

German L1-acquisition of single conjunct agreement: evidence from corpus and experimental data

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1 Introduction

The best test of the strength of a particular method lies in whether or not the evidence it provides converges with evidence from other methods. (Lust et al. 1998: 63)

Bearing this in mind, we present two studies on single conjunct agreement in German L1-acquisition that are based on two different methodologies: a longitudinal corpus study (Simone-Corpus from CHILDES), and two experiments with elicited imitation. The aim of our paper is to show that the results of these studies point towards the same conclusion: Single conjunct agreement is not a syntactic issue, but a matter of language processing.

2 Single conjunct agreement

Single conjunct agreement refers to the phenomenon that only the nearest conjunct of a coordinated subject-DP agrees with the finite verb, see (1).

- (1) *Auf der Mauer sitzt der Junge und das Mädchen.*
On the wall sits[sg]the boy and the girl.
'The boy and the girl are sitting on the wall.'

Though single conjunct agreement is known in many languages, for example in Lebanese and Moroccan Arabic, we will focus on German data here. In German single conjunct agreement is optional, but marked. The full agreement version (2) is the unmarked form.

- (2) *Auf der Mauer sitzen der Junge und das Mädchen.*
On the wall sit[pl] the boy and the girl.
'The boy and the girl are sitting on the wall.'

(Single conjunct) agreement is a notorious problem in the syntax of coordination (see, e.g., Progovac 1998 for discussion): Asymmetric approaches to coordinate structures, as presented in Johannessen (1998) and Munn (2000), account for the phenomenon of single conjunct agreement, but not for the phenomena of full agreement (2). Symmetric approaches like Chomsky (1981) or Lakoff & Peters (1969) on the other hand can not explain the single agreement data in (1). The observation that in single conjunct agreement the subject-DP can only occur in postverbal position and is predominantly found in spoken language, lead Steiner (2007) to the hypothesis that single conjunct agreement is not a syntactic effect but a mechanism of processing. If this is correct, then this constitutes important evidence in favor of symmetric approaches to the syntax of coordination. In accordance with Steiner's study on written and spoken data from adult language we present data from language acquisition

supporting this “Processing-Hypothesis”. We start out with the following working hypotheses:

- H1: Children produce single conjunct agreement in an early stage of their acquisition of coordinated structures and agreement.
- H2: In sentences with single conjunct agreement, children should prefer the postverbal position of the subject-DP.
- H3: If the pressure on processing is increased (when the conjoined DP are more and more complex), the amount of single conjunct agreements increases as well.

H1 and H2 are investigated in both a corpus study and an elicited imitation task with children between 2;6 and 3;0 years of age. H2 should be supported by the data of the elicited imitation study of children between 3;0 and 5;0 years of age. (Notice that young children have stronger limitations of memory than adults.)

3 The studies

1.1 Longitudinal-study: Simone-corpus

Data from the Simone-Corpus (CHILDES data base) range from 1;9 to 4;0. It contains approximately 36,000 utterances by child. After coordinating the first phrases in the age of 2;0/2;01 and after having acquired the rules of subject-verb-agreement (see Clahsen & Penke 1992) as well as agreement with plurals (see Penke 2006), the first coordinated subject-DPs occur by the age of 2;05/2;06. They are not systematically used. Neither is there a preference for the preverbal or the postverbal position of the subject-DPs in general nor a preference for partial or full agreement. But there IS a preference for full agreement with a preverbal subject-DP and for partial agreement with a postverbal subject-DP. Two thirds of the coordinate subject-DPs in preverbal position occur with full agreement and two thirds of the coordinate subject-DPs in postverbal position occur with single conjunct agreement. These ratios are in accordance with the data presented by Steiner (2007) with respect to spoken language.

H1 is thus confirmed: Simone does produce single conjunct agreement in an early stage of her acquisition of coordinated structures and agreement. The data also supports H2: single conjunct agreement occurs more frequently, if the coordinated subject-NP stands in postverbal position.

1.2 Experiments: Elicited imitation

The goal of the first experiment was to assess whether 8 children between 2;6 to 3;0 years of age are able to produce single conjunct agreement in a sentence imitation task. In order to do this, the input sentences were chosen according to three factors: (i) singular vs. plural agreement, (ii) subject-verb vs. verb-subject order, and (iii) coordinated noun subject vs. single noun subject. Sentences containing a preverbal coordinated subject with singular agreement (e. g., **der Wolf und der Bär wohnt in den Bergen* (the bear and the wolf lives in the mountains)) were not presented to the children, because this type of sentences is considered fully ungrammatical. The results of the experiment show that the children had no difficulties in reproducing all types of sentences. From this, we can conclude that children as young as 2;5 have already acquired plural agreement with coordinated subjects (in pre- and

postverbal condition). Moreover, the results show that children are able to produce single conjunct agreement in postverbal position. Thus H1 is confirmed.

The second experiment was designed to assess the account for the children's preferences for postverbal single conjunct agreement, observed in Simone's data. Following our main hypothesis, the goal of this experiment was to explore the role of the children's processing capacity in producing single conjunct agreement. This experiment was conducted with 21 children from 3;0 to 5;0 as a sentence imitation task. The following factors were systematically examined: (i) coordinated subject vs. single-word subject, (ii) singular/plural agreement, (iii) subject/verb order, and (iv) length of the input sentences (9 vs. 16 syllables). Following our hypothesis, we expected that the long sentences with a post verbal coordinated subject with plural agreement (e.g., *hier wohnen der lustige braune Bär und der böse Wolf* (here live the funny brown bear and the ugly wolf)) should often be imitated by the children using a singular agreement (e.g., *hier wohnt der lustige braune Bär und der böse Wolf* (here lives the funny brown bear and the ugly wolf)), because the complexity of the conjoined DPs requires much more processing capacity to be produced. No other shifts from singular to plural or from plural to singular were expected. The results of this experiment confirm this expectation: children had no difficulties in imitating the input sentences, except in one case: they tended to use singular agreement when the input sentence was long and the subject contained a coordinated structure.

To conclude, our corpus data as well as our experimental data provide strong evidence that children's production of single conjunct agreement is not due to their inability to deal with plural agreement at all, but to effects related to language processing limitations. Our data also perfectly fits with, and thus supports Steiner's (2007) hypothesis that single conjunct agreement is not a phenomenon that has to be dealt with in syntax, but a matter of language processing capacity.

References

- Clahsen, H. and M. Penke (1992). The acquisition of agreement morphology and its syntactic consequences. In J. Meisel ed., *The Acquisition of Verb Placement*, 181-223, Dordrecht: Kluwer.
- Chomsky, N. (1981). *Lectures on Government and Binding*. Foris: Dordrecht.
- Johannessen, J.B. (1998). *Coordination*. Oxford: Oxford University Press.
- Lust, B. et al. (1998). What children know about what they say: Elicited Imitation as a Research Method for Assessing Children's Syntax. In McDaniel et al. (ed.): *Methods for Assessing Children's Syntax*. Cambridge: MIT Press. 55-76.
- Munn, A. (2000). Three types of coordinations asymmetries. In K. Schwabe & N. Zhang (eds.), *Ellipsis in Conjunction*. Tübingen: Niemeyer, 1-22.
- Lakoff, G. & S. Peters (1969). Phrasal Conjunction and Symmetric Predicates. In Reibel, D. & S. Shane, (eds.): *Modern studies in English: Readings in Transformational Grammar*, 113-142.
- Penke, M. (2006). *Flexion im mentalen Lexikon*. Tübingen: Niemeyer.
- Progovac, L. (1998). Structure for Coordination I/II. *Glott International* 3, 3-6/9.
- Steiner, I. (2007). *Die Verarbeitung koordinierter Strukturen: Symmetrie- und Asymmetrie-Effekte in Korpora*. Unpublished paper presented at the workshop *Koordination/Subordination im Deutschen*, University of Tübingen, 13th /14th of march 2007.