

Introduction The analysis of A-bar chains continues to be a central issue of linguistic theory. In this paper, we argue that (i) evidence from resumption in child language strongly supports the view that traces can be unpronounced full DPs as, e.g., the copy or remerge theory of chains propose (Chomsky 1995 and others); and (ii) that novel data from Brazilian Portuguese (BrP) support a representational view where chains consist of multiple independent DPs all of which except one are subject to obligatory ellipsis in adult grammar.

Resumption Children frequently produce a resumptive expression in the gap position of movement such as the clitic *l* in a relative clause (2) or as *what* in (3-a) and *qualcuno* in (3-b) in long-distance *wh*-questions. Children’s production of resumptive elements can be explained by the copy/remerge theory: children fail to elide the lower copy (Liter et al. 2022), which is plausible given that they also tend to pronounce other elements adults leave unpronounced (Guasti et al. 2023). So far, however, such resumption has never been observed in matrix *wh*-questions.

Experiment: Matrix *wh*-question elicitation 36 BrP speaking children from São Paulo (4;0 to 6;8, $M=5;1$) participated in this study. Participants saw a picture of an agent doing something to a patient, where either the agent (Fig. 1) or the patient (Fig. 2/4) was occluded. Their task was to ask a question to the puppet to find out what was occluded (Yoshinaga 1996, Guasti et al. 2012). We include two example prompts in (4). We elicited 5 types of questions (*who* and *which* in subject and object, and *what* in object), with 6 items per question, for a total of 30 items/child.

Results We observe (i) an advantage of subject *wh*-questions over object *wh*-questions in terms of production of adult-like forms (78.6% vs. 40%). This has been observed in other languages (e.g., Guasti et al. 2012), but our study is the first to observe the asymmetry in BrP; (ii) different types of strategies were used when object *wh*-questions were elicited: (a) turning them into subject questions (passivization, θ -role reversal), and (b) manipulating parts of the produced form (use of pronouns, resumption). Of interest to us here is the resumption, which is the only method that gives rise to constructions that are ungrammatical in the adult grammar.

We observed resumption in 23 out of 648 trials. See (5) for examples. As far as we are aware, (i) this is the first study observing resumption with matrix *wh*-questions; (ii) unlike with relative clauses where the resumptive element was definite (Labelle 1996, Guasti and Cardinaletti 2003) when observed, we found mostly either *wh*- or non-*wh*-indefinites as resumptives; (iii) while most previous studies on the production of long distance *wh*-questions did not find the resumptive element in the base-positions but in the intermediate position (Thornton 1990; *pace* Dal Farra et al. 2022), we found the resumptive expressions in the base-position.

Analysis We propose the following analysis based on a representational view. In the LF for (5-a) provided in (7) we assume that the head and tail of the chain are two independent DPs. The two restrictors must be semantically compatible (though not necessarily identical, as shown in (7)). For adults, ellipsis of the tail DP is obligatory, but not for children (Guasti et al. 2023). But why is the tail not always realized as a definite DP by children though in adult languages traces exhibit definiteness (Heim 1991 a.o.)? We propose that because the uniqueness and existence presuppositions of definites are satisfied, Maximize presupposition (Heim 1991) requires definiteness for adults. Previous research observed that children do not always show the effect of Maximize presupposition (Yatsushiro 2008 a.o.) and this supports our results which show that for children, the tail DP can be either indefinite (including *wh*-phrases) or definite.

Our study has implications for acquisition studies as well as for linguistic theory. For acquisition, it shows that an understudied language like Brazilian Portuguese exhibits similar characteristics to more well-studied languages when it comes to the production of *wh*-questions. Theoretically, it brings support to a representational view where chains consist of multiple DPs all of which except one undergoes obligatory ellipsis in adult grammar.

- (1) a. Who is the hippo pushing _____?
 b. I see the ant that the hippo is pushing _____.
- (2) Sur la balle qu'i(l) [l'] attrape
 on the ball that-he it-attaches
 'On the ball that he catches it' (from Labelle 1990)
- (3) a. What do you think [what] Cookie Monster eats? (from Thornton 1990)
 b. Chi pensi che le cuoche stanno spingendo [qualcuno]?
 who think that the chefs are pushing someone
 'who thinks that the chefs are pushing someone?' (from Dal Farra et al. 2022)

Figure 1: Who is pushing the ant?

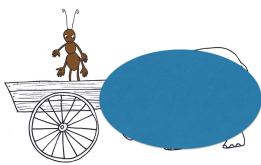


Figure 2: Who is the hippo pushing?

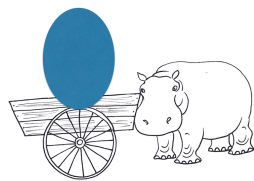


Figure 3: a set-up slide with two ducks and a rabbit

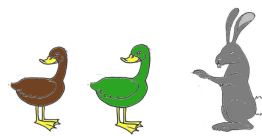
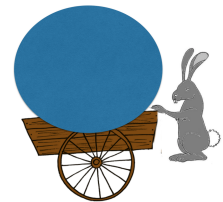


Figure 4: Which duck is the rabbit pushing?



- (4) a. **prompt for *who* question**
 Look! There is an ant, and someone is pushing her. Puppet knows who. Ask puppet who.
 b. **prompt for *which* question**
 Slide 1: Look! There is a brown duck, a green duck, and a rabbit.
 Slide 2: The rabbit is pushing one of the ducks. Puppet knows which duck. Ask puppet which duck.
- (5) a. Qual urso as vacas estão empurrando qual urso?
 which bear the cows are pushing which bear? *which N*
 b. O que a mulher tá pintando o que?
 the what the woman is painting the what? *what*
 c. Quem o elefante tá seguindo quem?
 who the elephant is following who? *who*
 d. Quem os gatos estão acordando alguém?
 who the cats are waking.up someone? *someone*
 e. O que ele está escondendo algo?
 the what he is hiding something? *something*
- (6) +*wh*-phrase (*what*) → −*wh* indefinite (*something*) → definite (*the NP*)
- (7) λp [which bear] [$\lambda x p = \hat{[}$ are the cows pushing [**which/a/the** [bear x]]]]

Selected References:

*Dal Farra et al. *What do you think we know about Italian children's long-distance wh-questions?* Poster BUCLD, 2022 *Guasti et al. *Interference in the production of Italian subject and object wh-questions.* Applied Psycholinguistics, 2012. *Guasti et al. *Undercompression errors as evidence for conceptual primitives.* Frontiers in Psychology, 2023. *Heim. *Artikel und definitheit (articles and definiteness).* 1991. *Labelle. *The acquisition of relative clauses: movement or no movement?* Lang. Acquisition, 1996 *Liter et al. *Cognitive inhibition explains childrens production of medial wh-phrases.* Lang. Acquisition, 2022. *Sauerland. *The present tense is*

vacuous. Snippets, 2002. *Thornton. Adventures in long-distance moving: The acquisition of complex wh-questions, 1990. *Yatsushiro. *Quantifier acquisition: presuppositions of every*. Proceed. of SuB 12, 2008.

References • Noam Chomsky. *The Minimalist program*. MIT Press, 1995. • Chiara Dal Farra, Aurore Gonzalez, Johannes Hein, Silvia Silleresi, Kazuko Yatsushiro, Uli Sauerland, and Maria Teresa Guasti. What do you think we know about Italian children's long-distance wh-questions? Poster presentation, 2022. • Maria Teresa Guasti and Anna Cardinaletti. Relative clause formation in Romance child production. *Probus: International Journal of Romance Linguistics*, 15(1):47–88, 2003. • Maria Teresa Guasti, Chiara Branchini, and Fabrizio Arosio. Interference in the production of Italian subject and object wh-questions. *Applied Psycholinguistics*, 33:185–223, 2012. • Maria Teresa Guasti, Artemis Alexiadou, and Uli Sauerland. Undercompression errors as evidence for conceptual primitives. *Frontiers in Psychology*, 14:1104930, 2023. • Irene Heim. Artikel und Definitheit (articles and definiteness). In A. von Stechow and D. Wunderlich, editors, *Semantik: Ein internationales Handbuch der zeitgenössischen Forschung*, pages 487–535. de Gruyter, 1991. • Marie Labelle. Predication, wh-movement, and the development of relative clauses. *Language Acquisition*, 1(1):95–119, 1990. • Marie Labelle. The acquisition of relative clauses: movement or no movement? *Language Acquisition*, 5(2): 65–82, 1996. • Adam Liter, Elaine Grolla, and Jeffrey Lidz. Cognitive inhibition explains children's production of medial wh-phrases. *Language Acquisition*, 29(3):327–359, 2022. doi: <https://doi.org/10.1080/10489223.2021.2023813>. • Rosalind Jean Thornton. *Adventures in long-distance moving: The acquisition of complex wh-questions*. University of Connecticut, 1990. • Kazuko Yatsushiro. Quantifier acquisition: presuppositions of “every”. In Atle Grønn, editor, *Proceedings of SuB 12*, pages 663–677, Oslo, 2008. • Naoko Yoshinaga. *Wh-questions: A comparative study of their form and acquisition in English and Japanese*. University of Hawai'i at Manoa, 1996.