

The acquisition of quantification and the Dutch quantifier *allemaal*



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1. The Dutch quantifier 'allemaal'; both weak and strong

- Geurts (2003): children lack a correct mapping between syntax and semantics, more precisely with regard to what is known as the **weak-strong distinction** (Milsark, 1977).
- The weak-strong distinction captures the characteristic of quantifiers that some of them are able to occur in existential there-sentences and others are not:

- There are many/few doctors in the room
- *There are/is every/all doctor in the room

Observation: the Dutch quantifier *allemaal* is able to occur both in a declarative (3) and an existential there-sentence (4). In other words, a strong or weak reading (characterized by a reading comparable to the quantifier *many*) depends on the syntactic position of *allemaal*:

- Een jongen draagt de koffers *allemaal*
A boy carries the suitcases all
"A boy is carrying all the suitcases"
- Er dansen *allemaal* meisjes
There dance many girls
"There are dancing many girls"

2. Scope and Interpretation

Hypothesis: Two potential problems for the child: the **scope** of the quantifier and the **interpretation** of the quantifier (strong or weak)

Prediction: Children are unable to link the syntactic environment of *allemaal* to its corresponding weak or strong reading.

3. Experiment I: Scope

- Research question:** Are children able to correctly localize the domain of the quantifier (i.e. whether the subject or object is within the scope of the quantifier)?
- Subjects:** 39 children (range 4;11 to 6;7, 19 girls, 20 boys), control-group of 7 adults
- Prediction:** children quantify over subject, object or both (cf. Roeper and DeVilliers (1991))

3.1. Method

Using a Truth Value Judgement task, the children were asked to judge:

- 3 sentences with subject quantification (SQ) and 3 sentences with object quantification (OQ) with respect to figures in which *many* subjects/objects were performing a particular action (e.g. figure 1)
- 3 sentences with subject quantification (SQ) and 3 sentences with object quantification (OQ) with respect to figures in which *all* subjects/objects were performing a particular action (e.g. figure 2) (3 no-control items were also tested, total of test sentences: 15).

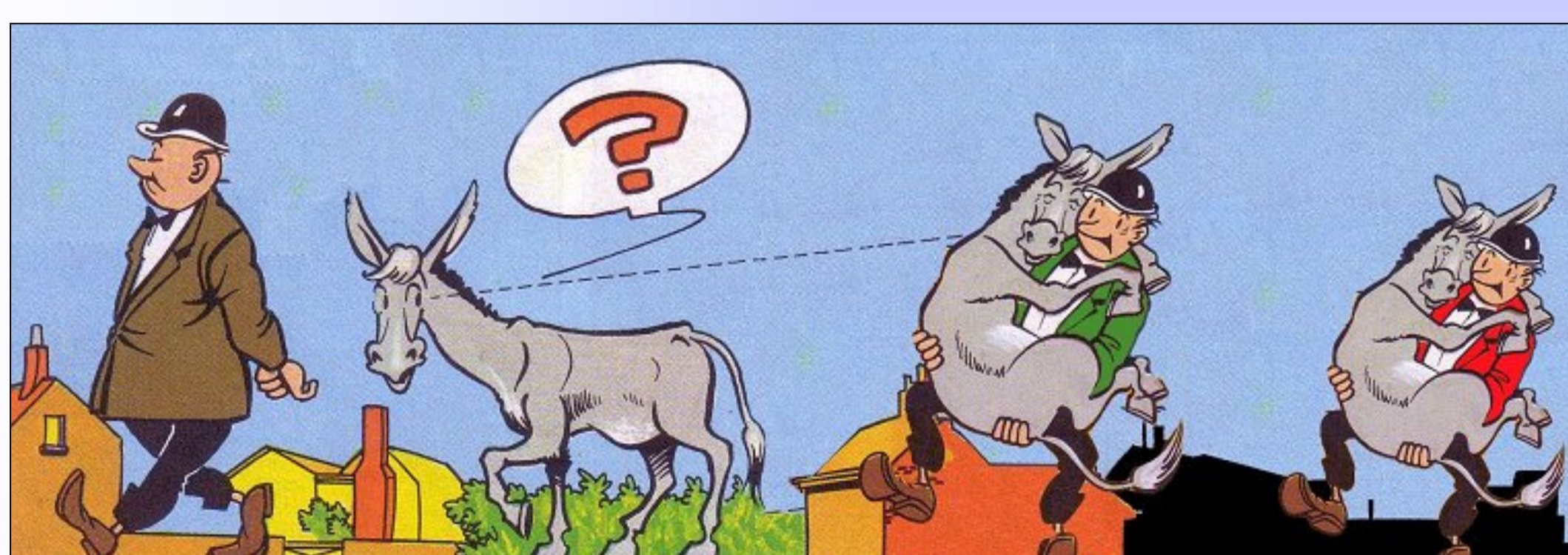
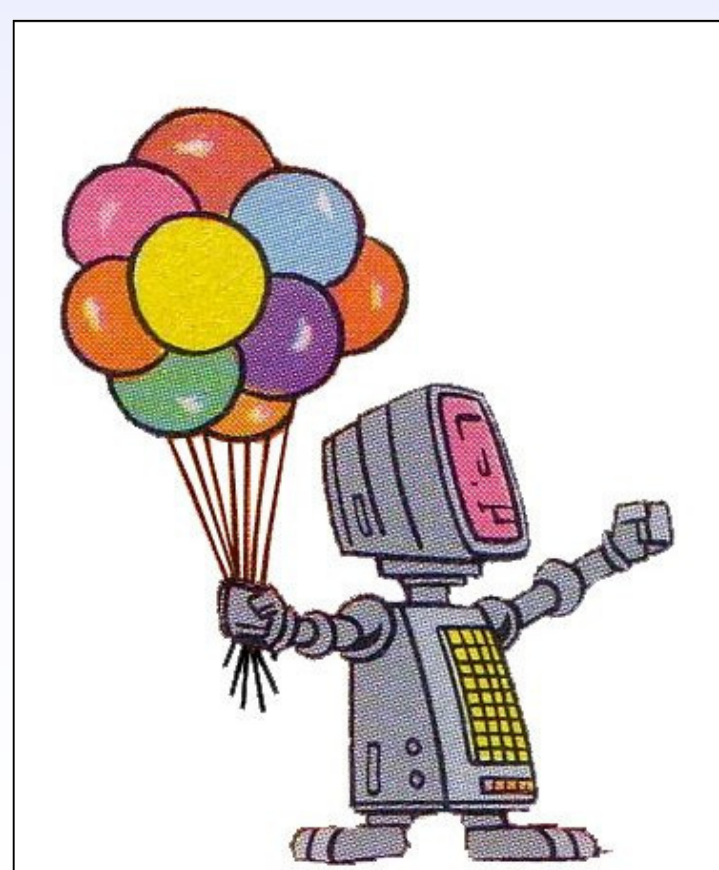


Figure 1:
De mannen dragen *allemaal* een ezel
The men carrying all a donkey
"The men are all carrying a donkey" (SQ)

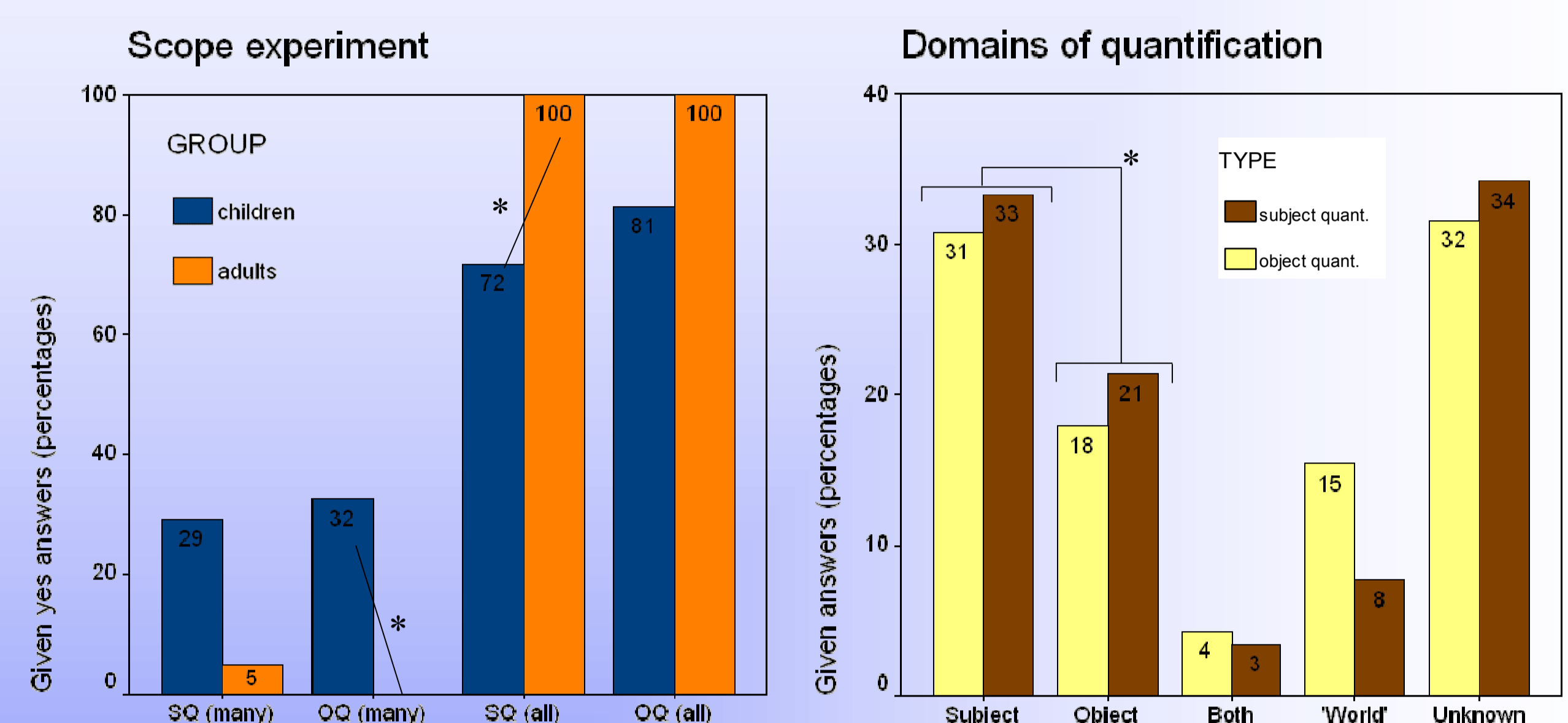
Figure 2 ▶

Een robot houdt de ballonnen *allemaal* vast
A robot holding the balloons all [part.]
"A robot is holding all the balloons" (OQ)



3.2. Scope experiment; results

- Children differ significantly from the adults in the conditions OQ(MANY) and SQ (ALL)
- Analysis of the answers of the children *why* they accept or reject the picture, shows that, regardless the sentence type (SQ or OQ), children are quantifying significantly more often over the subject
- Analysis per child shows that 6 children are able to judge a picture even as true when for example not all the donkeys are carried. These 6 children seem to analyse the Dutch quantifier *allemaal* as a weak quantifier, regardless its syntactic position.



4. Experiment II: Interpretation (strong - weak)

- Research question:** Is a child able to distinguish a weak uses *allemaal* from a strong used *allemaal*
- Subjects:** The same as in the scope experiment
- Prediction:** Children differ in their interpretation of a quantifier as 1. weak, 2. strong or 3. weak or strong depending on its syntactic position (adult analysis)

4.1 Method

Again using the TVJ-task, the children were asked to judge pictures (cf. picture 3) with respect to 3 sentences containing the strong quantifier *allemaal* (*all*), 3 sentences containing the strong quantifier *alle* (*all*) and 6 sentences containing the weak quantifier *allemaal* (used pronominally, i.e. having a weak reading)

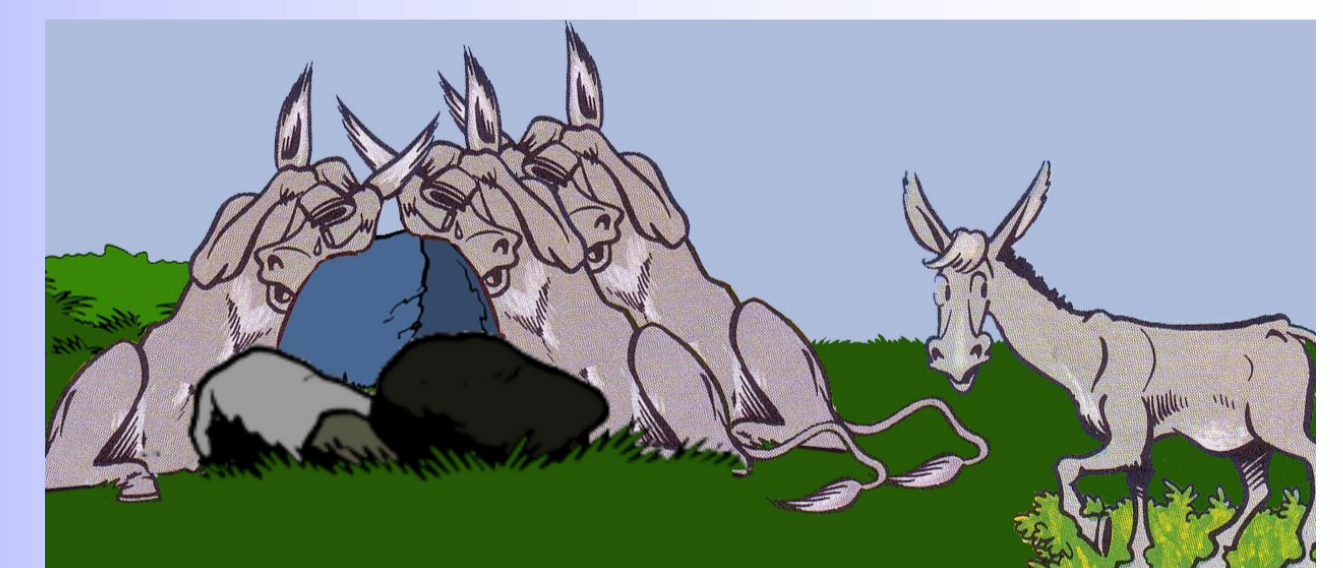
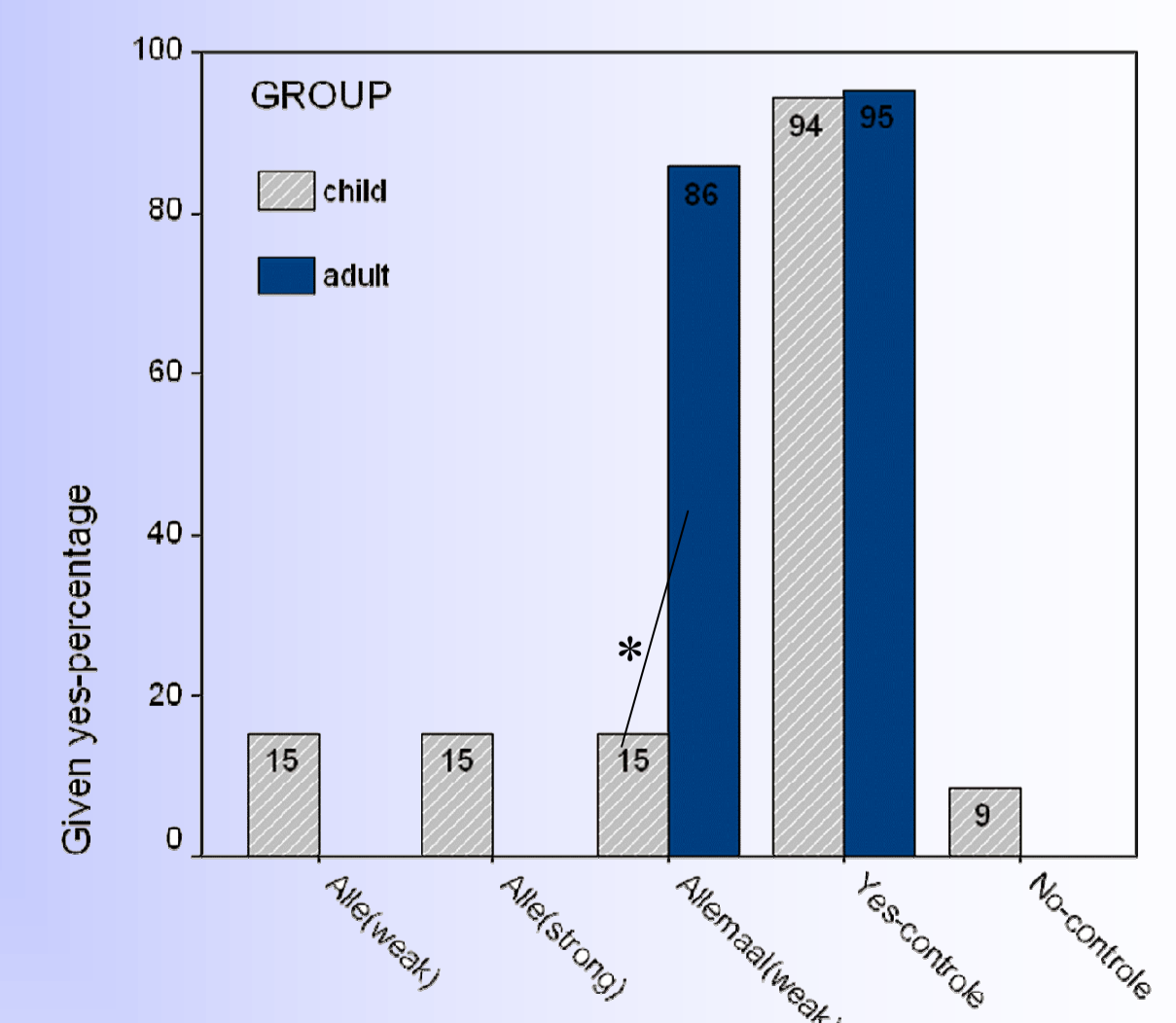


Fig. 3: "The donkeys are all crying"

4.2 Interpretation experiment; results

- 36 out of 39 children interpret the quantifier *allemaal* as a strong quantifier in both syntactic environments
- Children do not use the syntactic environment to distinguish weak from strong quantifiers



5. Conclusions

- Children interpret the quantifier *allemaal* as a strong quantifier regardless of its syntactic position
- The acquisition of the Dutch quantifier *allemaal* therefore shows an interesting acquisition path towards an adult grammar, especially when the fact is taken into account that children start using the Dutch quantifier *allemaal* as one of the first quantifiers at an age of 4 (cf. Hollebrandse, 2002).