depicting indirect evidence, which participants could optionally uncover. For Figure 3, the open picture, depicting indirect evidence, is an option for indicatives, but not for relatives, hence the third picture had to be uncovered for the latter.

Results and Discussion Column 1 of Table 1 shows clause type, and Column 2 evidence type, while the rest of the Table reports the extent to which participants associated relatives or indicatives with *indirect* evidence. Comparing (i) vs. (ii) crucially demonstrates that only after 4th grade children's grammar aligns with adult grammar, in being satisfied with indicative clauses, by contrast to relatives ($p=.000$), for conveying indirect evidence. Hence, comprehension of syntactically encoded evidentiality is mastered only after age 9. Younger children's errors do not reflect reluctance to open the third picture, as we assessed familiar spatial relations with the same task and children had ceiling performance. The 17,23% adult error in associating relatives with indirect evidence appears to be a performance/familiarization error that characterizes the first 3 or 4 blocks of sentences, while performance is always at ceiling on the last two blocks. Even older children, on the other hand, did not have ceiling performance in any of the last blocks.

- (1) a. Dikse mu tin ikonapu dichni ...
show me the picture which shows
'Show me the picture that shows...'
- b. *oti kapjos zografise enan pinaka* Indicative Clause (IND)
that somebody drew-3Sg. a drawing
- c. *kapjon pu zografise enan pinaka* Relative Clause (REL)
somebody that drew-3Sg. a drawing

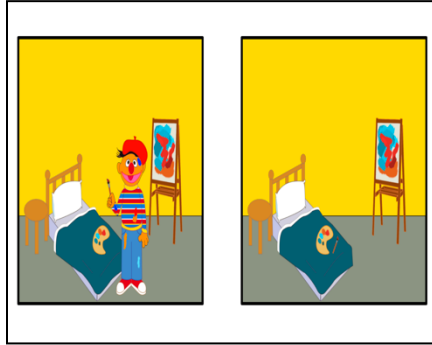


Figure 1

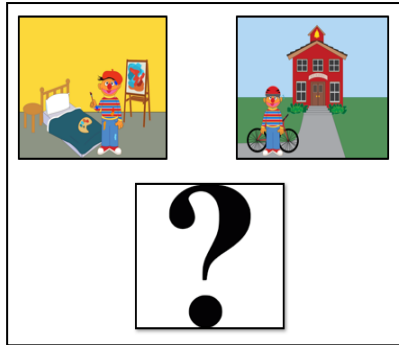


Figure 2

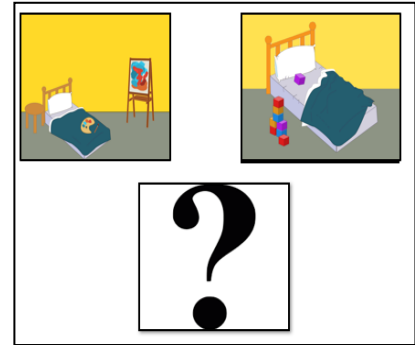


Figure 3

Table 1: Acceptance rate

Conditions	Clause Type (1)	Evidence (2)	2 nd Grade M age:7;10 n=25	3 rd Grade M age: 8;10 n=25	4 th Grade M age:9;10 n=25	5 th Grade M age:11;0 n=25	Adults n=30
(i)	IND	Indirect	79,33%	65,33%	70,00%	72,67%	77,23%
(ii)	REL	Indirect	76,00%	54,67%	26,67%	24,67%	17,23%

References

- Aikhenvald, A. Y. 2004. *Evidentiality*. OUP.
- Aksu-Koç, A., H. ÖgelBalaban, & I.E. Alp. 2009. Evidentials and source knowledge in Turkish. *New Directions for Child and Adolescent Development* 125:13–28.
- Murray, S. E. 2017. *The Semantics of Evidentials*. OUP
- Papafragou, A., P. Li, Y. Choi, & C. Han. 2007. Evidentiality in language and cognition. *Cognition* 103:253–299.
- Rett, J., N. Hyams, & L. Winans. 2013. The effects of syntax on the acquisition of evidentiality. In *Proceedings from the 37th Annual Boston University Conference on Language Development*.
- Rett, J. & N. Hyams. 2014. The Acquisition of Syntactically Encoded Evidentiality. *Language Acquisition: A Journal of Developmental Linguistics* 21:173–198.
- Winans, L., Hyams, N., Rett, J. and Kalin, L., 2015. Children's comprehension of syntactically encoded evidentiality. In *Proceedings of the 45th North East Linguistic Society Conference*.

Acquisition of verb placement in L3 French

We present results from a study of L3 French word order acquisition in L1 Norwegian speakers with L2 English. Norwegian has V2 word order in both non-subject initial main clauses (1b) and main clauses with sentence adverbials such as *always* (2b) due to verb movement to C in all main clauses, while English has V3 order in both sentence types (1a and 2a), presumably due to lack of verb raising. French, which has verb movement to I, patterns with English surface structure in having V3 in non-subject initial clauses (1c) below but with Norwegian in having V2 in main clauses with sentence adverbials (2c).

L3 models assuming wholesale transfer of the grammar of a previously acquired language would thus presume facilitative transfer for one structure and non-facilitative for the other: Models assuming transfer from L1 (Hermas, 2010) would predict non-facilitative transfer for non-subject initial clauses, but facilitative transfer for sentence adverbials, while models assuming transfer from L2 (e.g. Bardel & Falk, 2012) would predict the opposite. Models assuming that typological similarity determines transfer of entire systems (e.g. Rothman, 2015) would probably predict transfer from L2 English, since French can be argued to be structurally more similar to English than to Norwegian. Models assuming that transfer is always facilitative (Flynn, Foley & Vinnitskaya, 2004) would predict L1 transfer for the sentence types in 1 and 2 alike. Models allowing for transfer on an item-to-item basis (Slabakova, 2017; Westergaard et al., 2017) might open up for more complex transfer patterns. Previous research (e.g. Stadt, Hulk & Sleeman 2016, 2018) has found evidence of transfer of V2 from L1 Dutch into L3 French, in addition to V3 transfer from L2 English in participants with high exposure to English. This is also in line with the common assumption that a given structure must be in place in the L2 to be available for transfer into L3.

We investigated high-school students (age 16-17) having learned L3 French for 0.5-4.5 years (n=175). Acceptability judgment tests with 48 sentences (24 targets, 24 fillers) were administered in both L2 and L3.

For both sentence types described in 1c and 2c below, results show uncertainty rather than a clear preference for either V2 or V3 at the early stages. At later stages, there is development toward more target-like performance on the sentence type in 1c, i.e. rejection of V2 and acceptance of V3 with topicalization. For the sentence type in 2c, on the other hand, development seems to lag behind, with lingering acceptance for V3 sentences, i.e. the English pattern. While this suggests transfer from L2, possibly due to conflicting evidence from the sentence type in 1c, this potential L2 transfer does not seem to be associated with higher L2 proficiency. Furthermore, it does not seem that acceptance of V3 with French sentence adverbials depends on this specific structure being robustly in place in L2, as there is no correlation between acceptance of V3 with sentence adverbials in English and in French.

Thus, our results do not neatly fit into any model of transfer of L3, nor are they entirely in line with previous research. We discuss the pattern of results discussed in light of theories of transfer, and possible developmental trajectories are explored.

Examples

- 1) a. *On Mondays I eat* pizza. (*Topicalized element, subject, verb*)
b. *På mandager spiser jeg* pizza.
c. *Le lundi, je mange* du pizza.
- 2) a. *I always eat* at 7 o'clock. (*Sentence adverbial, subject, verb*)
b. *Jeg spiser* alltid klokka 7.
c. *Je mange* toujours à 7 heures.

References

- Bardel, C., & Falk, Y. (2012). The L2 status factor and the declarative/procedural distinction. In J. C. Amaro, S. Flynn, & J. Rothman (Eds.), *Third language acquisition in adulthood* (pp. 61-78). Amsterdam/Philadelphia: John Benjamins.
- Flynn, S., Foley, C., & Vinnitskaya, I. (2004). The Cumulative-Enhancement Model for language acquisition: Comparing adults' and children's patterns of development in first, second and third language acquisition of relative clauses. *International Journal of Multilingualism*, 1(1), 3-16. doi:10.1080/14790710408668175
- Hermas, A. (2010). Language acquisition as computational resetting: verb movement in L3 initial state. *International Journal of Multilingualism*, 7(4), 343-362. doi:10.1080/14790718.2010.487941
- Rothman, J., & García Mayo, M. d. P. (2015). Linguistic and cognitive motivations for the Typological Primacy Model (TPM) of third language (L3) transfer: Timing of acquisition and proficiency considered. *Bilingualism*, 18(2), 179-190. doi:10.1017/S136672891300059X
- Slabakova, R. (2017). The scalpel model of third language acquisition. *International Journal of Bilingualism*, 1367006916655413. doi:10.1177/1367006916655413
- Stadt, R., Hulk, A., & Sleeman, P. (2016). The influence of L2 English and immersion education on L3 French in the Netherlands. 33(1), 152-165. doi:10.1075/avt.33.11sta
- Stadt, R. T., Hulk, A. C. J., & Sleeman, A. P. (2018). The Role of L2 Exposure in L3A: A Comparative Study between Third and Fourth Year Secondary School Students in the Netherlands. In *Romance Languages and Linguistic Theory* (Vol. 13) (pp. 279-296). Nijmegen: John Benjamins.
- Westergaard, M., Mitrofanova, N., Mykhaylyk, R., & Rodina, Y. (2017). Crosslinguistic influence in the acquisition of a third language: The Linguistic Proximity Model. *International Journal of Bilingualism*, 21(6), 666-682. doi:10.1177/1367006916648859

Clitic pronouns in Italian school-age TD and SLD children: Case, Person, and placement with restructuring verbs

This paper investigates the acquisition of clitic pronouns in simple and complex sentences containing restructuring verbs. We tested Italian school-age typically-developing (TD) children and children diagnosed with a Specific Learning Disorder (SLD). We analyse the influence of case and person on accuracy to verify whether 3rd person ACC clitics are most demanding, as is the case in French (Tuller et al. 2011). For restructuring sentences (Rizzi 1978), we also analyse clitic placement and whether there is a preference for either the proclitic or the enclitic position, where proclisis means a longer dependency than enclisis and the functional analysis of restructuring verbs in mono-clausal structures (Cinque 2004).

1. By the age of 5, children master the complex properties of clitic pronouns. Children who produce a scarce amount of 3rd person clitics at the age of 5 (and higher ages) are most likely to be diagnosed with a developmental language disorder (Bortolini et al. 2006; Pozzan 2007; Arosio et al. 2010, 2014). Children diagnosed with a SLD may also struggle with these structures (Guasti 2013; Zachou et al. 2013; Del Puppo, Pivi 2015; Arosio et al. 2016).

2. During the first stages of acquisition, 3rd person ACC clitics may be omitted or substituted with NPs; placement errors are extremely rare in L1 acquisition, but observed in bilingual/L2 acquisition (Guasti 1993; Cipriani et al. 1993; Hamann, Belletti 2006; Vender et al. 2016; Bernardini, Timofte 2017; Bernardini, van der Weijer 2018). For Italian, we know little on the acquisition of DAT and 1st and 2nd person clitics (Pozzan 2007).

3. Literature on the acquisition of clitic pronouns still lacks a systematic study of clitic placement with restructuring verbs in Italian, and only sporadic observations on proclitic vs. enclitic placement are found (Antelmi 1997, Bernardini, van der Weijer 2018).

4. 63 monolingual school-age Italian children took part in our experiment (age 6;6-9;11, mean 8;6), 12 of whom are diagnosed with a SLD and 6 are suspected of having a SLD. 16 adults (age 20-28; mean 24) served as a control group. The experimental procedure included two tests: an elicited production task checking whether children produce 3rd person ACC and DAT clitic pronouns, and a repetition task of sentences containing restructuring verbs that allows us to manipulate clitic placement, something which could not be easily done through an elicited production task. The repetition test consists of 49 sentences containing 1st, 2nd, and 3rd person ACC and DAT clitics, and 6 fillers of the same length. The sentences contain 1 or 2 restructuring modal and motion verbs; clitic pronouns occur in the 2 (proclitic vs. enclitic) or 3 available positions (proclitic vs. enclitic/intermediate vs. enclitic/final) (see (1)).

5. Results show that children with SLD are less accurate than TD children, replicating previous results. Both TD children and children with SLD produce more DAT than ACC pronouns, with different error types in the two cases. In repetition, case and person features on the clitic do not influence accuracy. Both groups of children perform significantly better in the repetition of sentences (i) with 2 verbs and (ii) with proclitic pronouns. When children produced misplacement errors, clitics were moved from enclitic to proclitic position in sentences with 2 verbs and from final to intermediate position in sentences with 3 verbs. These changes were not observed in repetitions by adults, who instead sporadically moved the clitic pronoun from intermediate to final position (2). Ungrammatical clitic placement, as in (3), was not found in any group.

6. Both TD children and children with a SLD are able to process long-distance chains in clitic climbing and show a preference for mono-clausality. While repeating sentences with 3 verbs, some children disprefer the final position but do not move the clitic all the way up. Some version of the Derivational Complexity Hypothesis (Jakubowicz 2011) seems to be operative, forcing enclisis on the intermediate verb and an analysis of the highest verb as lexical (Cardinaletti, Shlonsky 2004).

Example of item in the repetition task

- (1)a. **Mi** deve passare a prendere dopo la lezione.
b. Deve passar**mi** a prendere dopo la lezione.
c. Deve passare a prender**mi** dopo la lezione.
“He has to pick me up after class.”

Example of error in the repetition task

- (2)a. Target: Deve venirm**i** a ripetere tutto di nuovo.
b. Produced: Deve venire a ripeter**mi** tutto di nuovo.
“She has to come to repeat to me everything again.”
(3) *Deve **mi** venire a ripetere tutto di nuovo.

Selected References

- Antelmi D. (1997). *La prima grammatica dell'italiano*. Bologna, Il Mulino.
- Arosio F. et al. (2014). Failure to produce direct object clitic pronouns as a clinical marker of SLI in school-aged Italian speaking children. *Clinical Linguistics & Phonetics* 28, 639-663.
- Arosio F. et al. (2016). Morphosyntax and logical abilities in Italian poor readers. *First Language* 36, 295-315.
- Bernardini P., Timofte M. (2017). Cross-Linguistic Influence in the Bilingual Acquisition of Object Clitics: A Matter of Complexity? *Syntactic Complexity from a Language Acquisition Perspective*, 206-232.
- Bernardini P., van der Weijer J. (2018). On the direction of cross-linguistic influence in the acquisition of object clitics in French and Italian. *Language, Interaction and Acquisition* 8.
- Bortolini U. et al. (2006). Clinical markers for specific language impairment in Italian: the contribution of clitics and non-word repetition. *International Journal of Language and Communication Disorders* 41, 695-712.
- Cardinaletti A., Shlonsky U. (2004). Clitic positions and restructuring in Italian. *LI* 35.
- Cinque G. (2004) Restructuring and Functional Structure, in A. Belletti (ed), *Structures and Beyond*, OUP, 132-191.
- Cipriani P. et al. (1993). *L'acquisizione della morfosintassi in italiano*. Unipress.
- Del Puppo G., Pivi M. (2015). Un compito di produzione elicitata per la valutazione dell'italiano parlato: le frasi passive e le frasi attive con pronomi clitici. *SILTA* 44, 437-448.
- Guasti M.T. (1993). Verb syntax in Italian child grammar: Finite and nonfinite verbs. *Language Acquisition* 3, 1-40.
- Guasti M.T. (2013). Oral skills deficit in children with Developmental Dyslexia. In *Advances in Language Acquisition*. CSP.
- Hamann C., Belletti A. (2006). Developmental patterns in the acquisition of complement clitic pronouns. *RGG* 31, 39-78.
- Jakubowicz, C. (2011). Measuring derivational complexity: New evidence from typically developing and SLI learners of L1 French. *Lingua* 121, 339-351.
- Pozzan L. (2007). The dissociation between clitics and determiners in a group of Italian SLI children. In *Proceedings of the 8th CUNY-SUNY-NYU Mini-conference*, LIBA.
- Tuller L. et al. (2011). Clitic pronoun production as a measure of atypical language development in French. *Lingua* 121, 423-441.
- Vender M. et al. (2016). How early L2 children perform on Italian clinical markers of SLI: A study of clitic production and nonword repetition, *Clinical Linguistics & Phonetics* 30.
- Zachou A. et al. (2013). Production and comprehension of direct object clitics and definite articles by Italian children with developmental dyslexia. In *Advances in language acquisition*, CSP.

Double literacy effects on language and reading skills in Italian-English primary school children

Major concerns still surround literacy education in a foreign language during primary school. In this study we aim to establish (1) whether bilinguals perform worse in Italian literacy tests than monolinguals; (2) whether literacy skills transfer from Italian to English. We tested 97 Italian-English bilingual first-, third- and fifth-graders (attending two bilingual primary schools in Italy, with a *simultaneous* 50:50 immersion program) and a control group of 40 monolingual Italian pupils in Grades 1 and 3. All participants were tested in Italian, measuring the following skills: vocabulary, phonological awareness, reading proficiency and verbal short-term memory. Bilingual participants – who had been exposed to Italian since birth and to English within the first three years of their lives – were also tested on the same measures in English. The results showed that bilingual first-graders outperformed their monolingual peers in verbal short-term memory, thus revealing a possible cognitive advantage in the early stage of literacy acquisition. Monolingual and bilingual first- and third-graders did not differ in reading speed. The two groups made an almost similar number of errors (monolingual and bilingual first-graders, respectively $M = 2.40$ and $M = 5.32$; monolingual and bilingual third graders, respectively $M = 1.75$ and $M = 3.12$), but the small difference turned out to be statistically significant. Bilingual subjects' reading attainment was found to be within monolingual normal limits in both languages and on all measures except for English reading comprehension, which, together with English vocabulary, was found to be below the English norm. Aside from reading comprehension, on all other measures bilingual children's performance in Italian correlated with their performance in English, suggesting the presence of cross-linguistic transfer of language and reading skills.

Keywords: Bilingualism, Literacy Acquisition, Double literacy, Reading Proficiency, Language, Primary School

References

- Hansen, L. B., Morales, J., Macizo, P., Duñabeitia, J. A., Saldaña, D., Carreiras, M., Fuentes, L. J., and Bajo M. T. (2017). Reading comprehension and immersion schooling: evidence from component skills, *Developmental Science*, 20: e12454
- Bialystok, E., Luk, G., and Kwan, E. (2005). Bilingualism, Biliteracy, and Learning to Read: Interactions Among Languages and Writing Systems, *Scientific Studies of Reading*, 9(1), 43–61

Preference for poster presentation.

The assessment of movement-derived structures in Italian-speaking children with cochlear implants through a sentence repetition task.

Sensorineural hearing loss (SHL) consists in a disfunction of the cochlea or in a problem of the auditory nerve (Martini et al., 2013). It prevents the transformation of the acoustic stimuli into neurological signals, causing a misprocessing of the auditory transformation by the brain (Kral & O'Donoghue, 2010). When SHL is higher than 70 dB a cochlear implant (CI) may be prescribed. Children with CIs were found to be comparable to hearing peers in vocabulary acquisition (Caselli et al., 2012; Rinaldi et al., 2013), phonology and pragmatics (Guasti et al., 2014). However, some children with CIs still show difficulties with complex syntactic structures (relative clauses: Friedmann & Szterman, 2006; Volpato & Adani, 2009; 2012; Volpato & Vernice, 2014; wh-questions: Friedmann & Szterman, 2011; Szterman & Friedmann, 2014; Ruigendijk & Friedmann, 2017; Volpato & D'Ortenzio, 2018; clitic pronouns: Guasti et al., 2014). Following the approach proposed by Szterman and Friedmann (2014), this study provides an analysis of some challenging syntactic structures for children with CIs through a sentence repetition task (SRT, Del Puppo et al. 2016). The SRT enables the full control of the target sentences, the investigation of syntactic abilities in several structures using one and the same task, and the comparison between minimally different structures. The SRT may allow to detect vulnerable areas in the syntactic domain (Szterman & Friedmann, 2014) and to detect errors ascribed to memory or attentional factors (Friedmann & Szterman, 2011). To our knowledge, no published research exists on the use of this tool with Italian-speaking children with hearing impairment (and CIs) yet. Twelve participants with CIs (CI group, mean age: 9;8) were compared with 8 children with normal hearing and comparable chronological age (CA group, mean age: 9;6) and with 9 children with normal hearing and comparable auditory experience (AE group, mean age: 8;6). The children with CIs received their hearing aids (HA) within the age of 1 and their CIs between 1 and 9;7 years. All children were tested orally using an SRT which includes 33 sentences testing different constructions (left-dislocated sentences containing resumptive clitic pronouns, long-distance subject and object wh-questions, cleft sentences, and genitive and oblique relative clauses) and 16 fillers matched to the experimental items for length (syllables).

Overall, the three groups showed similar percentages of accuracy (CI: 80%; CA: 82%; AE: 86%) and indeed, no significant difference is observed between the CI group and the control groups. The CI group performed significantly worse than the AE group ($p=.01$) in the repetition of subject and object long-distance *wh*-questions and passive clefts. Within-group analyses showed that for all groups, fillers are repeated significantly better than experimental sentences. Hence, length of sentences was not problematic for any of the groups and difficulties with experimental sentences should not be attributed to limited memory resources. A within-group analysis investigated for each group the level of accuracy in the different structures. The most difficult structures for children with CIs are genitive and oblique relatives. Cleft sentences were found more difficult than left-dislocated sentences and wh-questions, and the repetition of object wh-questions was less accurate than left-dislocated sentences. Genitive and oblique relative clauses were found less accurate than wh-questions, cleft sentences and sentences with left dislocation also in the two control groups. The comparison between the other structures in both the CA and AE groups did not yield any significant difference. Correlation analyses within the CI group between clinical variables and language performance showed that length of exposure to language since the application of hearing aids positively correlated with the repetition of sentences containing clitic pronouns, object questions and genitive relative clauses. The higher the exposure to language, the better the performance (Friedmann & Szterman, 2006). Constructions with long-distance dependencies are problematic when there is a combination of complex structures. The sentence repetition task has been useful to highlight some differences in the use of response strategies between the CI and the control groups (production of shorter wh-questions; omission of the complementizer *che* (that); production of a finite verb instead of a finite one; production of simple SVO sentences instead of long-distance dependency structures).

Concluding, we can assume that the common problem for children with both normal hearing and CIs relies in the complexity of the syntactic structures analysed by the SRT.

Table 1: percentage of accurateness for each group in the experimental and filler sentences analysed by the SRT.

Sentence type	CI	CA	AE
Filler	96%	97%	94%
Cleft	72%	88%	91%
Left-dislocated	86%	90%	93%
Subject-questions	90%	100%	89%
Object-questions	84%	89%	100%
Genitive-relative	46%	31%	50%
Oblique-relative	38%	23%	27%

References

- Caselli, M.C., Rinaldi, P., Varuzza, C., Giuliani, A., Burdo, S. (2012). Cochlear Implant in the Second Year of Life: Lexical and Grammatical Outcomes. *Journal of Speech, Language, and Hearing Research*, 55 (2), 382-394.
- Del Puppo, G., Volpato, F., Padovani, R., Zavattiero, P., Lusuardi, A. (2016). Valutare la competenza sintattica di bambini con Disturbo Specifico del Linguaggio. Poster presented to *Giornate CLASTA VII* (Communications and Language Acquisition Studies in Typical and Atypical Populations), Calambrone, PI.
- Friedmann, N., Szterman, R. (2006). Syntactic movement in orally-trained children with hearing impairment. *Journal of Deaf Studies and Deaf Education*, 11, 56-75.
- Friedmann, N., Szterman, R. (2011). The Comprehension and Production of Wh-Questions in Deaf and Hard-of-Hearing Children. *Journal of Deaf Studies and Deaf Education*, 16, 212-235.
- Guasti, M. T., Papagno, C., Vernice, M., Cecchetto, C., Giuliani, A., Burdo, S. (2014). The effect of language structure on linguistic strengths and weaknesses in children with cochlear implants: Evidence from Italian. *Applied Psycholinguistics*, 35(4), 739-764.
- Kral, A., O'donoghue, G. M. (2010). Profound deafness in childhood. *New England Journal of Medicine*, 363(15), 1438-1450.
- Martini, A., Bovo, R., Trevisi, P., Forli, F., Berrettini, S. (2013). Limpianto cocleare nel bambino: razionale, indicazioni, costo/efficacia. *Minerva Pediatrica*, 65(3), 325-339.
- Rinaldi P., Baruffaldi F., Burdo S., Caselli M.C. (2013). Linguistic and pragmatic skills in toddlers with cochlear implant, *International Journal of Language & Communication Disorders* 48: 715-725.
- Ruigendijk, E., Friedmann, N. (2017). A Deficit in Movement-Derived Sentences in German-Speaking Hearing-Impaired Children. *Frontiers in psychology*, 8, 689.
- Szterman, R., Friedmann, N. (2014). Insights into the syntactic deficit of children with hearing impairment from a sentence repetition task. In Hamann C., Ruigendijk E. (eds.) *Language Acquisition and Development: Generative Approaches to Language Acquisition 2013*. Newcastle: Cambridge Scholars Publishing.
- Volpato, F., Adani, F. (2009). The subject/object relative clause asymmetry in Italian hearing-impaired children: evidence from a comprehension task. *Studies in Linguistics*, 3, 269-281.
- Volpato, F., D'Ortenzio, S. (2018). Ask a question! How Italian children with cochlear implants produce subject and object wh-questions. *Bucharest working papers on linguistics*, 20.
- Volpato, F., Vernice, M. (2014). The production of relative clauses by Italian cochlear implanted and hearing children. *Lingua*, 139, 39-67.

The Acquisition of Postverbal New Information Subjects in Italian

The correct use and interpretation of sentential subjects has been quite widely investigated in various areas of language acquisition. In particular, it is well-known that the distribution of null and overt subjects is a demanding task for learners acquiring a null subject language, as they have to integrate syntactic properties with discourse information. In addition to the null/overt option also the pre- or postverbal position of the subject requires knowledge of both syntactic rules and discourse pragmatic information (Tsimpli et al. 2004, Sorace et al. 2009, Belletti et al. 2007 for bilingual and SLA). Focusing on child acquisition, in Spanish it has been observed that pre- and postverbal subjects emerge simultaneously in child production (Grinstead 1998, 2000; Villa-García 2011). As for Italian, previous work has shown that school-age monolingual children have acquired postverbal subjects in unaccusatives (Lorusso et al. 2004, Lorusso 2006, Vernice and Guasti 2014). Postverbal subjects in New Information Focus differ from postverbal subjects in unaccusatives, both in their syntactic position and in their need for the integration of discourse information (Burzio 1986, Belletti 2001 a.o.). To date little research has explored the elicitation of Italian postverbal subjects in new information focus contexts in monolingual and bilingual child acquisition of Italian (cf. Dal Pozzo 2012). The present work addresses the production and comprehension of sentential subjects in Italian under three different conditions: (a) broad focus (BF, *Che cosa è successo? What happened?*), (b) new information focus on the subject (NF, *Chi è arrivato? Who has arrived?*), (c) new information focus on the event (*Cosa fa X? What did X do?*), which were included to compare the acquisition of NF subjects with previous studies on overt preverbal subjects (cf. Sorace and Serratrice 2009 a.o.). Based on previous literature, we expect that children at this age can choose the felicitous item and hence that: (i) preverbal subjects are preferred when answering questions of type (a), postverbal subjects for questions of type (b) and null subjects for questions of type (c). Nonetheless, we expect some variability due to extralinguistic factors (e.g. age and type of task). The main aim of this comprehensive study is to integrate new information subjects with the existing literature. This will be done by testing subjects in different syntactic configurations and crucially through two different kind of tasks (production and comprehension) to check for possible *loci* of variability. Participants consist of monolingual (Group 1) children in the first class of primary school (aged 6;1-7;1)¹. Data was collected through an Elicitation Task and a Forced Choice Task. The Elicitation Task consists of two sets of 25 pictures. The child was asked to help the interviewer to complete the picture, answering 30 questions of the type in (a), (b), and (c) above. Distractors were included. The Forced Choice Task was run on a laptop and consisted of 40 scenes in which a character performs an action, Brainy Smurf asks a related question, and Micky Mouse and Donald Duck respond. Children were told that Micky and Donald were still learning Italian and that the child's objective was to help them, by indicating who "responded better in Italian." The two responses differed in subject position only. Fillers were introduced with What-Questions. Responses consisted of a target DP and an ungrammatical string with the same lexical items. These fillers were used as an exclusion criterion; a child must select the target DP 9 of 10 times. If NF postverbal subjects are available to children at this age, we expect that they select postverbal subjects significantly more after NF questions than BF ones. If this is not the case, we expect that children should prefer preverbal subjects in both conditions. Moreover, if children differentiate between postverbal NF subjects and postverbal subjects of unaccusatives, we expect no effect of verb class in the present tasks. For the time being we present data from the forced choice task² only. Preliminary results from 13 children show that postverbal subjects are globally selected at a significantly higher rate (69%) after NF questions than BF ones (39%) ($p < .001$). Additionally, as expected this trend is not restricted to unaccusative verbs. Thus these results suggest that by this age, children have acquired postverbal NF subjects, understand their discursive distribution, and crucially differentiate these subjects from postverbal subjects in unaccusatives.

¹ Both task will also be administered to bilingual children (Group 2) of the same age and of different L1s during April-June 2019.

² Results from the Elicitation Task and all statistical analysis will be presented, in case of acceptance.

References

- Belletti, A. "Inversion as focalization". In A. Hulk & J.Y Pollock (eds) *Inversion in Romance and the Theory of Universal Grammar*, pp. 60-90. New York: Oxford University Press.
- Burzio, L. 1986. *Italian Syntax*. Dordrecht: Reidel.
- Dal Pozzo, L. 2012. "New information subjects in bilingual and monolingual child production". *CISCL Working Papers*, Internet Celebration for Luigi Rizzi's 60th birthday.
- Grinstead, J. 1998. Subjects, sentential negation and imperatives in child Spanish and Catalan. PhD Dissertation, University of California.
- 2000. Tense, Number and Nominative Case Assignment in Child Catalan and Spanish". *Journal of Child Language*, 27:1, pp. 119-155.
- Lorusso, P. Caprin, C., Guasti M.T. 2004. "Overt subject distribution in early Italian children". Paper presented at BUCLD 2004.
- Lorusso, P. 2006. "The L-syntax of Verbs in the Acquisition of L1 Italian". In Belletti, A., Bennati, E. Chesi, C., Di Domenico, E., Ferrari, I. (eds) *Language Acquisition and Development. Proceedings of GALA 2003*. Cambridge: Cambridge Scholar Press, pp. 362-369.
- Sorace, A., and Serratrice, L. 2009. "Internal and external interfaces in bilingual language development: Beyond structural overlap". *International Journal of Bilingualism* 13:2, pp. 195-210.
- Sorace, Antonella, Serratrice, Ludovica, Filiaci, Francesca and Baldo, Michela, 2009. "Discourse conditions on subject pronoun realization: testing the linguistic intuitions of older bilingual children". *Lingua*, 119: 460– 477.
- Tsimpli, Ianthi, Sorace, Antonella, Heycock, Catherine and Filiaci, Francesca, 2004. "First language attrition and syntactic subjects: a study of Greek and Italian near- native speakers of English". *International Journal of Bilingualism*, 8: 257- 277.
- Vernice, M. and M.T. Guasti, 2014. "The acquisition of SV order in unaccusatives: manipulating the definiteness of the NP argument!". *The Journal of Child Language*.
- Villa-García, J. 2011. "Acquisitional evidence bearing on the account of preverbal and postverbal subjects in Spanish". *Proceedings of the 13th Hispanic Linguistics Symposium*.

The mesa: A phonetic analysis of code-switched Determiner Phrases in heritage speakers of Spanish in Chicago

In the formal code-switching literature, there has been a debate as to whether mixed (D)eterminer (P)hrases such as (1) are acceptable.

- (1) The *mesa*
 the.DET table
 ‘the table’

Moro (2014) states that the switch in (1) is not permissible because the gender feature on the Spanish noun is not checked by the English determiner. However, this argument to account for this DP's ungrammaticality does not stand; López (2018) shows that Spanish nouns can be realized without a determiner. Furthermore, these DPs, though very infrequent, are verified to exist (Herring et al., 2010, from the Miami corpus, CSBTP, Bangor). In the present study, I explore the reasoning for the infrequency of constructions such as an English D + Spanish N DP. Specifically, I test the hypothesis that a phonological criterion is responsible, such that the entire DP must be pronounced with Spanish phonetics due to the noun's complex $\sqrt{\text{root}+n[\pm\text{fem}]}$ morphosyntactic structure (López, 2018). To test the phonological criterion, I examined the phonetics of mixed DPs in two corpora: 26 15-minute interviews recorded in the Multilingual Phonology Lab at the University of Illinois at Chicago (Stefanich, in progress) and the Bangor Miami Corpus. Seventeen instances of these DPs were found. For each instance, we analyzed F1 and F2 of the vowel in ‘the’ in each of the mixed DPs and compared these formant measurements with the speaker's own /a/ in Spanish in other monosyllabic words. A preliminary analysis using an independent t-test shows that the F1 formants of the ‘the’ in the mixed DPs and the Spanish /a/ pattern similarly (i.e., no significant difference in the F1 formant measurements from the ‘the’ in the mixed DPs ($M=606.7$, $SD=134.7$) and the Spanish [a]s ($M=680.4$, $SD=101.8$); $t(28)=-1.92$, $p=.06$). Furthermore, a full experiment is in progress to test this hypothesis in a lab setting. Participants are asked to perform a task where they produced the DP in all monolingual Spanish, the DP in all monolingual English, and the mixed DP of interest (e.g., (1)). The analysis of the production task will be very similar to the analysis of the corpora data in that the mixed DPs will be acoustically analyzed. The vowel sound in ‘the’ from the code-switched DP will be analyzed and compared to the vowel sound in determiner from the Spanish monolingual DP (i.e., *la*) and the English monolingual DP (i.e., *the*). This is to see if the vowel sound that they are producing in the mixed DP is more English- or Spanish-like. I expect that the vowel sound in ‘the’ in the mixed DPs will be similar to the vowel sound in ‘la’ in the Spanish monolingual DPs, thus confirming that the infrequency of the mixed DP (e.g., (1)) is due to a phonetic constraint (i.e., the mixed DP must be produced with Spanish phonetics). This data will inform us about the acquisition of two languages by simultaneous bilinguals and if the infrequency of the production of the DP of interest is due to constraints outside of the syntax.

References:

- Herring, J. R., Deuchar, M., Couto, M. C. P., & Moro, M. (2010). ‘I saw the madre’: evaluating predictions about codeswitched determiner-noun sequences using Spanish–English and Welsh–English data. *International Journal of Bilingual Education and Bilingualism*, 13(5), 553-573.
- López, L. (2018) *Toward an integrated model of bilingual grammar*.

- Moro, M. (2014). The Semantic Interpretation and Syntactic Distribution of Determiner Phrases in Spanish-English Codeswitching. *Grammatical theory and bilingual codeswitching*, 213.
- Stefanich, S. (in progress) Unpublished PhD dissertation, UIC. <https://lcsl.uic.edu/hispanic-italian/research-groups/bilingualism-research-laboratory/research>

Growing trees: On the order of acquisition of the left periphery and the functional structure of the clause

This study examined the order of acquisition of various syntactic structures in Hebrew, using 2 sentence repetition tasks, in one 60 children aged 2;2-3;10 repeated 80 sentences, in the other 22 children aged 3;7-4;10 repeated 40 sentences (a total of 5680 sentences), and an analysis of the spontaneous speech of 61 children aged 1;6-6;1 (27,696 utterances).

The **sentence repetition** task revealed a set order of acquisition of the various types of syntactic movement: A-movement (of the object of unaccusative verbs) is acquired first, then A'-movement (subject- and object relatives and topicalization), and finally movement of the verb to C. A factor analysis found 3 factors, corresponding to no movement, Wh-movement, and verb movement, with very high Cronbach's alpha within each movement type (.82-.90). Analysis of a second repetition task indicates that children who already master Wh-questions also master adverb preposing.

The **analysis of spontaneous speech** revealed the same order of acquisition, and provided further insights into the order of acquisition within the group of structures with A'-movement, and their relation to the acquisition of sentence embedding: 1) **A-movement** of the object of unaccusative verbs to subject position appears first (stabilizing at age 1;10); 2) then **argument Wh-questions** appear (stabilizing at age 2;5) with no difference between subject and object questions; 3) In the next stage **relative clauses**, **topicalization structures**, and **adjunct questions** like "why" appear together. Importantly, this stage is concomitant to the appearance of **sentence embedding**. (The structures stabilize between the ages 3;3 and 4;0); 4) Last comes movement of the **verb to C** (stabilizing after age 6). In spontaneous speech children avoided producing structures that they could not correctly repeat in the repetition tasks.

Time of appearance of a given structure varied significantly between children (e.g., some children produced Wh questions at age 1;6, whereas others still showed no A'-structure at age 3;2). Nonetheless, the relative order of acquisition of the various structures remained constant across all children, and created a perfect Guttman Scale in both repetition and spontaneous speech (See Figure 3). The order of acquisition was determined on the basis of patterns of appearance in the speech samples: e.g., within A'-structures, Wh questions appeared as a single structure in 12/56 samples, and together with relative clauses or topicalization in 30/56 samples, but there was no stage in which relatives and topicalization occurred in a sample without Wh questions. We took this to indicate that Wh questions precede relative clauses and topicalization.

Whereas the concomitance, in phase 3, of the appearance of relative clauses and clausal embedding is expected (relative clauses are forms of clausal embedding), the further concomitance of these structures with topicalization (a typical main clause phenomenon) is surprising and interesting. Equally worth noticing is the non-simultaneity of wh-questions (phase 2) and topicalization (phase 3), both root phenomena. Furthermore, previous studies have shown that Hebrew speakers under age 6 have difficulty comprehending and producing sentences with an (object) A'-dependency in which a full noun phrase (NP) crosses over another full NP, a behavior confirmed by much crosslinguistic literature, and plausibly linked to intervention locality (Friedmann et al., 2009). Accordingly, none of the 43 children who produced A' structures, all under age 6;1, produced any A'-sentence with a full NP crossing over another full NP. This suggests a further staging of acquisition: A'-movement is acquired before the ability to A'-move one full NP across another.

We suggest that these results shed light on the acquisition of the syntactic tree. As there is a split within A'-constructions, we are led to adopt a cartographic analysis of the left periphery along the lines of Rizzi (1997), Rizzi & Bocci (2017). We assume a lower field including finiteness, Q (a position possibly identical to Foc in main clauses), Mod, and a higher field including Top, Int (for the marker of embedded questions and for special wh elements like *why*) and Force (for elements introducing declaratives and relatives), a picture independently motivated by much cartographic work. This map suggests a bipartite acquisition: first, the **lower field** is acquired, allowing the child to produce root Wh questions (subject, object, and PP questions) and adverb preposing, as well as structures that involve A-movement. The second stage is the acquisition of the **higher field**, which allows for the appearance of topicalization structures, relative clauses (subject, object, PP relatives), sentential complements, *why* questions, and embedded questions.

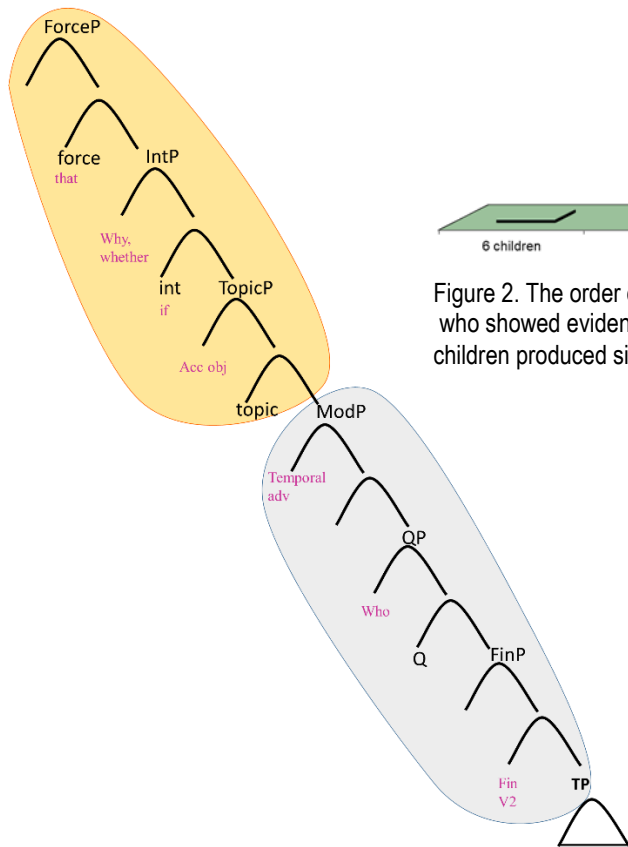


Figure 1. The order in which trees grow: ModP, QP, and FinP are acquired before ForceP, IntP, and TopicP.

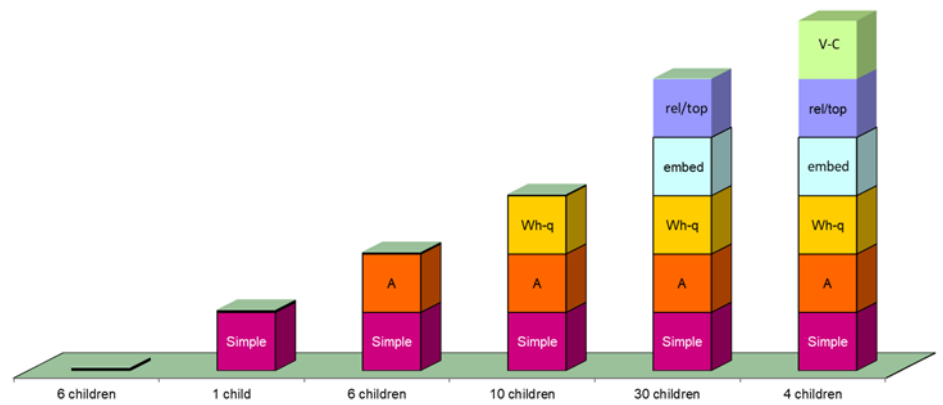


Figure 2. The order of acquisition in spontaneous speech samples. The number of children who showed evidence for the acquisition of each combination of structures (5 additional children produced simple, A, wh-q, and embed OR rel/top).

Age	WhQ	Sentential embedding	Topicalization and relatives	Age	A movement	A bar movement	V-C movement
18				2;2	50	23	0
20				2;3	100	100	100
22				2;3	100	27	5
22				2;4	100	57	5
22				2;4	100	63	15
23				2;4	50	73	5
23				2;5	100	57	55
23				2;5	80	80	0
23				2;5	100	87	0
23				2;6	100	100	75
23				2;6	0	3	10
24				2;6	100	87	35
24				2;7	100	63	0
24				2;7	100	100	100
24				2;8	90	57	55
25				2;8	80	37	0
25				2;8	100	100	0
26				2;8	100	100	15
26				2;9	100	100	55
27				2;9	100	100	85
29				2;9	90	93	5
30				2;10	100	63	5
30				2;10	100	100	15
30				2;10	100	27	0
32				2;10	100	90	40
33				2;10	100	100	50
35				2;11	100	100	60
35				2;11	100	73	90
35				2;11	90	87	75
35				2;11	90	93	0
35				3;0	100	100	95
36				3;0	100	7	0
37				3;1	100	43	40
37				3;1	100	0	0
38				3;1	100	100	100
39				3;1	100	13	0
39				3;1	100	100	100
39				3;1	100	77	35
41				3;1	100	97	0
43				3;2	90	80	10
48				3;2	100	97	60
51				3;3	100	87	30
53				3;3	100	87	40
57				3;4	40	0	0
58				3;4	100	100	100
58				3;4	100	57	25
59				3;4	100	87	5
61				3;4	100	83	25
62				3;5	100	93	0
63				3;5	100	67	0
64				3;5	90	33	0
67				3;5	100	100	70
68				3;7	90	10	0
68				3;7	90	37	0
70				3;7	100	77	65
73				3;7	90	0	25

Figure 3. A Guttman scale (Guttman, 1944): each row represents the performance of a different child; Blue cells indicate a structure that has been acquired. Left: spontaneous speech. Right: sentence repetition. One can see the scaled nature of the acquisition of the various structures: children who acquired the later structures (the rightmost columns), have also acquired the earlier ones (on the left columns). E.g., all children who acquired A' movement have also acquired A-movement.

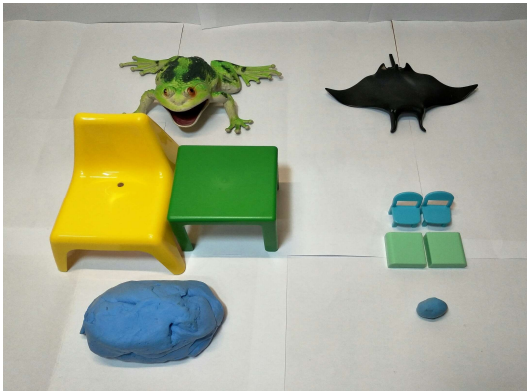
References

- Guttman, L. (1944). A Basis for Scaling Qualitative Data. *American Sociological Review*, 9, 139-150.
- Friedmann, N., Belletti, A., & Rizzi, L. (2009). Relativized relatives: Types of intervention in the acquisition of A-bar dependencies. *Lingua*, 119, 67-88.
- Rizzi, L. (1997). The Fine Structure of the Left Periphery. In L. Haegeman (Ed.), *Elements of Grammar. Handbook of Generative Syntax* (pp. 281-337). Kluwer, Dordrecht.
- Rizzi, L., & Bocci, G. (2017). Left periphery of the clause: Primarily illustrated for Italian. In M. Everaert & H. C. van Riemsdijk (Eds.), *The Wiley Blackwell Companion to Syntax* (pp. 1-30).

Collectives in Mandarin Chinese: contextual and grammatical factors

The semantics of superordinate collectives (collectives hereafter) is controversial. From a theoretical point of view, mass collectives such as *furniture* in English, are argued to be count, or mass, or to allow count and mass readings, empirically however, using the Quantity Judgement Task (QJT), Barner and Snedeker (2005) found that bare/mass collectives in English predominantly denote individuals. The same results have been obtained in a range of typologically distinct languages in studies that used the same experimental methodology. In particular, Liu (2014) and Lin and Schaffer (2018), which again adopt the question-answering QJT as in the previous studies, claim that Mandarin-speaking adults and children assign only individual-denoting readings to Mandarin collectives such as *jiaju* ‘furniture’. However, upon a close examination we speculate that the attested individual-denoting reading could be the preferred reading of bare collectives rather than the only possible reading these nouns allow. In the present study, we explore the interplay of different factors (contextual and morpho-syntactic ones) that may affect the countability of collectives by investigating the interpretation of Mandarin collectives by Mandarin-speaking adults and children using a modified version of the standard True Value Judgment task to include a quantity judgment. Experiment 1 examined the interpretation of three bare collectives, *jiaju* ‘furniture’, *gongju* ‘household hardware’ and *canju* ‘kitchenware’, in a substance-oriented context and in an individual-oriented context. The substance-oriented contexts were created by comparing the volume of the entities in the story which differ in size and made use of the device known as ‘Universal Grinder’ proposed by Pelletier (1979), (see Fig 1). Experiment 2 examined the interpretation of the same three collectives when they co-occur with the individual classifier *ge* which makes the non-individual-reading ungrammatical, in the same substance-oriented and individual-oriented contexts. The design of these two experiments differs only in one aspect: the presence/absence of a classifier in the test sentence. We found that both the 5-year-old children and adults are sensitive to this subtle morpho-syntactic factor, and assign appropriate readings to the collectives in the distinct contexts (see results in the appendix). Thus, Experiment 1 indicates that the interpretation of bare collectives is subject to change upon contextual manipulation. By contrast, in Experiment 2 both children and adults assigned only the individual-denoting reading to the collectives co-occurring with the classifier *ge* in the two distinct contexts 100% of the time. This clearly shows that the presence of a classifier determines the countability of collectives. Based on the experimental findings from the two experiments here presented, we can draw an important generalization for the interpretation of Mandarin collectives: both morpho-syntax (i.e., presence/absence of an individual classifier) and non-linguistic contextual information are involved in the interpretation of Mandarin collectives, and they function in different ways. In particular, contextual information affects the interpretation of sentences containing bare collectives. By contrast, with the presence of the individual classifier *ge*, contextual manipulation does not exert any effect. These patterns suggest that it is classifiers that determine the countability of collectives. Thus, our experimental data provide strong arguments to support our grammatical view on the interpretation of Mandarin collectives, and militate against Liu’s (2014) and Lin and Schaffer’s (2018) claim that Mandarin collectives denote only individuals.

Fig (1) –Last scenes of typical trials



Substance-oriented context



individual-oriented context

Target sentence Experiment 1

Qingwayaoguai he heiyaoguai, shei chi le gengduo jiaju
Who eat more furniture? Frog Monster or Black Monster?

Zi xiannv he lan xiannv, shei bian le gengduo jiaju
Who created more furniture? Purple Fairy or Blue Fairy?

Target sentences Experiment 2

Qingwayaoguai he heiyaoguai, shei chi le gengduo ge jiaju
Who eat more pieces of furniture? Frog Monster or Black Monster?

Zi xiannv he lan xiannv, shei bian le gengduo ge jiaju
Who created more pieces of furniture? Purple Fairy or Blue Fairy?

Results Experiment 1

	Substance-denoting reading in the substance-oriented context	Individual-denoting reading in the individual-oriented context
5-year-olds	87% (52/60 trials, YES responses)	100% (60/60 trials, No responses)
Adults	90% (54/60 trials, YES responses)	100% (60/60trials, No responses)

Barner, David & Jesse Snedeker. 2005. Quantity judgments and individuation: evidence that mass nouns count. *Cognition* 97(1). 4-46.

Lin, Jing & Jeannette C. Schaeffer. 2018. Nouns are both mass and count: Evidence from unclassified nouns in adult and child Mandarin Chinese. *Glossa: a journal of general linguistics*. 3(1), 54. DOI: <http://doi.org/10.5334/gjgl.406>

Pelletier, Francis. Jerry. 2012. Lexical nouns are both +MASS and +COUNT, but they are neither +MASS nor + COUNT. In Diane Massam (ed.), *Count and Mass Across Languages*, 9-26. Oxford: Oxford University Press.

Exploring the Syntactic Structure of Silence in Japanese-English Interlanguage

Abstract

This study investigates Japanese-speaking learners' knowledge on VP-ellipsis in English. English allows VP to be elided (VP-ellipsis: henceforth, VPE), as shown in (1a), whereas it disallows ellipsis of an object (argument ellipsis: hereafter, AE), as in (1b). In contrast, Japanese exhibits a reverse pattern; it resists VPE but permits AE (2). VPE in English is a result of ellipsis of VP at PF (*PF-deletion*) (Merchant, 2001), and ellipsis created by PF-deletion permits the sloppy reading, in addition to the strict reading (3). If a null pronoun *pro* is involved in ellipsis, the sloppy reading should be unavailable. Another important fact is that an internal structure is present in English VPE, and a *wh*-phrase can be extracted from within the elided domain (4). If, on the other hand, some kind of *pro*-form is involved, the internal structure is absent in narrow syntax, and hence extraction should be impossible.

Previous studies in L2 acquisition of ellipsis phenomena have shown i) that it is not difficult to acquire the knowledge on the elided domain (i.e., VP in the case of VPE) (Hawkins, 2012); and ii) English-learners of Japanese face difficulty in accepting the sloppy reading in the acquisition of AE even at the advanced level (Yamada & Miyamoto, 2017). This study, focusing on Japanese-speaking learners' acquisition of English VPE, asks two remaining questions: Is the target-like operation (PF-deletion) used in VPE in their interlanguage?; and Is ii) universally observed in the acquisition of a new ellipsis domain?

We conducted an acceptability judgment task to intermediate Japanese-learners of English to see whether they accept VPE (1a) and extraction (4) and a truth-value judgment task to see whether they permit strict and sloppy readings (3a, b). Results showed that the learners' grammars are classified into two patterns; a) the one which accepts both extraction and the sloppy reading (target-like) and b) the one which resists both of them. The grammar a) appears to produce VPE via PF-deletion, but the grammar b) looks like neither English nor Japanese: The rejection of extraction suggests that there is no internal structure in their VPE, and the rejection of the sloppy reading suggests that a silent pronoun *pro* but not ellipsis is involved. Taken together, we suggest that the grammar b) looks like (5), in which a dummy *do* and a null pronoun *pro* are present underlyingly.

Based on what we found, we will argue that the use of a null pronoun is a universal strategy in L2 acquisition of a new ellipsis phenomenon, given the previous finding by Yamada and Miyamoto (2017). We will also show that our analysis explains a previous finding by Koyama (2016) that while Japanese-learners of English correctly accepted sentences like (6a) but failed to accept sentences like (6b). Further implications for the L2 acquisition of a silent structure will be discussed.

EXAMPLES

- (1) a. Tom read a book, and Bill did [~~vp read a book~~], too. VPE
 b. *Tom read a book, but Bill didn't read [~~vp a book~~]. AE
- (2) a. *Tom-wa hon-o yomi, Bill mo [~~vp hon o yomu~~] ta. VPE
 -TOP book-ACC read-and too book-ACC read PAST
 b. Tom-wa hon-o yomi, Bill mo [~~vp hon o~~] yon-da. AE
 -TOP book-ACC read-and too book-ACC read-PAST
- (3) Mary loves her mother, and Cathy_j does [~~vp love her mother~~] too.
 a. Cathy loves Mary's mother (strict reading)
 b. Cathy loves Cathy's mother (sloppy reading)
- (4) I know which book Mary read, and *which book* Tom didn't [~~vp read t~~].
- (5) Tom read a book, and Bill did [~~vp read a book~~], too.
 Syntax: ... Bill [v [VP *do pro*]]
 PF: ... Bill did, too.
 LF: ... Bill read a book, too.
- (6) a. Bill washed a car, and Mike **did**, too.
 b. *Bill washed a car, and Mike **will**, too.

(cf. Koyama, 2016)

REFERENCES

- Hawkins, R. (2012). Knowledge of English verb phrase ellipsis by speakers of Arabic and Chinese. *Linguistic Approaches to Bilingualism* 2, 404-438.
- Koyama, S. (2016). Feature Parallelism of English VP-Ellipsis in L2 Grammar. In *Proceedings of the 13th Generative Approaches to Second Language Acquisition Conference (GASLA 2015)*, ed. David Stringer et al., 95-100. Somerville, MA: Cascadilla Proceedings Project.
- Merchant, J. (2001). *The Syntax of Silence: Sluicing, Islands, and the Theory of Ellipsis*. Oxford University Press, Oxford.
- Saito, M. (2007). Notes on East Asian argument ellipsis. *Language Research* 43, 203-227.
- Yamada, K., & Y. Miyamoto. (2017). On the interpretation of null arguments in L2 Japanese by European non-pro-drop and pro-drop language speakers. *Journal of European Second Language Association* 1: 73-89.

Crosslinguistic influence in child L3 acquisition: German-Russian bilinguals acquiring English

This empirical study aims to investigate the factors leading to crosslinguistic influence in third language (L3) acquisition. Our research will add to the current debate on whether morpho-syntactic properties from previously acquired languages are transferred based on typological primacy (Rothman 2015), linguistic proximity (Westergaard et al. 2017) or further factors. Previous research has shown that surface typological similarity is an important factor at early stages of acquisition (e.g. Rothman & Cabrelli Amaro 2010). The main research question for our study is whether structural similarity can override this strong factor, at least at somewhat later stages of acquisition. In order to answer this research question, this study focuses on word order (adverb placement, topicalization, subject-auxiliary inversion in *wh*-questions) and definiteness (determiner use) in German-Russian bilingual children acquiring L3 English. We have developed a task with four conditions, two of which are structurally similar to German and two to Russian. While English and Russian pattern together (in contrast to German) with regards to adverb placement (*Susan often eats sweets*) and topicalization (*Last night the cats slept on the sofa*), English and German pattern together (in contrast to Russian) with regards to subject-auxiliary inversion in *wh*-questions (*What will the little girl play?*) and determiner use (*The new student is happy*). Thus, the two previously acquired languages are expected to lead to some (non-)facilitative influence for the bilinguals in two conditions each (as compared to L2 learners of English with either L1 Russian or L1 German).

We conducted an acceptability judgment task in English, including six grammatical and six ungrammatical items per condition, leading to a total of 48 items. In addition, the bilinguals were tested in both German and Russian in order to investigate whether they acquired these conditions to a target-like level in their previously acquired languages. The experiment was followed by a proficiency assessment, a modified version of the British Picture Vocabulary Scale (BPVS3), in order to match the participant groups based on proficiency. The participants are three groups of 10- to 12-year-old children acquiring English at school from grade 1 ($n=25$ per group; monolingual German data collection is ongoing): German-Russian bilinguals, Russian monolinguals, German monolinguals. The performance of the bilingual L3 learners of English is compared to that of age- and proficiency-matched L2 learners who are native speakers of German or Russian.

German is typologically more similar to English than Russian is. If structural proximity may override typological similarity, we expect crosslinguistic influence from Russian, in that the German-Russian bilinguals will score higher in the adverb placement and topicalization conditions than the German monolingual group. These predictions are in line with previous findings on Norwegian-Russian bilinguals (Westergaard et al. 2017).

Our data confirm these findings, as the German-Russian bilinguals differ from both L1 groups. The German-Russian bilinguals differ significantly from the Russian monolingual group in the adverb condition and the definiteness condition (see figure 1), which can be explained by the influence from German, which is facilitative for the definiteness condition (monolinguals accepted 59% of ungrammatical items, bilinguals 34%; see figure 2) and non-facilitative for the adverb condition (monolinguals accepted 5% of ungrammatical items, bilinguals 28%; see figure 2). Based on these findings, we argue that structural proximity may override typological similarity, at least at later stages of L3 acquisition. Our findings thus support the Linguistic Proximity Model (Westergaard et al. 2017).

- Berkes, É. & Flynn, S. (2012). Further evidence in support of the Cumulative-Enhancement Model. In J. Cabrelli Amaro, S. Flynn & J. Rothman (eds.), *Third language acquisition in adulthood*. Amsterdam, The Netherlands: John Benjamins, pp. 143–164.
- Rothman, J. (2015). Linguistic and cognitive motivations for the Typological Primacy Model (TPM) of third language (L3) transfer: Timing of acquisition and proficiency considered. *Bilingualism: Language and Cognition*, 18, 179–190.
- Rothman, J., & Cabrelli Amaro, J. (2010). What variables condition syntactic transfer? A look at the L3 initial state. *Second Language Research*, 26(2), 189-218.
- Westergaard, M., Mitrofanova, N., Mykhaylyk, R. & Rodina, Y. (2017). Crosslinguistic influence in the acquisition of a third language: The Linguistic Proximity Model. *International Journal of Bilingualism*, 21(6), 1–17.

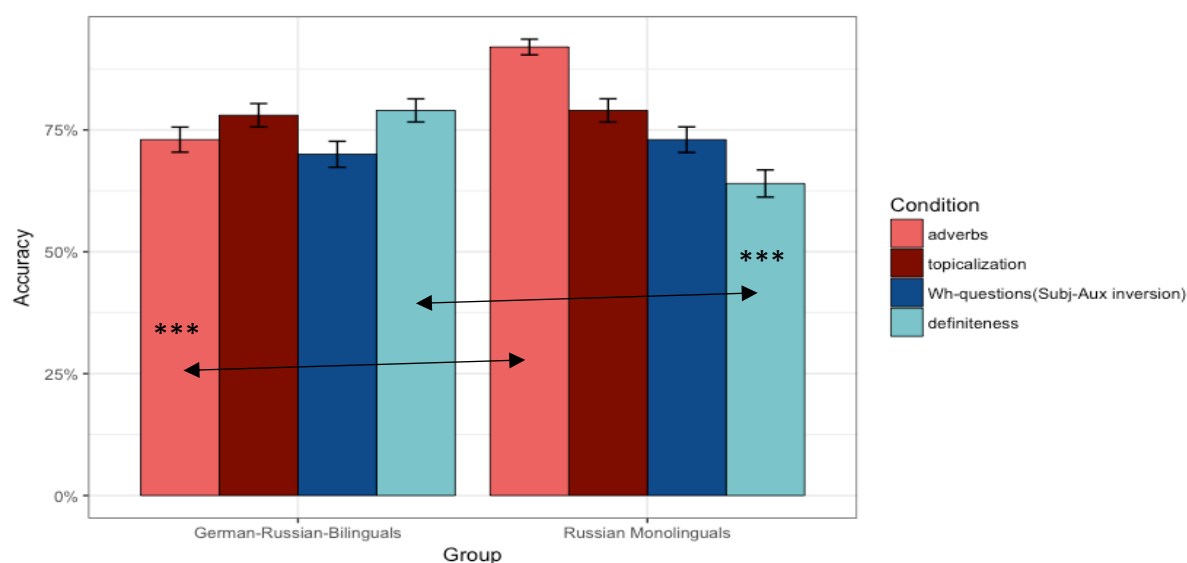


Figure 1: Accuracy by condition and group

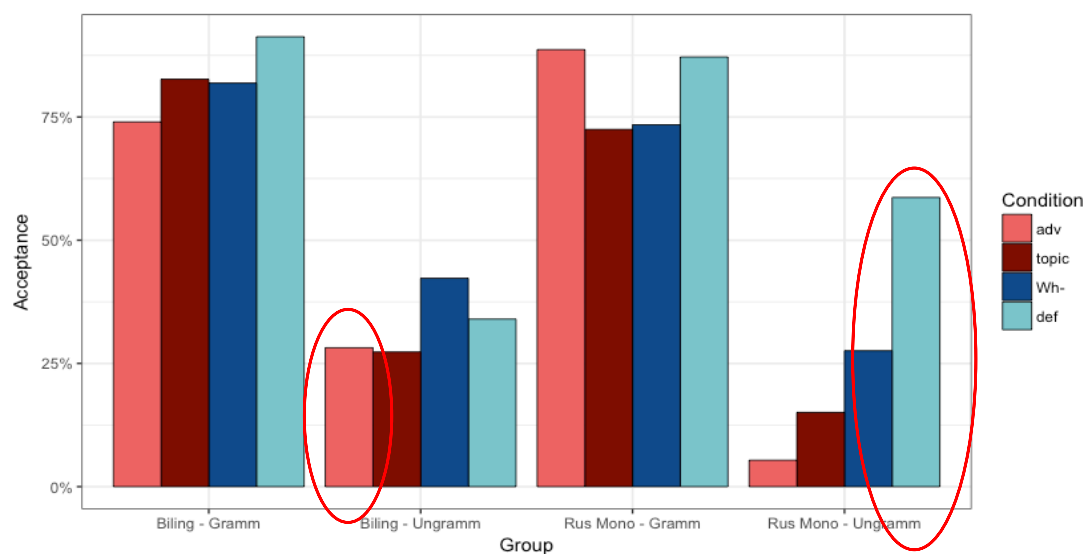


Figure 2: Acceptance of grammatical and ungrammatical items by condition and group

Disjointness in Child Language

Previous experiments have shown that, in contrast to adults, 3-year-old children accept a short verbal passive like *The man is being washed* (1a) in situations in which a man is washing himself. The adult grammar requires disjointness, such that someone else washes the man, triggered by an implicit agent argument. The absence of obligatory disjointness in children's passives could then be taken as evidence that children's passives are adjectival, lacking an implicit agent argument (Borer and Wexler 1987). Another possibility, however, is that an implicit agent *is* present in children's passives, but disjointness is not obligatory for a different reason. Essentially, passivization involves existential quantification over an external agent (e.g., Reinhart 2000, Meltzer-Asscher 2011, Bruening 2014). The semantic representation of (1a) is (1b). Crucially, the implicit agent in (1b) does not *directly* require disjointness. Disjointness is a pragmatic inference - that the implicit agent and the Subject NP are assigned different referents, as also happens, for example, in (2). Potentially then, children's passives *do* contain an implicit agent, but children differ from adults in licensing disjointness. To assess this, the present study investigated children's disjointness inferences in different experimental conditions.

Forty-five 3- to 5-year-old child participants were presented with sentences such as (3) and ones like (4). The target sentences were presented by the experimenter as instructions to a puppet (Mr. Dog) about how to set up scenes behind a curtain, using toys and props (see Fig. 1). On each trial, Mr. Dog was directed to try and set up a scene that matched the target sentence. After Mr. Dog completed each scene, the curtains opened and the child participant was asked whether or not the scene matched the experimenter's sentence. If the child participants indicated that the scene did not match the sentence, they were asked to rearrange the toys to match the sentence (see Fig. 2).

In sentences like (3), there are two occurrences of the quantifier *somebody*. Logically speaking, both occurrences could in principle refer to the same individual, in which case (3) would be true if a single individual has a car *and* a helicopter. However, English-speaking adults typically accept (3) only if one person has a car and someone else has a helicopter. The child participants in the present study consistently computed adult-like disjointness inferences in response to sentences like (3), rejecting scenes in which the two occurrences of *somebody* designated the same individual (91%) and accepting scenes in which they designated different individuals (99%) (see Fig. 3). By contrast, the child participants exhibited non-adult behaviour in response to sentences like (4), with a single occurrence of *somebody*. Adults accept such sentences only in contexts in which one individual has both items (SOMEBODY > AND). By contrast, the child participants consistently rejected this interpretation of sentences like (4) (on 69% of the trials), whereas they accepted (4) as a description of a scene in which one individual had a car and another individual had a helicopter (AND > SOMEBODY) (on 82% of the trials) (see Fig. 3). There was a significant difference in children's adult-like response to sentences like (3), as compared to ones like (4) ($p < .005$).

The findings demonstrate that children do compute disjointness inferences. This sets such inferences apart from scalar inferences, which children younger than 5- or 6-years old are not sensitive to (e.g. Chierchia et al. 2001, Noveck 2001). This finding suggests that the fact that 3-year-old children do not enforce obligatory disjointness in passives is more likely due to the absence of an implicit agent argument, rather than a difficulty in computing a disjointness inference. The finding that children assign a non-adult interpretation to sentences like (4) is taken as evidence that AND takes scope over the quantifier *somebody* in these sentences. We argue that the source of children's non-adult scope assignment reveals a difficulty in enforcing Across-the-Board deletion.

Example sentences

- (1a) The man is being washed.
- (1b) $\lambda x . [\exists y . y \text{ is washing } x]$
- (2) Somebody is washing the man.
- (3) Somebody has a car and somebody has a helicopter.
- (4) Somebody has a car and a helicopter.

Experimental set-up

- Step 1: Experimenter passes toys and props to Mr. Dog (child sees and names toys and props)
- Step 2: Experimenter produces target sentence: “Mr. Dog, can you show us *somebody has a car and somebody has a helicopter?*”
- Step 3: Mr. Dog puts toys on the stage behind the curtains (without the child seeing it)
- Step 4: When Mr. Dog is ready, experimenter repeats target sentence and opens the curtains
- Step 5: Child judges whether Mr. Dog’s arrangement matches the target sentence or not

Figure 1: Set-up in the *mismatch* condition for target sentence (3)



Figure 2: Child moves toys such that set-up matches target sentence (3)

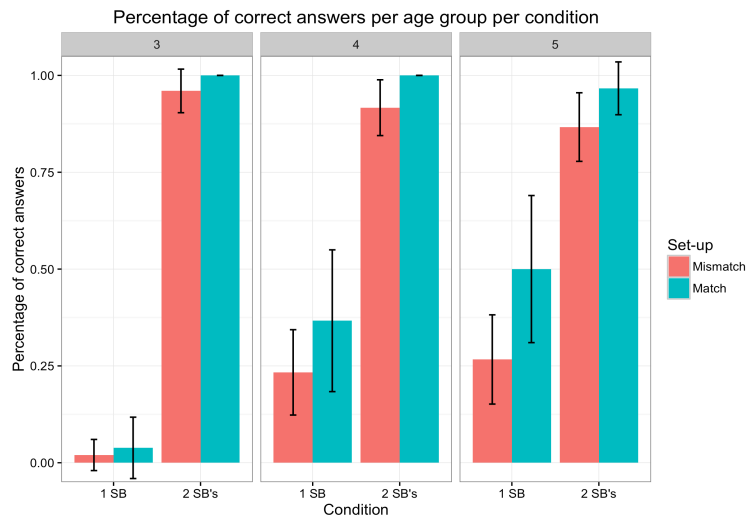
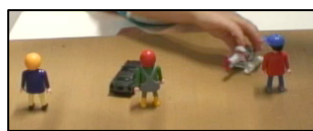


Figure 3: Score for 3-, 4-, and 5-year-olds on condition with two occurrences of somebody (2 SB's; sentences as in (3)) and one occurrence of somebody (1 SB; sentences as in (4)).

References

- Borer, H. & Wexler, K. (1987). The maturation of syntax. In T. Roeper & E. Williams (Eds.), *Parameter Setting* (pp. 123–172). Dordrecht: Reidel.
- Bruening, B. (2014). Word formation is syntactic: Adjectival passives in English. *Natural Language & Linguistic Theory*, 32(2), 363–422.
- Chierchia, G., Crain, S., Guasti, M. T., Gualmini, A., & Meroni, L. (2001). The acquisition of disjunction: Evidence for a grammatical view of scalar implicatures. In *Proceedings of the 25th Boston University conference on language development* (pp. 157–168). Somerville, MA: Cascadilla Press.
- Meltzer-Asscher, A. (2011). Adjectival passives in Hebrew: Evidence for parallelism between the adjectival and verbal systems. *Natural Language & Linguistic Theory*, 29(3), 815.
- Noveck, I. A. (2001). When children are more logical than adults: Experimental investigations of scalar implicature. *Cognition*, 78(2), 165–188.
- Reinhart, T. (2000). The theta system: syntactic realization of verbal concepts. *OTS working papers in linguistics*.

Acquisition of recursion in child Mandarin

Recursion is considered to be the foundation of language productivity (Hauser, Chomsky, & Fitch, 2002) and its acquisition has attracted much attention recently. Studies have reported children's successful interpretation of recursion involving possessives, PPs, and relative clauses around age 6 (e.g., Gentile, 2010; Hiraga, 2010; Limbach & Adone, 2010; Pérez-Leroux et al., 2012; Sevcenco et al., 2015). It has been found that 3-to-4-year-old children tend to interpret recursion as conjunction and this observation has led to the hypothesis that conjunction is the acquisition default of recursion (e.g., Fujimori, 2010; Gu, 2008; Metthei, 1982; Roeper, 2011). As most studies have largely focused on English and Japanese, we believe cross-linguistic studies are needed given variations in recursive forms between languages (Snyder & Roeper, 2004). The present study aims to contribute more cross-linguistic data to the acquisition of recursion by investigating Mandarin-speaking children's comprehension of recursion.

The recursive structure under investigation is recursive possessives. In Mandarin Chinese, recursive possessives are left-branching as in English. As the examples in (1) indicate, there can be various levels of embedding in possessives. Different from English that uses the morphological marker 's, possessives are marked by the morpheme *-de* in Mandarin. In this study, we address the following issues: (1) How do Mandarin-speaking children interpret one-to three-level recursive possessives? (2) Is the conjunctive interpretation the acquisition default for recursive possessives in Mandarin as well?

30 typically-developing Mandarin-speaking children from two age groups participated in an act-out task (4-year-olds: $N = 10$, $M = 4;0$, range = 3;4 – 4;3; 6-year-olds: $N = 20$, $M = 5;11$, range = 5;4 – 6;4). They were instructed to give an object to one character on iPad (see Figure 1) according to the recursive possessives they heard (cf. (1)). There was a total number of 12 test items, consisting of one-level, two-level and three-level recursive possessives. Children's responses are summarized in Table 1. It is found that children of both groups demonstrated comprehension of recursive possessives (4-years-olds: 64.17%, 6-year-olds: 75%) and there was no between-subject difference ($p = .125$). Second, accuracy rate was negatively affected by recursion level ($p^* = .023$). That is, children gave fewer accurate answers as recursion level increased. Third, children made errors when interpreting recursive possessives. They did sometimes interpret recursive possessives as conjunction (e.g., when asked to give a leaf to "robot's lion's snake" as indicated in Figure 1, some children gave a leaf to each of the three characters), but reduction was also a common error, i.e., dropping one or more DPs. This is particularly the case for younger children (4-year-olds: 11.67% conjunction vs. 25% reduction; 6-year-olds: 10.42% conjunction vs. 9.17% reduction). The results suggest earlier acquisition of recursive possessives in Mandarin than in English. They are consistent with the idea that overt marking triggers recognition of syntactic nodes that mark recursion and guarantee uniformity of interpretation (Di Sciullo, 2015), in contrast to recursion only represented at the node level (PP, CP, PossP). They match results by Limbach and Adole (2010) showing both conjunction and reduction as recursion-avoidance strategies. The differences in parametrically dominant branching direction between English (right) and Chinese (left) may then play a role in causing the English/Chinese variation in the point of acquisition (Pérez-Leroux et al., 2012).

- (1) a. one-level possessive:
 she-de shizi
 snake-GEN lion
 snake's lion
- b. two-level possessive:
 jiqiren-de shizi-de she
 robot-GEN lion-GEN snake
 robot's lion's snake
- c. three-level possessive:
 jiqiren-de she-de shizi-de binggan
 robot-GEN snake-GEN lion-GEN cookie
 robot's snake's lion's cookie

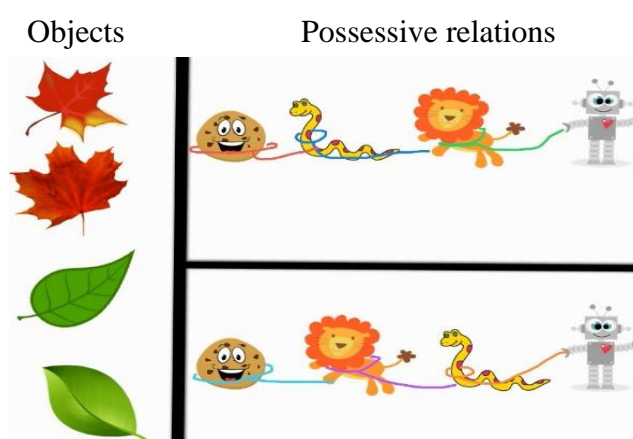


Figure 1. Sample picture for act-out task

Table 1. Percentage of types of answers

Participant group	Recursion level	Recursion (correct)	Conjunction (errors)	Reduction (errors)	Other errors
4-yrs	1	75%	5%	10%	10%
	2	54%	12%	26%	9%
	3	46%	14%	30%	10%
	All	64.17%	11.67%	25%	9.17%
6-yrs	1	80%	0	17.5%	2.5%
	2	76%	9%	11%	4%
	3	72%	16%	4%	6%
	All	75%	10.42%	9.17%	5.42%

Selected references

- Limbach, M., & Adone, D. (2010). Language acquisition of recursive possessives in English. *Proceedings of the 34th annual Boston University Conference on Language Development*, 34, 281-290.
- Pérez-Leroux, A. T., Castilla-Earls, A. P., Bejar, S., & Massam, D. (2012). Elmo's sister's ball: The problem of acquiring nominal recursion. *Language Acquisition*, 19(4), 301-311.
- Roeper, T. (2011). The acquisition of recursion: How formalism articulates the child's path. *Biolinguistics*, 5(1-2), 57-86.

The production of Object Relative clauses in Italian-speaking children: a syntactic priming study

For children, Object Relative (OR) clauses with two animate noun phrases are difficult to comprehend and to produce across a number of languages. One study investigated the priming of ORs in comprehension (Brandt et al., 2017), showing no priming effect in 6-year-old German-speaking children, and a robust priming effect in 9-year-olds, a result explained as a delayed development of abstract representation of ORs in the younger group.

In two experiments we explored the production of ORs in an elicited production task and in a novel syntactic priming task, to test the claim of a lack of abstract representations for ORs in children aged 5;6-6. Experiment 1 consisted of a picture description task which provided us with a baseline measure for the production of ORs with no priming exposure. Eleven children (6;0-7:0; MA=6;6; SD=0.26) were presented with twelve picture pairs and were prompted to describe the patient in one of the two pictures (e.g. the monkey in Fig. 1) by starting the sentence with “This is...”, possibly eliciting an OR (as in 1b). In Experiment 2, 17 children (5;7-6;2; MA=5;9; SD=0.2) participated in a novel syntactic priming task consisting of twelve prime-target pairs. The experimenter described the prime card (Fig.2) by using either an OR (2a) or a passive object relative (POR) (2b). Then, the experimenter pointed to the singular patient in the target card (e.g., the monkey in Fig. 3) prompting the child to describe the scene depicted by starting with: “This is...”. Children received twelve prime sentences (eight ORs and four PORs), presented in individually randomized order and described twelve different target pictures. PORs are used as a baseline and alternative structure to ORs, which are often produced and comprehended with more ease in comparison to ORs (e.g., Contemori & Belletti, 2014). Children’s ORs were coded following both strict and lax coding criteria. The strict coding only included ORs with a gap, as presented in the prime; the lax coding included ORs with a gap and with resumption.

In the first analysis (between-subjects), we compared the production of ORs in Experiment 1 (no exposure to ORs) to the production in Experiment 2 in which ORs were provided in the prime. In a second analysis (within-subjects), we focused on Experiment 2 only and compared the amount of ORs produced after an OR prime and after a POR prime.

In Experiment 1, children produced a low amount of ORs, confirming previous studies that used a similar elicitation method (e.g., Contemori & Belletti, 2014). However, the between-subjects analysis (Fig. 4) showed that exposure to ORs in Experiment 2 led to a significant increase of ORs in children’s productions with respect to Experiment 1 (strict coding analysis: $\beta=2.57$, $SE=1.09$, $t=2.337$, $p=.01$). The within-subject analysis (Exp. 2 only) revealed that children were sensitive to the OR vs. POR prime manipulation (Fig. 5): they were significantly more likely to produce ORs after an OR prime than after a POR prime (strict coding analysis: $\beta=-5.37$, $SE=1.74$, $t=-3.074$, $p=.002$). The qualitative analysis of ORs indicates that the majority of children’s ORs contained a resumptive clitic pronoun, confirming that ORs with a gap are hard to produce for Italian-speaking children at this age (e.g. Guasti & Cardinaletti 2003). Despite this, the priming effect was robust, both in the lax and in the strict scoring analyses.

Overall, our study demonstrates that Italian-speaking children can be primed to produce ORs and that they have abstract representations for ORs at age 5;6-6, contra Brandt et al. (2017).

Furthermore, in Experiment 2 children adapted their descriptions to the structures presented in the prime (OR vs. POR): this result reveals how children adjust their language production to the alternative syntactic structure that they encounter in the input (Fine et al., 2013). Additional testing is currently ongoing to explore the priming effects for ORs in younger children, as well as cumulative priming effects.

Experiment 1:

(1a) The experimenter points to the monkey and says:

Questa é...

‘This is...’

(1b) Expected answer:

(Questa è) la scimmia che le pecore leccano.

‘(This is) the monkey that the sheep are licking.’

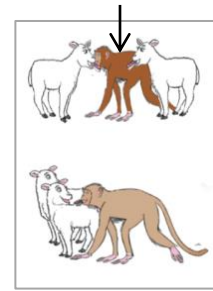


Figure 1

Experiment 2:

(2a) OR Prime:

Questa é la capra che le mucche spingono.

‘This is the goat that the cows are pushing.’

(2b) POR Prime:

Questa é la capra che viene spinta dalle mucche.

‘This is the goat that is pushed by the cows.’

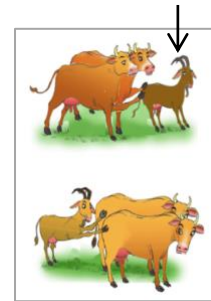


Figure 2: Prime card

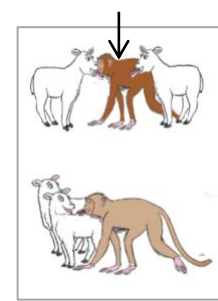


Figure 3: Target card

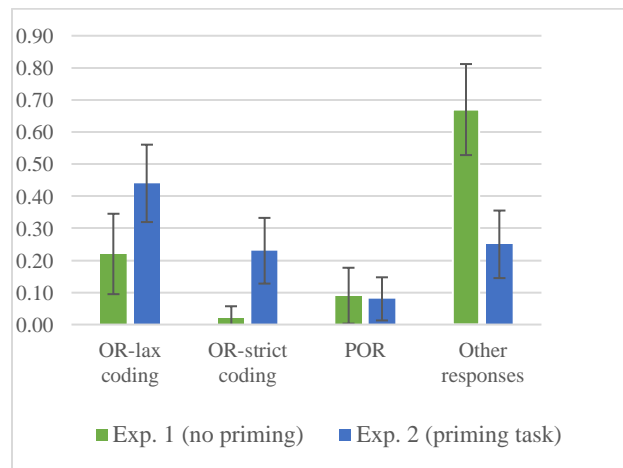


Figure 4. Proportion of responses (OR, POR and Other responses) given by children in Experiment 1 and Experiment 2. ‘Other responses’ refers to the lax coding analysis.

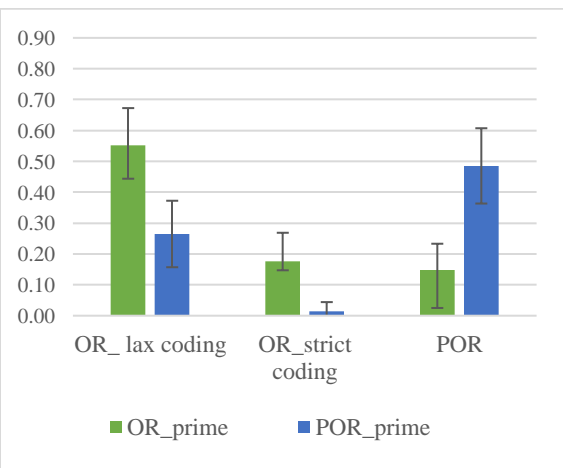


Figure 5. Proportion of ORs (lax and strict coding) and PORs produced by children in Experiment 2 as a function of prime type.

Selected references:

- Brandt, S. Nitschke, S. & Kidd, E. (2017). Priming the Comprehension of German Object Relative Clauses, *Language Learning and Development*, 13:3, 241-261.
- Contemori C., & Belletti, A. (2014). Relatives and Passive Object Relatives in Italian speaking children and adults: Intervention in production and comprehension. *Applied Psycholinguistics*, 35(6), 1021-1053.
- Fine, A. B., Jaeger, T. F., Farmer, T. A., & Qian, T. (2013). Rapid expectation adaptation during syntactic comprehension. *PloS One*, 8,e77661.
- Guasti, M.T., & Cardinaletti, A. (2003). Relative clause formation in Romance child production, *Probus*, 15, 47-89.

Children's Non-Adult-like Interpretations of Telic Predicates across Languages

Different types of misinterpretations of sentences with telic predicates by children have been documented, yet a comprehensive analysis has not been attempted and a crosslinguistic perspective is lacking. This task is not easy, since the non-adult-like interpretations appear scattered, and even contradictory across languages. Reviewing a wide range of studies on the acquisition of telic predicates in sentences with perfective and imperfective aspect, we show that the non-adult-like interpretations fall into three patterns, each of which occurs specifically with tense-aspect forms with variable meanings (Table 1). We demonstrate how acquisition challenges interact with the language-specific properties of tense-aspect systems in a variety of languages.

The first pattern of non-adult-like interpretations of telic sentences has been observed in Germanic and Romance languages: children allow incomplete event interpretations more often than adults for perfective telic sentences such as *The boy built a bridge* (van Hout, 1998, 2018). Pattern 2, as mirror image of Pattern 1, has been observed in the acquisition of Slavic languages: children attribute complete event interpretations more often than adults to past-imperfective telic sentences such as *Ivan stroil most* 'Ivan was building/built a bridge' (Kazanina & Philips, 2007). Pattern 3 is similar to Pattern 2 in that children are overly restrictive, "over-requiring" event culmination: in Mandarin Chinese, children seem to interpret simple verbs like *guān* 'close' in perfective sentences as entailing a change-of-state, contrary to adults who also accept these in a no-change situation (Chen, 2016). Similarly, English children tend to interpret verbs of transfer (e.g., *throw*) in perfective sentences as if they entail a successful transfer of an object to a recipient, while adults also allow an attempt interpretation (Kazanina et al., forthcoming).

As an overall generalization, learners across languages have problems with predicates or tense-aspect forms with multiple meanings, but not with forms with a one-form/one-meaning relation, which are acquired earlier. This means that the locus of acquisition difficulties lies in language-specific properties of the target tense-aspect system, with variations of these systems across languages leading to different types of non-target-like interpretations. Noting that adults are sensitive to context when interpreting forms with multiple meanings, we identify several semantic-pragmatic causes for children's difficulties with such forms, all of which involve immature pragmatic reasoning, albeit in different ways for the three patterns (Table 2). Pattern 1) arises when the incremental theme object in the VP is interpreted non-maximally. Pattern 2) results from failure to retrieve a discourse referent for the reference time for aspectually ambiguous morphology (e.g., Slavic imperfective). Pattern 3) comes about when children favor a causative over a non-causative use of implied-result verbs, reflecting an immature command of so-called abductive reasoning underlying the enriched meaning of these statements.

Thus, by taking a crosslinguistic approach integrating detailed semantic analyses of the tense-aspect systems of specific languages with universal pragmatic effects, we offer a comprehensive explanation for non-adult-like interpretations of telic sentences with perfective and imperfective aspect in a variety of child languages.

Table 1: Types of non-adult-like interpretations of telic sentences across languages

	Sentence type	Non-adult-like performance	Child language	Studies
Pattern 1	Perfective sentences with a telic predicate	Overly liberal: incomplete event interpretations	Dutch English German Italian Spanish	van Hout 1998, 2008 van Hout et al. 2010 Wittek 2008; Schulz & Wittek 2003 van Hout 2008 García del Real 2015
Pattern 2	Imperfective sentences with a telic predicate	Overly restrictive: complete event interpretations	Russian Polish	Kazanina & Phillips 2007 van Hout 2005, 2008
Pattern 3	Perfective sentences with verbs only implying a result	Overly restrictive: entailed-result interpretations	Mandarin English	Chen 2005, 2008, 2017; Demirdache et al. 2016; Liu 2018 Kazanina et al. in press; Marcotte 2005, 2006

Table 2: Locus of children’s non-adult-like interpretations of telic sentences (👶 indicates accepted by children; 👤 indicates accepted by adults)

Language of illustration	Forms with invariant meaning Children are target-like	Forms with variable meaning for adults Children are not-target-like	
		Meaning 1	Meaning 2
PATTERN 1 SPANISH	Telic VPs with non-incremental theme combined with perfective aspect <i>Juan abrió la puerta.</i> Juan open-PAST. PFV the door ‘Juan opened the door.’ Complete event 👶👤	Telic VPs with incremental theme combined with perfective aspect <i>Juan comió la pizza.</i> Juan eat-PAST. PFV the pizza ‘Juan ate the pizza.’ Incomplete event 👶 (👤)	Complete event 👶👤
PATTERN 2 RUSSIAN	Telic VPs combined with perfective aspect <i>Ivan narisoval zvezdu.</i> Ivan draw-PAST. PFV star ‘Ivan drew (all of) a/the star.’ Complete event 👶👤	Telic VPs combined with imperfective aspect <i>Ivan risoval zvezdu.</i> Ivan draw-PAST. IMP star ‘Ivan was drawing/drew a/the star.’ Incomplete event 👤	Complete event 👶👤
PATTERN 3 MANDARIN CHINESE	Verbs entailing result with perfective aspect <i>Lulu guān-shàng-le nà shàn mén.</i> Lulu close-up-PFV that CLF door ‘Lulu completely closed that door.’ Complete event 👶👤	Verbs implying result with perfective aspect <i>Lulu guān-le nà shàn mén.</i> Lulu close-PFV that CLF door ‘Lulu closed that door.’ Incomplete event 👤	Complete event 👶👤

The acquisition of negative disjunctive sentences in Catalan from both a logical and a pragmatic perspective

In English, a sentence like ‘*The cat didn’t eat the carrot or the pepper*’ typically receives a ‘neither’ interpretation (NEG>OR); in Japanese it receives a ‘one but not both’ interpretation (OR>NEG). This cross-linguistic variation in scope assignment of disjunction in simple negative sentences has been attributed to a lexical parameter called the Disjunction Parameter (Crain, 2012; Goro, 2004; see also Szabolcsi, 2002), according to which disjunction can be designated as +PPI or as –PPI. By definition, an expression that is +PPI must be interpreted out of the scope of negation, regardless of its position in surface syntax. As for language acquisition, Crain et al. (1994) argue that all language learners, regardless of the language acquired, start by assigning the ‘neither’ interpretation to negative disjunctive sentences for learnability reasons (the Semantic Subset Principle (SSP) of Crain, 2012; Geçkin et al. 2016; Geçkin et al. 2018; Goro, 2007; Goro & Akiba, 2004). Here we investigate adult and child interpretation to negative disjunctive sentences in Catalan. Our goal is twofold: first, to establish whether disjunction takes the ‘plus’ or the ‘minus’ value in Catalan; second, to investigate how children interpret negative disjunctive sentences. Thirty Catalan-speaking children (age range = 4;6–6;1; mean = 5;4) and 12 Catalan-speaking adults were tested. As in previous studies, a Truth Value Judgment Task (TVJT) modelled after Goro & Akiba (2004) was adopted. Test sentences like (1a) were presented in 2 conditions: the Silver Medal (where only one vegetable was eaten), the Sad Face (where no vegetable was eaten) (Figure 1), plus 4 fillers.

We looked at the adult responses to the Silver medal condition to determine whether OR is a +PPI or a –PPI in adult Catalan: if it is a +PPI (as we expected), adult speakers should accept the test sentence in this condition. We then looked at child results of the two conditions jointly. Four different patterns of responses are logically possible in child language if OR is a +PPI: (i) children might reject sentences like (1) in the Silver medal condition and accept it in the Sad face condition. (ii) children might accept (1) both in the Silver medal condition and in the Sad face condition. (iii) children might accept (1) in the Silver medal condition and reject it in the Sad face condition. (iv) children might reject sentence (1) in the Silver medal condition and accept it in the Sad face condition.

Mixed-model logistic regression analysis on the Silver responses (fixed effects: *group*; random effects: *items*, *subjects*) revealed a main effect of group: children were more likely than adults to reject the test sentences ($p < .001$) (Figure 2). Adult interpretation assigned to (1) corresponds to the English cleft structure *It is the pepper or the carrot that the cat did not eat*. The child results of the two conditions joint together revealed four patterns, as predicted: 12 children belonged to pattern (i), in line with the SSP; 8 children belonged to pattern (ii): those are children who have turned into adults as far as the +PPI value of OR is concerned, but they do not generate the scalar implicature; 3 children belonged to pattern (iii): those are children who have turned into adults as far as the +PPI value of OR is concerned, and consistently compute the scalar implicature; (iv) two children belonged to pattern 4, which is not expected: those are children who assign only NEG>OR interpretation in the Silver condition (as predicted by the SSP) and only an OR>NEG reading (plus implicature) in the Sad face condition; the responses of 3 children did not fall into any of these patterns.

Our results show that OR is a +PPI in Catalan. Accordingly, children are expected to differ from adults as they should assign the ‘neither’ interpretation. We indeed found that adults were more likely to accept sentence (1) than children. We found 11 children who were already adult-like as far as the +PPI value of OR is concerned – and therefore are not at the SSP stage any more – although only 3 of them are able to compute the implicature. In work in progress, we created a new experiment in order to test younger children with the aim of ascertaining whether all children adhere to the SSP in a first step of language acquisition.

- (1) a. El gat no s'ha menjat la pastanaga o el pebrot. (Catalan)
 b. The cat did not eat the carrot or the pepper. (English)

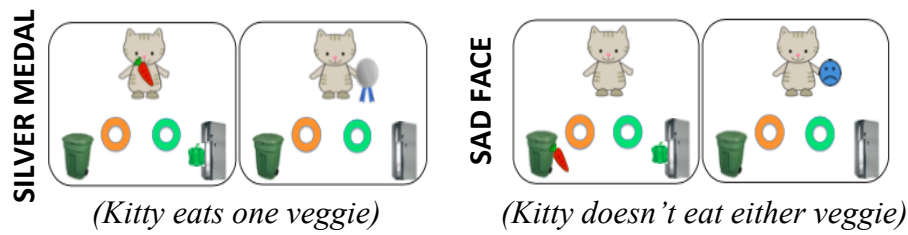


Figure 1. Samples of the Silver medal (left) and the Sad face condition (right).

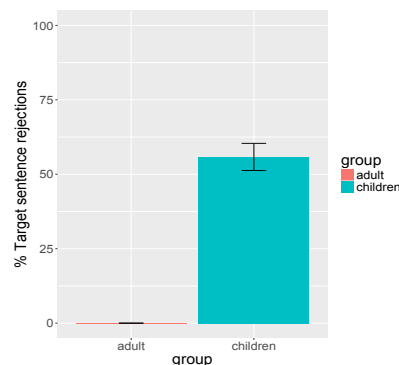


Figure 2. Percentages of rejections by group in the Silver Medal condition.

References

- Crain, S. (2012). *Emergence of meaning*. Cambridge: Cambridge University Press.
- Crain, S., Ni, W., & Conway, L. (1994). Learning, parsing and modularity. In C. Clifton, L. Frazer, & K. Rayner (Eds.), *Perspective on sentence processing*. Hillsdale, NJ: Lawrence Erlbaum.
- Geçkin, V., Crain, S., & Thornton, R. (2016). The interpretation of logical connectives in Turkish. *Journal of Child Language*, 43(04), 784–810. <https://doi.org/10.1017/S0305000915000306>
- Geçkin, V., Thornton, R., & Crain, S. (2018). Children's interpretation of disjunction in negative sentences: A comparison of Turkish and German. *Language Acquisition*, 25(2), 197–212. <https://doi.org/10.1080/10489223.2017.1280796>
- Goro, T. (2004). Japanese disjunction and the locality of positive polarity. In *Poster presented at Georgetown University Round Table*. Georgetown University.
- Goro, T. (2007). *Language-specific constraints on scope interpretation in first language acquisition*. Unpublished doctoral dissertation, University of Maryland.
- Goro, T., & Akiba, S. (2004). Japanese disjunction and the acquisition of positive polarity. In Y. Otsu (Ed.), *Proceeding of the 5th Tokyo Conference on Psycholinguistics* (pp. 137–162). Tokyo: Hituzi Shobo.
- Szabolcsi, A. (2002). Hungarian Disjunctions and Positive Polarity. *Approaches to Hungarian Vol 8*, 1–22.

Adults are not always faster than children. An eye-tracking study on the online comprehension of Indirect Scalar Implicatures

Introduction. Indirect scalar implicatures (ISI) are generated by negating universally quantified statements (e.g. 'not all boys left' → 'some boys left'). Experimental works investigating ISIs with judgment tasks (Bill et al., 2016; Cremers & Chemla, 2014) and eye-tracking (Lohiniva & Panizza, 2016) suggest that children fare surprisingly well with this kind of inference, unlike what has repeatedly been found with direct scalar implicatures (Noveck, 2001). The present work focuses on the strength of ISIs: how frequently are they generated by adults and children and how quickly are they computed? We aim to address these questions by using the Semantic Decision Task (cf. Lohiniva & Panizza, 2016): a picture selection task with eye movement recording.

Exp. Design. 48 elementary school children (age = 104.3m) and 48 adult German speakers were presented with 16 stories involving two groups of pirates, shown on a computer screen. At the end of each trial, an experimental sentence such as (1) had to be judged:

(1) Der Kapitän hat nicht mit allen Meerjungfrauen getanzt.

The captain did not dance with all the mermaids.

The task was to reward the group which best followed the instructions in the test sentence, or reject both. Each group could display one of the three experimental scenarios (Fig. 1): a NALL scenario where the captain danced with not all but some of the mermaids (support for the ISI), a NONE scenario where he did not dance with any mermaid (ISI violation) and a FALSE scenario where the captain was dancing with all the mermaids,. These gave rise to three experimental conditions: Cond. 1 involving a scenario supporting the ISI (NALL vs. FALSE); Cond. 2 involving a scenario violating the ISI (NONE vs. FALSE); Cond. 3, which tests the preference between the NALL and the NONE scenario. In Exp.1 the pre-recorded test sentences were pronounced with unbiased intonation, that is, no stress was put on negation (*nicht*) or the universal quantifier (*alle*), to test the derivation of ISI without the support of prosody.

Results of EXP1. Participants showed high accuracy in the ISI supporting Cond. 1 (84%), and accepted ISI violations quite often in Cond. 2 (children: 75%; adults: 70%). They displayed an overall preference for the ISI-supporting scenario (NALL) over the ISI-violating one (NONE). This preference, yet, decreases with age (adults: 77%; 9yo: 68%; 6yo: 55%), indexing higher tolerance of ISI violations in younger children. The eye movement data show that the ISI-supporting condition was disambiguated faster than the ISI-violating one. Between 2 and 4 s from the onset of negation (*nicht*) children were fixating more steadily the correct scenario vs. the FALSE one in Cond. 1 than in Cond. 2 (Fig.2A). Adults display the same effect only 1.6 s later (Fig.2B), namely between 3.6 and 5.6 s. The fact that scenarios displaying the ISI-enriched interpretation of (1) improved online reference resolution, in comparison to scenarios displaying the literal interpretation, suggests that the computation of ISI is quite fast and robust in children and adults. Surprisingly, though, the latter group was slower than the former (Fig.2C). To further investigate this result, we replicated Exp. 1 with 48 adults using an intonation that biases (1) towards a pragmatic interpretation.

Results of EXP2. In Exp. 2 the test sentences were recorded with prosodic stress on negation (*nicht*) and the universal quantifier (*alle*), the natural intonation supporting ISI-enriched readings of (1).

The offline choices reveal less tolerance for the ISI-violation (70% to 59%) in Cond. 2 and a small increase in preference for the ISI-supporting scenario in Cond. 3 (77% to 82%). The eye movement data display a more robust effect of implicature support: only in the ISI-supporting condition did participants' fixations, upon hearing negation (*nicht*), consistently increase towards the correct scenario (Fig.2D). In the ISI-violating condition, instead, decreasing looks to the correct scenario at 1.5 s from the onset of negation indexes increased uncertainty. Only 1 s later, at about 2.5 s, the participants steadily fixate the ISI-violating scenario. This suggests that an ISI was computed in both conditions, but that it had to be cancelled in Cond. 2 where it wasn't supported.

Conclusions. The results from this experiment provide further evidence for the fact that ISI are robust in children and adults: they are frequently derived and rapidly added to the meaning of the sentence. Interestingly, however, the support of intonation was only a critical factor for adults, but not for children.



Figure 1: Experimental scenarios, left to right: NONE, NALL, and FALSE.

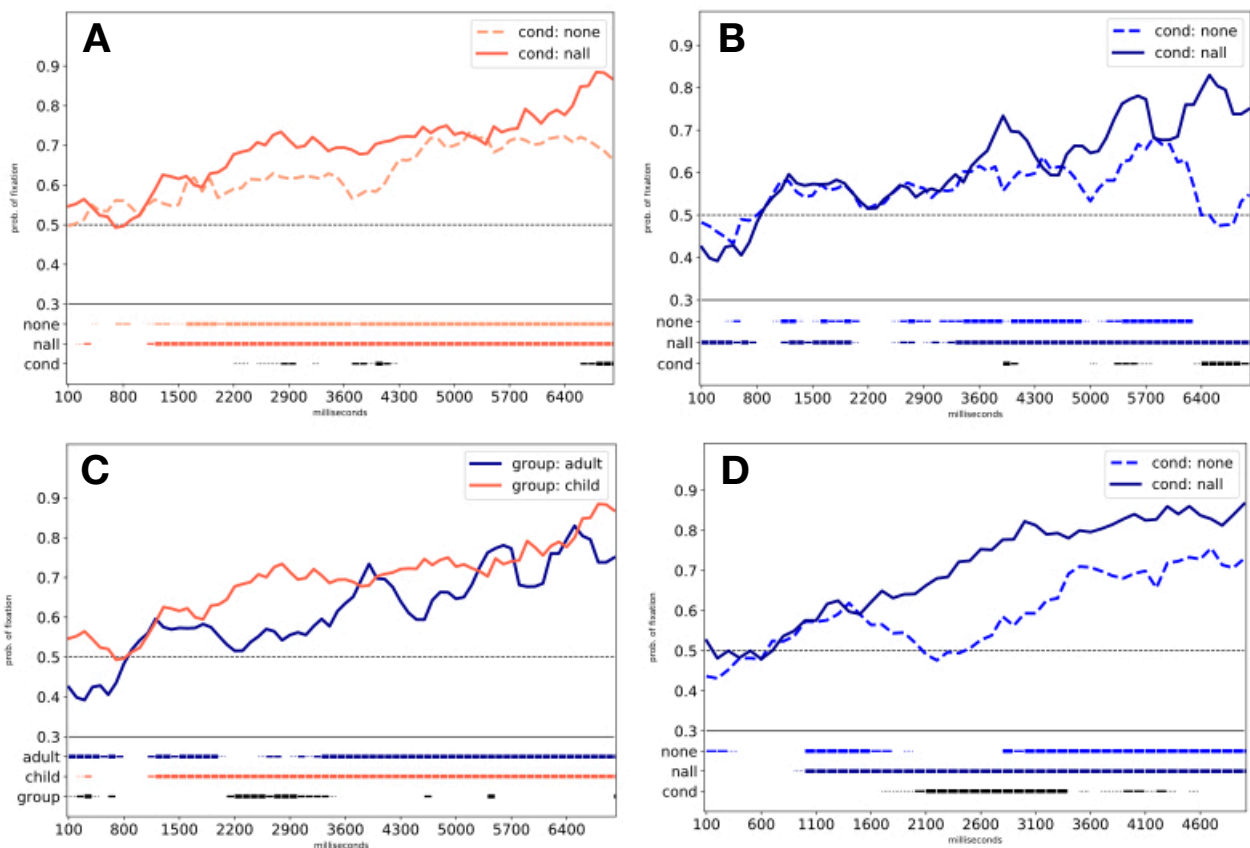


Figure 2: Target preference in NONE and NALL conditions for children (A), adults (exp1: B; exp 2: D), and for children vs. adults in NALL cond. (C)

References:

- Bill, C., Romoli, J., Schwarz, F., & Crain, S. (2016). Scalar Implicatures Versus Presuppositions: The View from Acquisition. *Topoi*, 35(1), 57–71.
- Cremers, A., & Chemla, E. (2014). Direct and indirect scalar implicatures share the same processing signature. *Pragmatics, Semantics and the Case of Scalar Implicatures*.
- Lohiniva, K., & Panizza, D. (2016). When pragmatics helps syntax: an eye tracking study on scope ambiguity resolution in 4- to 5-year- old children. *Proceedings of the 40th BUCLD*
- Noveck, I. (2001). When children are more logical than adults: Experimental investigations of scalar implicature. *Cognition* 78(2), 165—188.

Below Elementary Merge, an iPad Game on the Acquisition of PP-recursion.

We investigated how combinations of prepositional phrases can be interpreted in sentences, such as *Put the monkey next to the tiger next to the elephant*. Such sentences are potentially ambiguous between a conjunctive reading (*put the monkey next to the tiger and the elephant*) and a recursive reading (*the monkey next to the tiger which itself is next to the elephant*). It has been widely assumed (Arsenivc & Hinzen, 2012) that conjunction, having a low complexity, is a default in this development. But is it really the most basic structure? After acquiring conjunction, children move on to acquire the more complex embedded recursive structures. We will argue that there is a more primitive notion of list, lacking hierarchy and having only order as its property. In Chomsky's terms it is linguistically "pure externalization" and cognitively lacks any commitment to order.

To investigate this acquisition path, we developed a stand-alone iPad Game, which collects data in a most natural way. The Game was played by 174 Dutch participants (ages ranging from 3 to 11 in an almost equal distribution and an additional 72 adults). The experiment behind the Game included two conditions (8 items each), one including a conjunction (1a) and one without (1b).

- (1) a. Zet de aap naast de tijger en naast de olifant.
b. Zet de aap naast de tijger naast de olifant.
Put the monkey next to the tiger (and) next to the elephant.

The recursive order is most complex because on that reading the first animal (monkey) cannot be next to the final one (elephant) (2a). The less complex conjunctive reading has the first animal (monkey) in the center and the order of the second (tiger) and third (elephant) is free (2b). We predict that children would start out with the conjunctive order (2b) and then acquire the restrictive recursive order (2a), even for ambiguous cases such as PPs. Such developmental patterns have been proposed by Perez et al (2014) and Amaral et, al. (2014) for other recursive constructions.

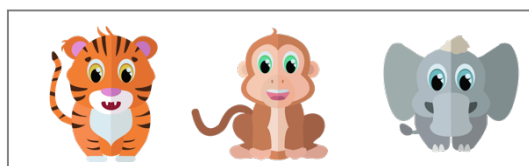
The results show a surprising pattern. Rather than a two-way split, which we predicted, we observe a three-way split in the data. Young participants start out putting the first animal in the sentence on the outside (2a), then a bit older participants move to the first animal in the center (2b) and the older participants change back to having the first animal on the outside again (2a). We will argue that the "recursive" order in young children is not a reflection of a recursive construction, but rather the reflection of an unstructured string, or un-merged string, maybe most comparable to a shopping list (*Get butter, bread, tomato. That's it*). In our Game this meant that young participants did not take the semantics of the preposition and the presence of the conjunctive marker 'and' into account.

We have discovered that there is an additional step on the path to the development and understanding of the recursion in natural language, important for both language acquisition as well as syntactic theories on recursion.

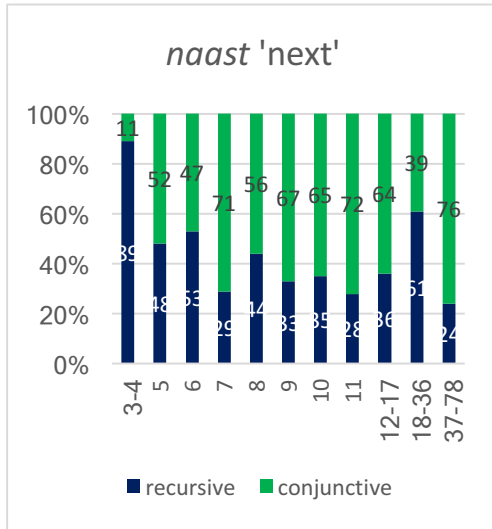
(2a) restrictive recursive order



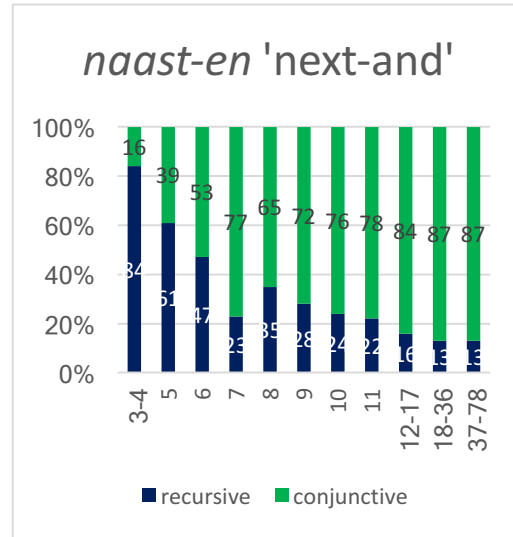
(2b) conjunctive order



Participants response broken down on Order (2a) an (2b) by ages for *next* without ‘and’.



Participants response broken down on order Order (2a) an (2b) by ages for *next* with ‘and’.



references

- Amaral, L., Maia, M., Nevins, A. & Roeper, T (forthcoming). Recursion across domains. Cambridge University Press.
- Arsenivic, B. & Hinzen, W. (2012). On the Absence of X-within-X in Human Grammar. *Linguistic Inquiry* 43.
- Perez-Leroux, A., Castilla, A., Bejar, S. & Massam, D. (2012). Elmo’s Sister’s Ball: The problem of acquiring nominal recursion. *Language Acquisition*.

The development of Counterfactuals: comparative evidence from English and Greek

The study investigates how children learn the meaning of sentences with Past Counterfactual conditionals (PastCFs) like (1). It has been argued that preschool children make reality mistakes on Counterfactuals, namely, they interpret them as denoting what has actually happened rather than what could have happened.¹⁻⁶ Such mistakes were attributed to children's conceptual limitations, e.g., deficit in executive functioning (considered to underpin many cognitive processes, including theory-of-mind¹ and/or counterfactual reasoning⁴). What has escaped attention so far is the role of the linguistic form of Counterfactuals.

The present study focuses on the role of the linguistic cues a child may use in decoding the meaning of counterfactuality. A child acquiring English and Greek, for example, needs to discover that the specific combination *If+Pluperfect* does not refer to an actual past event but rather indicates counterfactuality, i.e., denotes the opposite of what happened in reality. Thus, (1) means that she didn't eat the peach and didn't win the medal, despite it lacking any negation element. The latter property distinguishes Counterfactuals (1) from Simple Conditionals (2) which also convey an *if-p-then-q* relation.

(1) **Past counterfactual conditionals:** If she had eaten a peach, she would have won the medal.

(2) **Simple (future) conditionals:** If the animal eats a peach/jelly, they will get a medal/cross.

Claim: We argue that learning that a grammatical construction is counterfactual and has 'hidden negation' is to a certain extent separate from the ability to reason counterfactually. In this respect, deviation in the development of PastCFs cross-linguistically is expected.

Methodology: We tested the understanding of PastCFs in 3-6 year-old English speaking children and 3-5 year-old Greek speaking children. Correct understanding of Simple Conditionals (2) was a required prerequisite; we also used Sally-Ann task⁷ to test children's ability to represent counterfactual/false beliefs. If counterfactuals are problematic even for children who succeed on conditional reasoning and false/counterfactual beliefs, this indicates that they have not yet discovered that *IF+Pluperfect* designates counterfactuality.

The child and a puppet watched videos of a Food contest. In each of 8 videos, two animals of the same gender (e.g., Mrs.Cat & Mrs.Bear) could eat one of two foods and were judged according to the rules in Fig.1. The contest ended with the judge awarding prizes (Fig.2). After the video ended, the puppet explained to the child what happened using Counterfactuals like (1). The child had to choose which of the animals the puppet referred to. Children who mastered Counterfactuals would choose the animal who didn't eat the peach/didn't receive the medal (Mrs.Cat). The opposite choice (Mrs.Bear) would indicate a reality mistake.

Findings: results to-date (Table 1 and Table 2) from both languages show that children at the age of 3 made reality mistakes at a rate of 67%, while only a 10% show an adultlike understanding of PastCFs, despite having succeeded on Simple Conditionals. Children's performance in both English and Greek advances at the age of 4 depicted at a rate of 50% correct responses and 40% almost adultlike responses. The 5-year-old children show a significant difference between the two languages: the English speaking children seem to have completely developed PastCFs, while the Greek speaking children show an incomplete mastery of counterfactual meaning/language. Moreover, the English data also suggest an all-or-nothing character of counterfactual acquisition while this pattern is not clearly attested in Greek. We discuss the differences in the developmental trajectory between English and Greek and we argue that they stem from language specific properties and cannot be attributed to general cognitive processes.



Figure 1: Food contest, beginning.

Judge: "In this food contest we have Mrs Bear and Mrs Cat.
If they eat a peach, they'll get a medal.
If they eat a jelly bean, they'll get a cross."



Figure 2: Food contest, final scene. During the contest

Mrs Bear ate a peach and Mrs Cat ate a jelly bean.
Judge: "Mrs Cat! You ate a jelly bean, I am going to give you a cross. Mrs Bear! You ate a peach, I am going to give you a medal."

Table 1. 3-6 year-old English-speaking children's performance on Past Counterfactual.

Age group	Number of correct response (out of 8)		
	0-1	2-6	7-8
3-year olds (n = 15)	11	1	3
4-year olds (n = 8)	2	0	6
5-year olds (n = 17)	0	0	17
6-year olds (n = 18)	0	0	18

Table 1. 3-5 year-old Greek-speaking children's performance on Past Counterfactual.

Age group	Number of correct response (out of 8)		
	0-1	2-6	7-8
3-year olds (n = 9)	5	4	0
4-year olds (n = 7)	0	6	1
5-year olds (n = 10)	2	3	5

References

1. Riggs, K.J., Peterson, D.M., Robinson, E.J., & Mitchell, P. (1998). Are errors in false belief tasks symptomatic of a broader difficulty with counterfactuality? *Cognitive Development*, 13, 73–90.
2. Robinson, E.J. & Beck, S.R. (2000). What is difficult about counterfactual reasoning? In P. Mitchell and K. Riggs (Eds.). *Children's Reasoning and the Mind* (pp. 101–119). Hove, UK: Psychology Press
3. Guajardo, N., & Turley-Ames, K. J. (2004). Preschoolers' generation of different types of counterfactual statements and theory of mind understanding. *Cognitive Development*, 19, 53–80.
4. Beck, S. R., Riggs, K. J., & Gorniak, S. L. (2009). Relating developments in children's counterfactual thinking and executive functions. *Thinking and Reasoning*, 15, 337– 354.
5. Drayton, S., Turley-Ames, K.J., & Guajardo, N.R. (2011). Counterfactual thinking and false belief: The role of executive function. *Journal of Experimental Child Psychology*, 108, 532-548.
6. Rafetseder, E. & Perner, J. (2010). Is reasoning from counterfactual antecedents evidence for counterfactual reasoning? *Thinking and Reasoning*, 16, 131-155.
7. Baron-Cohen, S., Leslie, AM., & Frith, U. (1985). Does the autistic child have a 'theory of mind'? *Cognition*, 21, 37–46.

Japanese and Thai L2 acquisition of English tense and aspect agreement

Tense-aspect agreement has been of interest to SLA scholars for many years (e.g., Gabriele & Canale, 2011, Sugaya & Shirai, 2007). The current study investigates the acquisition of English past simple tense and present perfect aspect by Japanese and Thai second language (L2) learners. We examine sensitivity to tense-aspect mismatches between a fronted temporal adverbial (e.g., *last year*) and a following inflected verb, as illustrated in (1) and (2).

(1) **Past simple: match**

- a. Three days ago, Tom missed the bus to the main station.

Past simple: mismatch

- b. * Since last year, Kate studied Dutch and German at Oxford University.

(2) **Present perfect: match**

- a. Since last year, Kate has studied Dutch and German at Oxford University.

Present perfect: mismatch

- b. * Three days ago, Tom has missed the bus to the main station.

(stimuli based on Roberts & Liszka, 2013)

Japanese marks past tense-perfective aspect with the suffix *-ta*, inducing consistent temporal interpretations regardless of the verb to which it attaches, but the imperfective marker *-te i-ru* prompts different interpretations depending on the lexical aspect of the verbal predicate it appears with (Ogihara, 1998). Thai resembles Japanese in encoding aspect morphologically, but there is no grammatical marking of tense (Iwasaki & Ingkaphirom, 2009). Thus, our research questions and predictions relate to whether Japanese and Thai L2 learners are equally capable of distinguishing matched and mismatched temporal adverbials with past simple tense (1) and present perfect aspect (2) in English, using both off-line and on-line measures.

We recruited 16 Japanese and 21 Thai learners of English with advanced proficiency, plus 18 English native speakers. Participants completed a self-paced reading (SPR) task followed by an untimed acceptability judgment task (AJT), plus a time adverbial test. Five versions of the AJT were created, each with 24 test items and 26 distractors. The SPR task included four versions, each with 24 test items and 16 distractors. Preliminary analysis of the results reveals that Japanese and Thai L2 learners process the past simple items on the SPR task in a manner consistent with their judgments on the AJT (Figure 1 & Table 1). However, for present perfect items, L2 learners performed well on the AJT overall (Figure 2) but exhibit a processing cost for the match and mismatch conditions in Region 2 (the verb) on the SPR task (see shaded cells in Table 2). We suggest that the performance differences between the L2 learners and native control group on the SPR task follows from L1 influence among the learners due to differences between L1 and L2 lexical semantics: Japanese and Thai L2 learners are insensitive to present perfect aspect as form and meaning align differently in their L1 and L2. We consider various factors in light of our findings, such as explicit and innate linguistic knowledge, real-time processing consequences when L2 learners are confronted with lexical aspectual conflicts triggered by a punctual temporal adverbial (Chan, 2012), and sentential position of time adverbials. We will discuss the Japanese and Thai L2 learner results in the context of Lardiere's (2009) feature reassembly hypothesis.

Figure 1. Results of AJT: Past simple

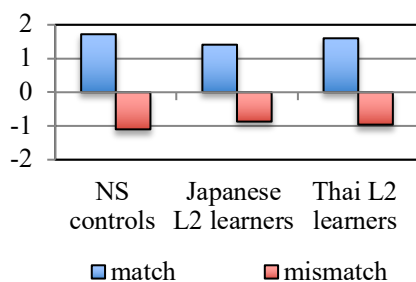


Figure 2. Results of AJT: Present perfect

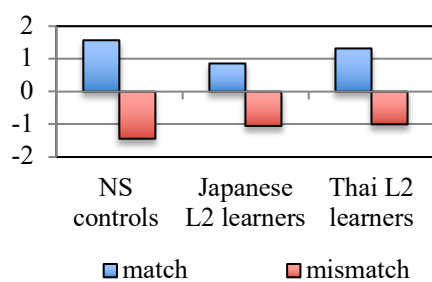


Table 1. Mean response times (raw RTs) and SDs on match conditions versus mismatch conditions for the past simple items across the 4 critical regions

		verb	verb+1	verb+2	verb+3
		Region 1	Region 2	Region 3	Region 4
NS controls	match	458 (128)	436 (139)	459 (169)	454 (161)
	mismatch	479 (142)	498 (155)	486 (183)	491 (147)
Japanese L2 learners	match	754 (262)	676 (285)	705 (245)	693 (240)
	mismatch	846 (357)	692 (248)	738 (269)	703 (235)
Thai L2 learners	match	700 (320)	553 (267)	528 (238)	535 (214)
	mismatch	879 (532)	546 (223)	579 (246)	531 (244)

Table 2. Mean response times (raw RTs) and SDs on match conditions versus mismatch conditions for the present perfect items across the 4 critical regions

		aux	verb	verb+1	verb+2
		Region 1	Region 2	Region 3	Region 4
NS controls	match	416 (88)	475 (156)	445 (146)	453 (153)
	mismatch	502 (164)	570 (241)	530 (276)	517 (231)
Japanese L2 learners	match	608 (149)	847 (322)	743 (332)	690 (237)
	mismatch	651 (193)	839 (283)	696 (269)	695 (228)
Thai L2 learners	match	588 (240)	715 (379)	579 (289)	607 (415)
	mismatch	679 (392)	844 (573)	531 (266)	522 (253)

References

- Chan, H. L. (2012). *Tense-aspect processing in second language learners*. Unpublished dissertation. University of Pittsburgh.
- Gabriele, A. & Canales, A. (2011). No time like the present: Examining transfer at the interfaces in second language acquisition. *Lingua*, 121, 670-687.
- Iwasaki, S. & Ingkaphirom, P. (2009). *A Reference Grammar of Thai*. Cambridge University Press.
- Lardiere, D. (2009). Some thoughts on the contrastive analysis of features in second language acquisition. *Second Language Research*, 25, 173-227.
- Ogihara, T. (1998). Tense and aspect. In Tsujimura (ed.), *The Handbook of Japanese Linguistics*, (pp. 326-348). Blackwell.
- Roberts, L. & Liszka, S. (2013). Processing tense/aspect violations on-line in the second language: A self-paced reading study with French and German L2 learners of English. *Second Language Research*, 29, 413-439.
- Sugaya, N. & Shirai, Y. (2007). The acquisition of progressive and resultative meanings of the imperfective aspect marker by L2 learners of Japanese. *Studies in Second Language Acquisition*, 29, 1-38.

Lexical and pragmatic factors in the acquisition of extraction in L2 English

Background. According to those studies which assume that there are island constraints, *wh*-extraction has been defined exclusively in syntactic terms (Stowell, 1981; Cinque, 1990). The empirical data, however, show that lexical factors may also interact with the availability of extraction; one can identify classes of verbs which allow/disallow extraction. Manner of speaking (MoS) verbs in English represent a case in point. They generally induce strong island effects, (as in 1 and 2). Besides, there are several studies which show that extraction from the clausal complement of an MoS verb is possible under certain semantic and/or pragmatic conditions (e.g. communicative vs. non-communicative use effects), as illustrated in 3 and 4 (Erteschik-Shir, 1973, Ambridge and Goldberg, 2008). Extraction out of the clausal complement of MoS verbs in English offers the perfect ground to test the Interface Hypothesis, according to which L2 learners can acquire formal syntactic properties, whereas properties whose acquisition requires integration of discourse information may be vulnerable, leading to residual optionality even at advanced levels of proficiency (Sorace 2011 and references therein).

Aim. In L2 learning studies, the issue of extraction is relatively understudied and the few available studies did not look into the potential role of lexical and/or pragmatic factors. The aim of this study is to shed light on the role of lexical and pragmatic factors in the acquisition of extraction in L2 English in an L1 Romanian context. In Romanian, MoS verbs are generally compatible with extraction.

Method. I used a sentence acceptability task which included 16 test sentences: 8 sentences with argument extraction in communicative and non-communicative contexts (as illustrated in 5 and 6) and 8 sentences with adjunct extraction in communicative and non-communicative contexts (as shown in 7 and 8). Four MoS verbs were used: *whisper, shout, yell, mumble*. 8 sentences with verbs of communication were used as control sentences.

Participants. 57 advanced L2 English learners (mean age 31.5) took part in the experiment, with L1 Romanian. The results were compared to those of a control group of 30 native speakers of English (mean age 34.2)

Results. The results of the L2 learners, summarized in Table 1, show an overall acceptability rate of extraction of 58.4%, higher than the one in the control group: 37.25%. A series of Welch t-tests shows that there is no statistically significant difference between argument and adjunct extraction in the L2 responses, neither overall ($t(908)=0.33$, $p=.073$), nor in communicative ($t(454)=1.39$, $p=0.17$) or non-communicative contexts ($t(454)=1.8$, $p=0.07$) respectively. In addition, there is no statistically significant difference between the L2 learners' acceptability of extraction in communicative or non-communicative contexts ($t(908)=1.48$, $p=0.13$). However, there is a clear preference for extraction from the post-verbal clause of verbs of communication, as seen in Table 2. Communicative use effects play an important part for native speakers of English (acceptability rates reach 46% in communicative contexts, as opposed to 28% in non-communicative contexts). Extraction out of the clausal complement of a verb of communication is grammatical (92.5%).

Discussion. The results show that advanced L2 English learners with L1 Romanian do not pattern with native speakers of English. The acceptability rate indicates residual optionality which might reflect transfer from points towards transfer from Romanian, where MoS verbs do not ban extraction. The fact that L2 learners are not sensitive to the lexical and pragmatic constraints which influence extraction for native speakers of English (e.g. communicative use effects) seems to bring further evidence in favour of the Interface Hypothesis.

- (1) *What did she mumble that the teacher had said <what>? (example from Warnasch, 2006)
- (2) *How did Bob whisper that they would help the Dean <how>? (example from Warnasch, 2006)
- (3) What did John just whisper to you that he ate <what>? (example from Stowell, 1981)
- (4) How did Ron whisper to Harry that Hermione solved the mystery <how>?
- (5) Who did John whisper to his friend that Mary loved <who>?
- (6) What did the boy shout at his dog that it had chewed?
- (7) How did Ron whisper to Harry that Hermione solved the mystery <how>?
- (8) With whom did the ballerina whisper at her friend that she wanted to dance <with whom>?

Table 1: MoS verbs in L2 English. Acceptability of extraction

Group	Argument		Adjunct	
	Communicative	Non-communicative	Communicative	Non-communicative
L2 English learners: 57 n=912 responses	58.7%	61.4%	60.5%	53%
	60%		56.8%	
	58.4%			

Table 2: MoS verbs and verbs of communication in L2 English. Acceptability of extraction

	Argument	Adjunct	Overall
MoS verbs	58.7%	60.5%	59.6%
Verbs of communication	85.5%	80.7%	83.1%

Selected References: Ambridge, B., Goldberg, A. E. 2008. The island status of clausal complements: Evidence in favour of an information structure explanation. *Cognitive Linguistics* 19(3): 349–381. Cinque, G. 1990. *Types of A-Dependencies*. Cambridge, Mass.: MIT Press. Erteschik-Shir, N. 1973. On the Nature of Island Constraints. PhD Dissertation, MIT. Erteschik-Shir, N. 2005. Bridge phenomena. In M. Everaert and Henk van Riemsdijk (eds.) *The Blackwell Companion to Syntax*, Vol.1, 284 –294. Oxford: Blackwell. Sorace, A 2011. Pinning down the concept of “interface” in bilingualism. *Linguistic approaches to bilingualism* 1:1-33. Stowell, T. 1981. Complementizers and the Empty Category Principle. In V.Burke and J. Pustejovsky (eds.) *Proceedings of the Eleventh Annual Meeting of the North Eastern Linguistic Society*, 345–363. Amherst, Mass.: GLSA. Warnasch, C. 2006. Discriminate and conflate: Two classes of English non-bridge verbs. Ms. New York University. Zwicky , A.M. 1971. In a manner of speaking. *Linguistic Inquiry* 2 (2): 223–232.

Reading comprehension in adolescents with L2 Italian: the role of degree of bilingualism

Several studies have investigated the impact of bilingualism on children's literacy acquisition since the very early phases of reading development (e.g., Kremin et al., 2016). However, these effects are difficult to find in studies investigating the literacy achievements in adolescence, when decoding is fully automatized and higher level processes, such as lexical knowledge and syntactic parsing, enable readers to make inferences about the meaning of complex texts (see van Gelderen et al., 2007). In the current study, we aim at describing the cognitive and linguistic underpinnings of literacy skills, with a focus on reading comprehension, in a group of adolescents with Italian as L2 showing varying degrees of bilingualism.

In order to understand the complex processes underlying reading comprehension in bilingual development, it is crucial to acquire a better understanding of the general linguistic profile of adolescent bilinguals. To do so, we tested general cognitive skills (cognitive level, verbal working memory, attention), linguistic competence (lexical and syntactic skills) and reading ability (fluency and comprehension) in 24 adolescents with Italian as L2, whose L1 was Albanian, Spanish and Arabic (Mean age: 16,05; 5 M). Bilingual participants were matched by age and gender with 24 L1 Italian adolescents (Mean age: 15,72). Participants were tested on a range of standardized cognitive and reading tests and *ad-hoc* created linguistic tasks, investigating syntactic and lexical competence. L2 participants' exposure and use of L2 was explored by means of the Italian adaptation of the Language and Social Background Questionnaire (LSBQ; Anderson et al., 2018). We were then able to classify L2 participants into two groups: a group of speakers whose L1 was the dominant language (henceforth L1-dominant; n=12) and another group with L2 as the dominant language (n=12). We will refer to this group as Heritage Language Speakers (HLS; Benmamoun et al., 2013).

Preliminary results indicate that, when we collapsed the L2 group, L2 participants showed a significantly poorer performance as compared to their L1 peers in literacy measures, as well as in verbal tasks, but not in general cognitive ability skills. When we considered the subgroups of L2 participants, the L1-dominant group performed significantly lower in all the linguistic and literacy tasks not only as compared to the monolingual group but also with respect to the HLS participants. Correlation analyses revealed that only in L1-dominant speakers (and marginally in the HLS group) a significant association still exists, even in adolescence, between word decoding and reading comprehension. Additionally, we found a strong direct relation between verbal working memory and reading comprehension both in monolinguals and in HLS, but not in L1-dominant speakers, thus confirming a relationship between working memory, reading comprehension, and higher level language skills (see Cain, Oakhill, & Bryant, 2004). Overall, HLS participants did not differ in any of the tasks with respect to their monolingual peers, even though showing a slightly different pattern of literacy development.

In summary, our data suggest that degree of bilingualism is a crucial construct to consider in reading development, as it provides an independent contribution to reading comprehension in later grades of school.

References

- Anderson, J.A.E., Mak, L., Keyvani Chahi, A., Bialystok, E. (2018). The language and social background questionnaire: Assessing degree of bilingualism in a diverse population. *Behavior Research Methods*, 50, 250-263.
- Benmamoun, E., Montrul, S., Polinsky, M. (2013). Heritage languages and their speakers: Opportunities and challenges for linguistics. *Theoretical Linguistics*, 39, 129-181.
- Cain, K. E., Bryant, P. E., & Oakhill, J. (2004). Children's reading comprehension ability: Concurrent prediction by working memory, verbal ability, and component skills. *Journal of Educational Psychology*, 96(1), 31-42.
- Kremin, L. V., Arredondo, M. M., Hsu, L. S. J., Satterfield, T., Kovelman, I. (2016). The effects of Spanish heritage language literacy on English reading for Spanish–English bilingual children in the US. *International Journal of Bilingual Education and Bilingualism*, 1-15.
- Van Gelderen, A., Schoonen, R., Stoel, R. D., de Glopper, K., & Hulstijn, J. (2007). Development of adolescent reading comprehension in language 1 and language 2: A longitudinal analysis of constituent components. *Journal of Educational Psychology*, 99(3), 477-491.

This study addresses the adjectival order acquisition in L2 advanced adult learners of Italian. The experiment focuses on the acquisition of interpretive correlates of pre- and post-nominal adjectives. The existing literature has only focused on early bilinguals (Cardinaletti & Giusti 2011, Kupisch 2014). The current study contributes to fill a gap in research and deals with late bilingualism. In order to address this issue, 21 adult advanced Italian L2 speakers carried out a picture-sentence matching test. In each trial, they were first presented with a sentence providing non-informative context to an adjective-noun pair. By pressing a key, the subjects then made two pictures appear on the screen, representing the two different possible interpretations of the adjective-noun pair. Participants were then required to choose the one matching the adjectival order contained in the sentence. The software recorded both correct/wrong answers and reaction times (RTs). 46 native speakers (NSs) carried out the online test first in order to validate the items. Only items with at least an 80% agreement rate among NSs were included in the non-native speakers' (NNSs) test. Moreover, counterbalanced sets were created so that each subject was exposed to only one experimental condition per item, i.e. only saw each adjective in either pre-nominal or post-nominal position. 27 NSs then carried out the same test offline in order to account for processing-related differences. There are four main results. First, advanced L2speakers performed worse than L1 controls, this being confirmed by the higher number of their non-target-like responses. This difference is significant at three independence tests (Chi squared, Log-Likelihood, Fisher exact test). Second, pre-N adjectives were more difficult to process. Third, frequency in the input showed not to affect the subjects' performances: data were analysed with a multifactorial ANOVA which revealed that neither subjects' RTs nor the number of their non-target-like responses were influenced by the frequencies of adjectives alone or as a chunk. Fourth, the offline session resulted in better NSs' performances, suggesting that the high non-target-like responses proportion emerging from online NSs' tests (34% average) might be due to language processing difficulties elicited by time constraints pressure.

REFERENCES.

- Anderson, Bruce. "Forms of evidence and grammatical development in the acquisition of adjective position in L2 French", *Studies in Second Language Acquisition* 30.1, 2008. 1-29.
- Cardinaletti, Anna, and Giuliana Giusti. "The acquisition of adjectival ordering in Italian", *Variation in the input*. Springer, Dordrecht, 2011. 65-93.
- Cinque, Guglielmo. "The syntax of adjectives: A comparative study", Vol. 57. MIT press, Cambridge Massachusetts, 2010.

Kupisch, Tanja. "Adjective placement in simultaneous bilinguals (German–Italian) and the concept of cross-linguistic overcorrection", *Bilingualism: Language and Cognition* 17.1, 2014. 222-233.

Rizzi, Silvana, et al. "Adjective placement in bilingual Romance-German and Romance-Romance children", *Studia Linguistica* 67.1, 2013. 123-147.

Comprehension of morphological case: evidence from Russian

Background: Morphological case comprehension in children presents contrasting hypotheses and contradicting results, despite evidence of early acquisition in production (Dittmar et al. 2008, Schipke et al. 2012; Özge et al. 2015, Janssen 2016 Mitrofanova and Sekerina 2017, Sauermann and Gagarina 2018; see also Knoll et al. 2012 and Brandt et al. 2016). A main focus in the literature focusing on the comprehension of case has been the difference in children's relatively better comprehension of sentences of the type shown in (1a) than in (1b). Worse performance in (1b) has been linked to incorrect understanding of case for argument role assignment, given the subject's non-canonical position. Two main hypotheses have been proposed to account for the asymmetry between (1a) and (1b):

- (A) 1. Children below 6-7 years either lack the relevant neurological connections for processing required in sentences like (1b), or
2. the relevant part of their grammar has not reached an adult-like stage yet.
- (B) Children at this age are already adult-like in their comprehension of case and extra-grammatical factors are responsible for the attested non-adult behavior.

Predictions: Hypothesis (A) predicts uniformly non adult-like performance in children with sentences like (1b). Hypothesis (B) however, predicts variability in children's behavior across different methodologies, with better performance on easier tasks.

The present study: This study investigates the comprehension of morphological case in 41 Russian 3-5-year-old monolinguals (range 3;10-5;10; mean 4;8) and 10 adult controls. A picture selection task and a referent selection task (based on Kamide et al. 2003; Özge et al. 2015) were used: in the picture selection task, participants heard audio containing subject-first (1a) and object-first (1b) sentences with transitive verbs and matched each sentence with one of two simultaneously presented images. One image matched the argument roles in the sentence, and one showed non-matching roles. For the referent selection task, participants completed subject-first and object-first sentence fragments with the aid of different images. Each fragment contained a given case-marked argument in the sentence-initial position and a masked follow-up argument; (2). Participants saw the first argument on the screen along with two possible follow-ups (for 'seal' in (Fig. 1) 'fish' or 'shark'). Correctly interpreting the case of the given argument would lead to point either at a prototypical patient or agent as follow-ups (in (2) Seal.NOM leads to the choice of 'fish' and 'Seal.ACC' leads to 'shark').

Results: A two-way ANOVA with *task* (picture-, / referent selection) and *condition* (subject-, / object-first) as factors revealed a significant *task* effect ($F=35.15$, $p < .001$), and a marginally significant *condition-and-task* interaction ($F=3.95$, $p=.0505$). Children showed high performance in the picture selection task – including the object-first condition - and a lower performance for referent selection. Children also performed better in the subject-first versus the object-first condition in the picture selection-, but not in referent selection task (Fig. 2). Adults showed overall high performance, with no main effects or interactions (all $ps > .3$).

Discussion: Children showed significantly better performance on the picture selection-, than on the referent selection task, supporting hypothesis (B). The results are inconsistent with hypothesis (A) (inability to process case due to the absence of relevant neurological connections or due to an immature grammar): children's successful performance on the object-first condition in the picture selection task demonstrates an adult-like grammar, while the task variability shows how external factors as methodology affect case comprehension. This study is currently being extended with German children and adults, in order to investigate the role of language in morphological case comprehension.

- 1a) T'ulen' jest rybu
 Seal.NOM eats fish.ACC
'The seal eats the fish.'
- 1b) T'ulen'a jest ryba
 Seal.ACC eats fish.NOM
'The fish eats the seal.'
- 2) T'ulen' / T'ulen'a jest X
 Seal.NOM / Seal.ACC eats X
'The seal eats ...'

Figure 1.: An example of a visual trial in the referent selection task.

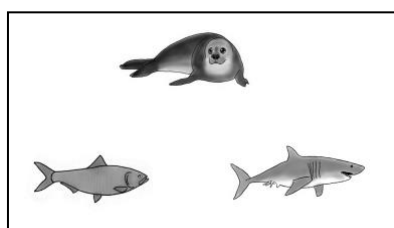
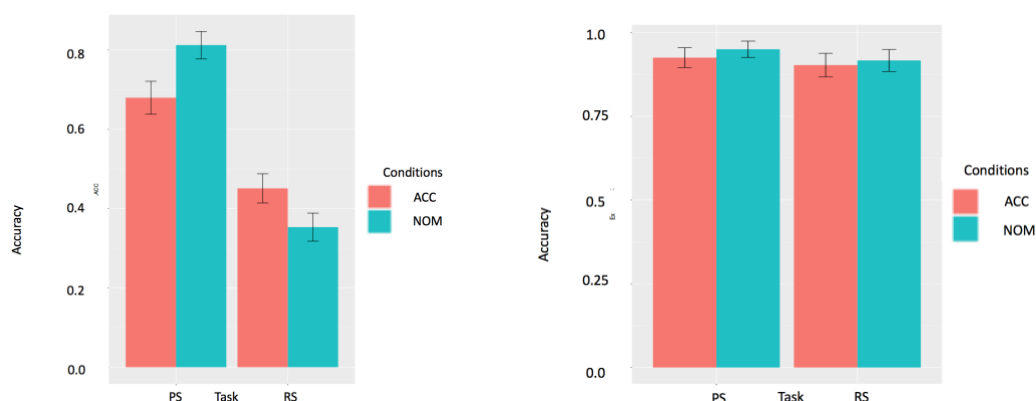


Figure 2.: Accuracy rates for picture selection and referent selection across conditions for children (left) and adults (right).

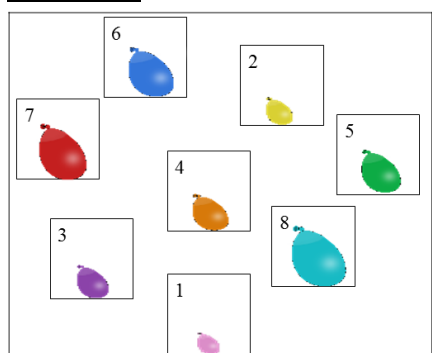


Selected references: Brandt et al. (2016) 'German Children's Use of Word Order and Case Marking to Interpret Simple and Complex Sentences: Testing Differences Between Constructions and Lexical Items, *Language Learning and Development*, 12:2, 156-182. * Dittmar et al. (2008). German children's comprehension of word order and case marking in causative sentences. *Child Development* 79. 1152–1167. * Janssen, B. (2016). The acquisition of gender and case in Polish and Russian: A study of monolingual and bilingual children Amsterdam: Uitgeverij Pegasus. * Knoll et al. (2012). Left prefrontal cortex activation during sentence comprehension co-varies with grammatical knowledge in children. *Neuroimage*, 62(1), 207-216. * Schipke, C. (2012). Processing mechanisms of argument structure and case-marking in child development: Neural correlates and behavioural evidence. University of Potsdam dissertation. * Sauermann, A., & Gagarina, N. (2018). The role of givenness and type of referring expression in the comprehension of word order in Russian-speaking children. *Linguistics Vanguard*, 4(s1). * Sekerina, I. & Mitrofanova, N. (2017) Testing Predictive Power of Morphosyntactic Cues Cross-Linguistically, poster presentation BUCLD 42. * Özge, D. et al. (2016). Predictive use of case markers in German children. In Scott & Waughtal (eds.), *Proceedings BUCLD 40* 291–303. Somerville, MA: Cascadilla Press.

Is everything either big or small? Evidence from children's judgements of relative gradable adjectives

This study asked whether 3- to 5-year-old children are sensitive to non-bivalent truth values of vague predicates by testing their interpretation of the relative gradable antonyms *big* and *small*. Relative gradable adjectives (e.g., *big/small*) are vague predicates, one key characteristic being the existence of ‘borderline cases’ (BC) (Kennedy 2007): in Figure 1, in addition to objects intuitively judged as big (balloons 6-8) and as small (balloons 1-3), there are BC (balloons 4, 5) that are more difficult to judge. In this context, (1a) and (1b) are neither clearly true nor clearly false. Depending on the theoretical account, BC should be judged either as ‘truth value gluts’, i.e. big and small, or as ‘truth value gaps’, i.e. neither big nor small (Égré/Zehr 2018). Studies with adults found evidence for both judgements, with a preference for gaps (Égré/Zehr 2018, Solt/Getzner 2010). First acquisition results indicate that 4-year-olds detected BC for *tall/short*, interpreting them as gaps (Barner/Snedeker 2008). Findings for 3-year-olds were inconclusive: judgment of only the biggest/smallest object in a series as *big/small* (Tribushinina 2013) may indicate detection of BC, but location of the boundary for *big/small* around the scale’s midpoint does not (Foppolo/Panzeri 2013, Syrett et al. 2006). It is open how robust the preference for gaps is, whether there are individual differences concerning the preference for gaps vs. gluts, and how the interpretation of BC develops across age. To address these issues, we tested 43 German-speaking children between age 3 and 5 and 26 adults with a forced picture-choice task and analyzed individual responses. We asked: **(Q1)** Do children detect BC for *big* and *small*? **(Q2)** Are BC interpreted as gaps or as gluts? **(Q3)** Do interpretation patterns change with age? The interpretation of *big* and *small* was tested in a within-subject design (2 trials per adjective). In each trial, 8 cards (14x14cm) displaying single objects (water balloons, space hoppers) of different size were presented in unordered fashion (Fig. 1). Participants were asked *Please give me the Adj N*. The same visual array was presented with *big* (Session 1) and *small* (Session 2). For each participant and visual array we defined the smallest object selected as big and the biggest object selected as small, allowing us to analyze whether objects were judged as either big or small, neither big nor small, or big and small. **Ad Q1:** BC were detected by adults and children across all age groups. Except for age 3 the proportion of responses with BC was significantly higher than without BC (Table 1). The individual analysis (Fig. 2) revealed that 81% of the adults were ‘consistent BC-detectors’, treating some objects as BC in both trials, compared to 72% of the children. Nine children were ‘inconsistent BC-detectors’, treating some objects as BC in one trial, and 4 children were ‘no BC-detectors’, treating all objects as either big or small. **Ad Q2:** All adult BC-detectors interpreted BC as gaps, i.e. as neither big nor small. Of the 31 consistent children, 20 interpreted BC as gaps, 6 as gluts, i.e. big and small, and 5 as both (Fig. 2). **Ad Q3:** The proportion of consistent BC-detectors with a gap-interpretation compared to the proportion of consistent BC-detectors with a glut-interpretation increased with age ($\chi^2(3) = 9.26, p = .026$). In summary, most children, like the adults, were able to detect BC, i.e. *small* and *big* were neither clearly true nor clearly false. The individual data revealed that adults always treated BC as *neither big nor small*, but children sometimes treated BC as *big and small*. We argue that these patterns are related to the context-sensitivity of vague predicates. The standard for bigness and smallness need not to be the same, but crucially the one for *big* must be higher than the one for *small* (Kennedy 2007, Solt 2011). By violating this constraint, children arrived at the judgment of the same objects as *big* and *small*. Children’s glut-responses thus do not reflect true BC but non-adult-like knowledge about the relation between the standards for *big* and *small*. Future research should relate these findings to other phenomena for which the truth value is unclear under specific circumstances (see Tieu et al. 2018).

Appendix



- (1) a. Water balloon 4 and water balloon 5 are big.
b. Water balloon 4 and water balloon 5 are small.

Figure 1. Example visual array for test items (The numbers are given for illustration purposes only):
Give me the big water balloons / Give me the small water balloons.

Results

Table 1. Mean percentage of borderline- and no borderline-responses per age group, and significance according to Wilcoxon tests. The missing value to 100% equates to unanalyzable responses.

Age	N	Borderline	No borderline	<i>p</i>
3	11	68	25	.102
4	15	83.5	14.5	.002
5	17	70.5	28	.035
Adults	26	88.5	11.5	< .001

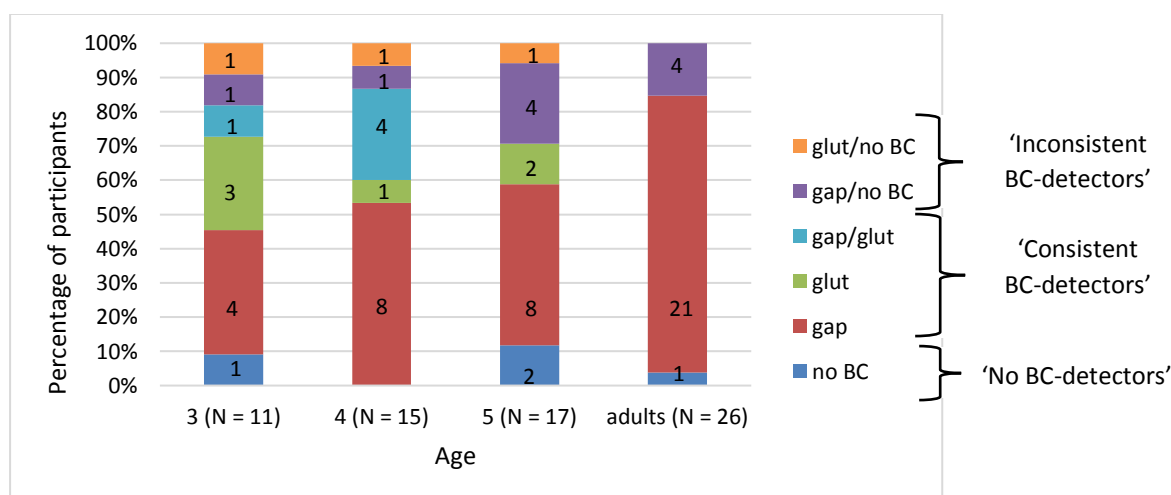


Figure 2. Percentage and raw numbers of participants per response pattern.

Selected References

Barner, D. & Snedeker, J. (2008). Compositionality and statistics in adjective acquisition: 4-year-olds interpret ‘tall’ and ‘short’ based on the size distributions of novel noun referents. *Child Development*, 79 (3), 594-608. **Égré, P. & Zehr, J. (2018).** Are Gaps Preferred to Gluts? A Closer Look at Borderline Contradictions. In E. Castroviejo et al. (eds.), *The Semantics of Gradability, Vagueness, and Scale Structure* (p. 25-58). Springer. **Foppolo, F., & Panzeri, F. (2013).** Do children know when their room counts as clean? In S. Kan et al. (eds.), *Proceedings of NELS 40* (p. 205-218). Amherst, MA: GLSA. **Kennedy, C. (2007).** Vagueness and Grammar: the semantics of relative and absolute gradable adjectives. *Linguistics and Philosophy*, 30, 1-45. **Solt, S. & Gotzner, N. (2010).** *Expensive, not expensive or cheap? An experimental investigation of vague predicates*. 11th Szklarska Poreba Workshop. **Tieu, L. et al. (2018).** Developing insights into gappy phenomena. Comparing presupposition, implicature, homogeneity, and vagueness. In K. Syrett & S. Arunachalam (eds.), *Semantics in Language Acquisition* (p. 301-324). Benjamins. **Tribushinina, E. (2013).** Adjective Semantics, World Knowledge and Visual Context: Comprehension of Size Terms by 2- to 7-Year-Old Dutch-Speaking Children. *Journal of Psycholinguistic Research*, 42, 205-225.

Acquisition of subordinate clauses in early second language learners of German. Does the complementizer make a difference?

Keywords: early second language acquisition, subordinate clauses, *weil*-clauses, verb placement

This study investigates the acquisition of subordinate clauses in eL2 learners of German (AoO: 2;0-4;0) in comparison to monolingual German-speaking children. In German matrix clauses the finite verb has to appear in V2 position. In contrast, in subordinate clauses, the finite verb remains in verb final (VF) position (I^0), and the complementizer is placed in C^0 as illustrated in (1) (Vikner 1995). An exception are clauses introduced by *weil* ‘because’, which may license V2 as well, and which frequently appear in spoken varieties of German. However, this paratactic structure with V2 is allowed in only particular contexts expressed epistemic causality and speech act justification. However, V2 is less optimal than VF in contexts expressed propositional causality as shown in (2) (Anton/Steinbach 2010).

Regarding monolingual acquisition of German subordinate clauses, previous research shows that children acquire verb placement parameter around age 3. Verbs in V2 occur very rarely and almost exclusively in clauses with *weil* or relative clauses (Rothweiler 1993, Tracy 1991). eL2 learners distinguish the different verb placement in German main and subordinate clauses from the beginning as well, and produce almost exclusively subordinate clauses with verbs in VF (Rothweiler 2006, Tracy/Thoma 2009). As for monolingual children, clauses with V2 were reported very rarely. However, eL2 research on subordinate clauses so far has not considered *weil*-clauses separately, what is required since V2 is licensed in these clauses in specific contexts. Therefore, we addressed the following question: Does the complementizer influence verb placement in subordinate clauses produced by eL2 and monolingual children?

Using the production subtest of LiSe-DaZ (Schulz/Tracy 2011), subordinate clauses were elicited from eL2 and monolingual children during four test rounds. We coded verbs for placement (V2, VF) and complementizers introduced the clauses (*wenn* ‘if’, *dass* ‘that’, *ob* ‘whether’, *weil* ‘because’). Note that for *weil*-clauses only contexts were elicited, which expressed propositional causality, and thus require VF. This confirms adult control group (n=20) who exclusively used VF in these clauses. 21 eL2 children (age at T1: 3;9 years, LoE:10 months) and 25 monolingual children (age at T1: 3;9 years) participated.

Results are presented in Table 1. eL2 children and monolingual children use almost exclusively VF in clauses introduced by a complementizer different than *weil* across all test rounds. Interestingly, in *weil*-clauses eL2 learners place verbs significantly frequently in V2 than in VF till age 4;8 (T-test, $p<.000$). At age 5;9, they place verbs in VF in about 50% of *weil*-clauses, and thus perform similar to their monolingual peers.

Our findings show that the complementizer influences verb placement in German subordinate clauses. In clauses introduced by complementizer different than *weil*, eL2 and monolingual children consistently place verbs in VF. Surprisingly, in *weil*-clauses both groups very frequently place verbs in V2 although adults prefer VF in elicited contexts. These developmental patterns have not been reported yet. We suggest that young children are not able yet to distinguish between contexts, which allow *weil*-clauses with V2 or do not, and overgeneralize V2. This overgeneralization may be due to high frequency of *weil*-clauses with V2 in input of these children.

Selected references

- Anton, M. & Steinbach, M.** (2010). Desintegration und Interpretation: Weil-V2-Sätze an der Schnittstelle zwischen Syntax, Semantik und Pragmatik. *Zeitschrift für Sprachwissenschaft* 29, 1-37.
- Rothweiler, M.** (1993). *Der Erwerb von Nebensätzen im Deutschen. Eine Pilotstudie*. Tübingen: Niemeyer.
- Rothweiler, M.** (2006). The acquisition of V2 and subordinate clauses in early successive acquisition in German. In C. Lleó (ed.), *Interfaces in multilingualism: Acquisition and representation*, 91-113. Philadelphia: John Benjamins Publishing Company.
- Schulz, P. & Tracy, R.** (2011). Linguistische Sprachstandserhebung – Deutsch als Zweitsprache (LiSe-DaZ). Göttingen: Hogrefe.
- Tracy, R.** (1991). *Sprachliche Strukturentwicklung. Linguistische und kognitionspsychologische Aspekte einer Theorie des Erstspracherwerbs*. Tübingen: Gunter Narr Verlag.
- Tracy, R. & Thoma, D.** (2009). Convergence of finite V2 clauses in L1, bilingual L1 and early L2 acquisition. In Ch. Dimroth & P. Jorresn (eds.), *Functional categories in learner language. Studies on language acquisition (SOLA)*, 1-43. Berlin: Mouton de Gruyter.
- Vikner, S.** (1995). Verb movement and expletive subjects in the Germanic languages. Oxford: Oxford University Press.

Examples

- (1) Wenn Lise den Hund **füttert**. ‘If Lise is feeding the dog.’
- (2) A: Warum bist du denn zu spät gekommen? ‘Why did you come too late?’
B: Weil ich (#**habe**) keinen Parkplatz gefunden (**habe**). ‘Because I didn’t find any parking place.’

Table 1. Verb placement for monolingual and eL2 children at four test rounds (T1, T2, T3, T4) in *weil*-clauses.

	Monolingual children				eL2 children			
	T1 3;9	T2 4;3	T3 4;8	T4 5;9	T1 3;9	T2 4;3	T3 4;8	T4 5;9
Total of clauses without <i>weil</i>	51 (100%)	65 (100%)	81 (100%)	79 (100%)	2 (100%)	11 (100%)	47 (100%)	83 (100%)
VE	51 (100%)	62 (95%)	81 (100%)	78 (99%)	1 (50%)	9 (82%)	43 (91%)	82 (99%)
V2	0	3 (5%)	0	1 (1%)	1 (50%)	2 (18%)	4 (9%)	1 (1%)
Total of clauses with <i>weil</i>	50 (100%)	51 (100%)	59 (100%)	49 (100%)	12 (100%)	25 (100%)	60 (100%)	50 (100%)
VE	29 (58%)	25 (49%)	32 (54%)	26 (53%)	4 (33%)	8 (32%)	26 (43%)	24 (48%)
V2	21 (42%)	26 (51%)	27 (46%)	23 (47%)	8 (67%)	17 (68%)	34 (57%)	26 (52%)

Cross-linguistic Influence in the Interpretation of Lexically Unrealized Objects by Cantonese-English Bilingual Children

Background. Previous studies have revealed cross-linguistic influence on early object omission in bilingual children who are acquiring one language that allows null object (language A) and another language that disallows null object (language B) simultaneously. The direction of the influence goes from language A to language B (e.g., from Cantonese to English in Yip and Matthews 2007, and from Dutch/German to French in Müller and Hulk 2001).

Aim. The aim of the present study is to investigate whether there is evidence of cross-linguistic influence on the interpretation of lexically unrealized objects by Cantonese-English bilingual children. Whereas English disallows null object that refers back to a discourse topic, such referential null object is prominent in Cantonese. Our data may shed light on whether the same pattern of cross-linguistic influence exists in Cantonese-English bilingual children's interpretation of lexically unrealized objects as in their omission of objects.

Method and participants. In this study, we employed a picture selection task. Participants were asked to select picture(s) that matched a seemingly intransitive sentence, which was either affirmative (e.g., *Winnie was drawing*) or negative (e.g., *Winnie was not drawing*). Each test sentence was contextualized with a discourse topic serving as a potential object of the verb, and was paired up with three pictures for selection, one of them compatible with a non-referential reading (i.e., the English-type analysis) but incompatible with a referential reading (i.e., the Cantonese-type analysis) of the unrealized object. Sixty-eight sequential Cantonese-English bilingual children (3;4-7;4) dominant in Cantonese participated in the experiment, with Cantonese monolingual children (3;02-5;11; N = 20) and adult native speakers of English (N = 20) and Cantonese (N = 36) serving as controls.

Results and discussion. The results showed that the bilingual children interpreted a high rate of unrealized objects in English affirmatives only as the discourse topic (see Table 1) and a high rate of null objects in Cantonese as non-referential, especially with negatives (see Tables 3 & 4), different from the English monolingual peers reported in Grüter (2006) and our Cantonese monolingual children, who were adult-like in their interpretation of unrealized objects in the target language. On the other hand, the bilingual children were adult-like in interpreting unrealized objects in English negatives (see Table 2). Overall, the findings show the existence of referential reading of English unrealized objects and non-referential interpretation of Cantonese null objects in the bilingual children's early language development, suggesting bi-directional cross-linguistic influence that goes from the weaker to the stronger language and from the stronger to the weaker language. Vulnerability of interpreting lexically unrealized objects in bilingual language acquisition can be better understood in terms of the interaction between cross-linguistic influence, the ambiguity and structural frequencies in the input, and other linguistic elements involved in the interface relation (e.g., sentence type).

References

- Grüter, T. (2006). Object clitics and null objects in the acquisition of French. PhD dissertation, McGill University, Montreal.
- Müller, N., & Hulk, A. (2001). Crosslinguistic influence in bilingual language acquisition: Italian and French as recipient languages. *Bilingualism: Language and Cognition*, 4, 1–21.
- Yip, V., & Matthews, S. (2007). *The Bilingual Child: Early Development and Language Contact*. Cambridge: Cambridge University Press.

Table 1. The interpretation of lexically unrealized objects in English affirmatives, %(N)

Group	Age	Referential	Non-referential	Others	Total
Bilingual children	3 years (n = 6)	56.3 (27)	41.7 (20)	0	98.0 (47) ^a
	4 years (n = 14)	58.9 (66)	39.3 (44)	1.8 (2)	100 (112)
	5 years (n = 26)	51.0 (106)	47.1 (98)	1.9 (4)	100 (208)
	6 years (n = 16)	60.2 (77)	39.8 (51)	0	100 (128)
	7 years (n = 6)	62.5 (30)	33.3 (16)	4.2 (2)	100 (48)
Adults (n = 12)		1.0 (1)	99.0 (95)	0	100 (96)

Notes: ^a One 3-year-old bilingual child did not respond to one item, which accounted for 2%.

Table 2. The interpretation of lexically unrealized objects in English negatives, %(N)

Group	Age	Referential	Non-referential	Others	Total
Bilingual children	3 years (n = 6)	0	85.4 (41)	14.6 (7)	100 (48)
	4 years (n = 14)	9.8 (11)	81.3 (91)	8.9 (10)	100 (112)
	5 years (n = 26)	13.5 (28)	85.1 (177)	1.4 (3)	100 (208)
	6 years (n = 16)	14.8 (19)	81.3 (104)	3.9 (5)	100 (128)
	7 years (n = 6)	16.7 (8)	83.3 (40)	0	100 (48)
Adults (n = 12)		0	100 (96)	0	100 (96)

Table 3. The interpretation of lexically unrealized objects in Cantonese affirmatives, %(N)

Group	Age	Referential	Non-referential	Others	Total
Bilingual children	3 years (n = 6)	58.3 (28)	37.5 (18)	4.2 (2)	100 (48)
	4 years (n = 14)	58.0 (65)	40.2 (45)	1.8 (2)	100 (112)
	5 years (n = 26)	56.3 (117)	42.3 (88)	1.4 (3)	100 (208)
	6 years (n = 16)	75.0 (96)	25.0 (32)	0	100 (128)
	7 years (n = 6)	81.3 (39)	16.7 (8)	2.1 (1)	100 (48)
Monolingual children	3 years (n = 6)	87.5 (42)	12.5 (6)	0	100 (48)
	4 years (n = 5)	82.5 (33)	15.0 (6)	2.5 (1)	100 (40)
	5 years (n = 9)	93.1 (67)	6.9 (5)	0	100 (72)
Adults (n = 36)		94.4 (272)	5.6 (16)	0	100 (288)

Table 4. The interpretation of lexically unrealized objects in Cantonese negatives, %(N)

Group	Age	Referential	Non-referential	Others	Total
Bilingual children	3 years (n = 6)	16.7 (8)	70.8 (34)	12.5 (6)	100 (48)
	4 years (n = 14)	23.2 (26)	75.0 (84)	1.8 (2)	100 (112)
	5 years (n = 26)	47.1 (98)	51.0 (106)	1.9 (4)	100 (208)
	6 years (n = 16)	55.5 (71)	44.5 (57)	0	100 (128)
	7 years (n = 6)	54.2 (26)	45.8 (22)	0	100 (48)
Monolingual children	3 years (n = 6)	85.4 (41)	6.3 (3)	8.3 (4)	100 (48)
	4 years (n = 5)	80 (32)	7.5 (3)	12.5 (5)	100 (40)
	5 years (n = 9)	95.8 (69)	4.2 (3)	0	100 (72)
Adults (n = 36)		91.7 (264)	8.3 (24)	0	100 (288)