CAS LX 540 Acquisition of Syntax
Spring 2012, March 26

17. Semantics in L1A

1 Quantifiers

Quantifiers

Quantifiers (*someone*, *nobody*, *everyone*, *two guys*) express a kind of generalization. They say something about the members of a set. To see if it is true, you go through the members of the set and check to see if they have the property.

(1) a. Every horse jumped over the fence.
b. The entire membership of the horse set has the property of having jumped over the fence.

(2) a. Two horses jumped over the fence.
b. The horse set has within it two members with the property of having jumped over the fence.

Ambiguity with quantifiers

When you have two quantifiers, there are two sets to check, and often the property you check for one depends on the result of checking the property for the other. One of them requires interpreting the quantifiers in the reverse order from how they appear in the sentence (the "inverse scope" reading). This is usually taken to be the result of an invisible grammatical operation ("Quantifier Raising") that moves the lower one over the higher one.

(3) every fence$_i$ two horses jumped over t$_i$.

Ambiguity with quantifiers

(4) Two horses jumped over every fence.
a. Among the horse set, two members can be found that make the following true: The entire membership of the fence set makes the following true: The horse jumped over the fence.
b. The entire membership of the fence set makes the following true: Among the horse set, two members can be found that make the following true: The horse jumped over the fence.

1.1 Isomorphism

Interpreting ambiguous sentences

Lidz & Musolino (2002) looked at ambiguous sentences like (5). To us adults, this can mean either of two things.

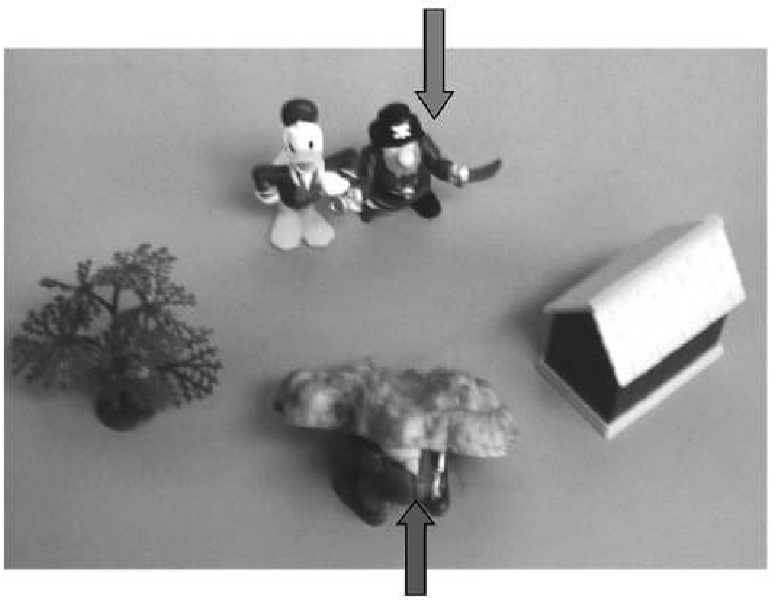
(5) The detective didn't find two guys.

a. It is not the case that the detective found two guys.

b. There are two guys that the detective didn't find.

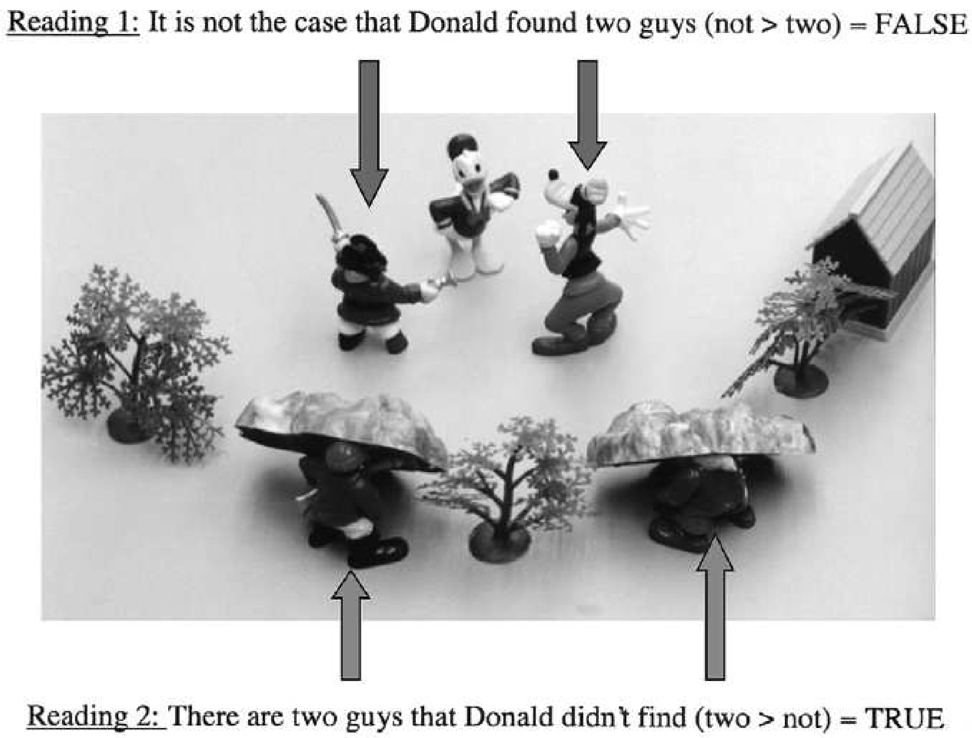
Wide true, Narrow false (picture)

Reading 1: It is not the case that Donald found two guys (not > two) = TRUE



Reading 2: There are two guys that Donald didn't find (two > not) = FALSE

Wide false, Narrow true (picture)

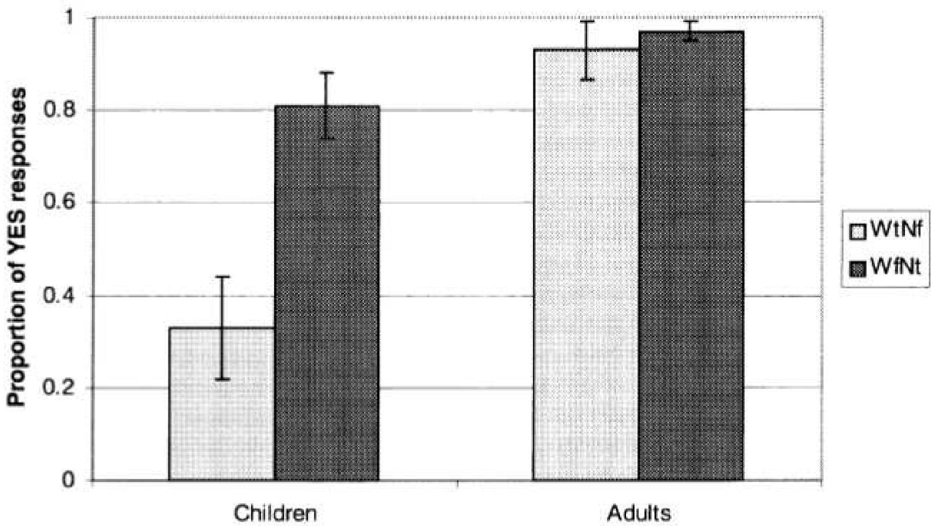


The experiment

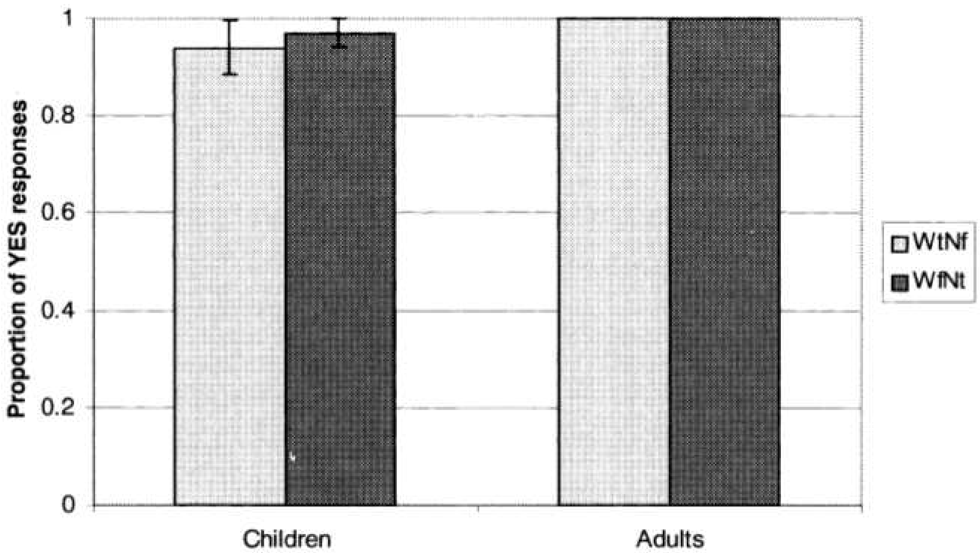
24 English speaking 4-year-olds, 24 undergrads. TVJ.

Control sentences: everybody succeeded. Test sentences: adults succeeded. Children didn't like the inverse scope. "Isomorphism"—maybe they don't have QR?

Results, experimental



Results, control



2 Effect of context: Gualmini et al. (2008)

Delivering pizzas

Grover calls the Troll at the pizza store, asks for four pizzas, and promises a big tip if he manages to deliver the pizzas quickly. But Troll drives too fast and accidentally drops two pizzas, arriving at Grover's house with only two.

(6) The troll didn't deliver two pizzas.

Children bought it. Yes. Two were dropped, they weren't delivered. Never mind about the two that were. (Took *two* > *not*.) (Charity)

(7) The troll didn't lose two pizzas.

What? No. He did, those two. (Took *two* > *not* even though it made the sentence false.)

Question under discussion

The story sets up the question: Did the Troll deliver all the pizzas? How is "The troll didn't lose two pizzas" as an answer to that?

(8) If he lost two, then no, he didn't deliver them all. It's relevant to know if he lost two.

(9) # If there are two he didn't lose, then, well, who knows? Maybe the others were also not lost.

3 QR and ACD: Syrett & Lidz (2009)

3.1 The basic question

Do children have QR?

Another approach to the question of whether children have the abstract operation of Quantifier Raising was reported by Syrett & Lidz (2009).

They tested children on sentences like (10). This sentence means that for every frog Dora jumped over, Lola also jumped over it. Children (4-year-olds) got it. This is evidence that children have QR, though the story is a little bit involved.

(10) Lola jumped over every frog that Dora did.

3.2 The trouble with ACD

Verb-phrase ellipsis

It is possible in English (and other languages) to leave out part of a sentence when it is identical to a previous sentence. Specifically, it appears that if the VP of a sentence matches the VP of a previous sentence, the second one can be *elided* (left out).

(11) Lola will [jump over every frog] and Dora will [ ] too.

(12) Lola will [jump over every frog] and Dora will [jump over every frog] too.

If you hear a sentence with VP ellipsis, you can recover the VP by copying in the VP from the previous sentence.

Antecedent-contained deletion

There is a special case of VP ellipsis called “antecedent-contained deletion” which has a form like (13). What makes these special is the inclusion of a relative clause on the object. The main VP contains the verb and the object. The relative clause is formed like a *wh*-question, attached to the noun. There is a VP inside the relative clause as well. And that one can be elided.

(13) Lola will jump over every frog that Dora will.

(14) Lola will [$_{VP}$ *jumpover*[$_{NP}$ every boy who she meets _]].

(15) Every boy [who$_i$ she [meets t$_i$]

(16) Lola will [jump over [every frog that Dora will []]].

Antecedent-contained deletion

In an ACD example, you have an elided VP, and the way you are supposed to interpret an elided VP is by putting a copy of the *antecedent* VP in its place. The antecedent VP is clearly the one that starts with *jump*—that is, “Lola will VP.” So, let’s try it. Hmm. This isn’t promising.

(17) Lola will [jump over every frog that Dora will []].

(18) Lola will [jump over every frog that Dora will [jump over every frog that Dora will []]].

(19) Lola will [jump over every frog that Dora will [jump over every frog that Dora will [jump over every frog that Dora will []]]].

(20) Lola will [jump over every frog that Dora will [jump over every frog that Dora will [jump over every frog that Dora will [jump over every frog that Dora will []]]]].

ACD requires QR

What this sentence *means*, though is straightforward:

(21) Every frog that Dora will jump over, Lola will jump over.

How do we get that? Well, QR can give it to us. After we do QR, there's no problem filling in the empty VP with the pronounced VP.

(22) [Every frog that Dora will $[]]_i$, Lola will [jump over t_i]

(23) Every frog that Dora will [jump over _], Lola will [jump over _]

3.3 Children's ACD

Testing children on ACD

40 4-year olds, 40 undergrads. TVJ.

(24) ACD and CC
  a. Miss Red jumped over every frog that Miss Black did.
  b. Miss Red jumped over every frog and Miss Black did too.

(25) Fillers
  a. The rhino made friends with the hippo that kicked the rock into the water.
  b. The rhino picked up the rock and fell in the water.

Frogs

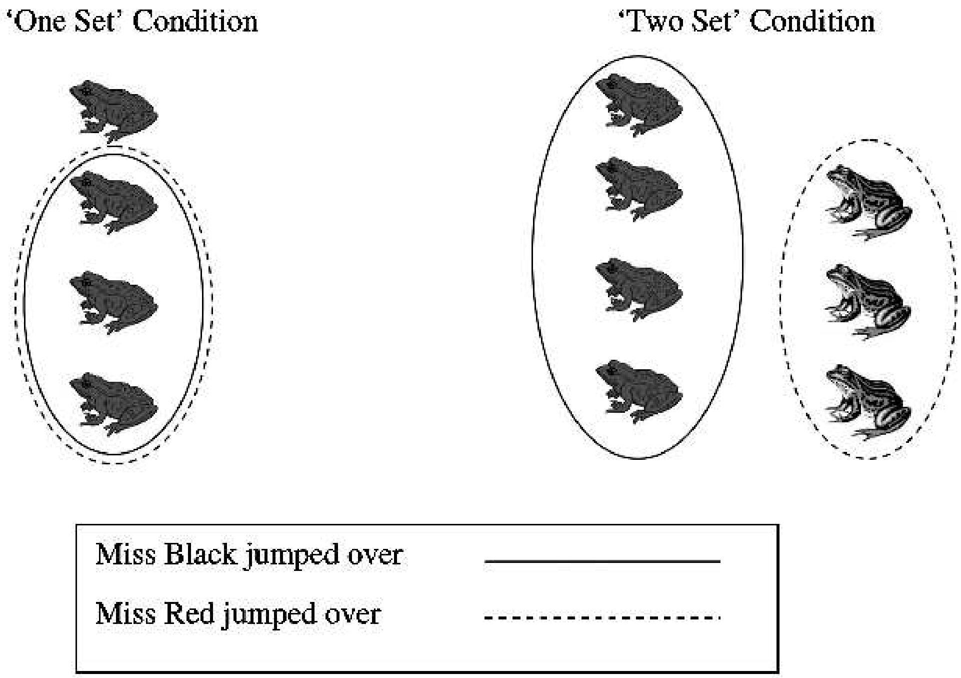
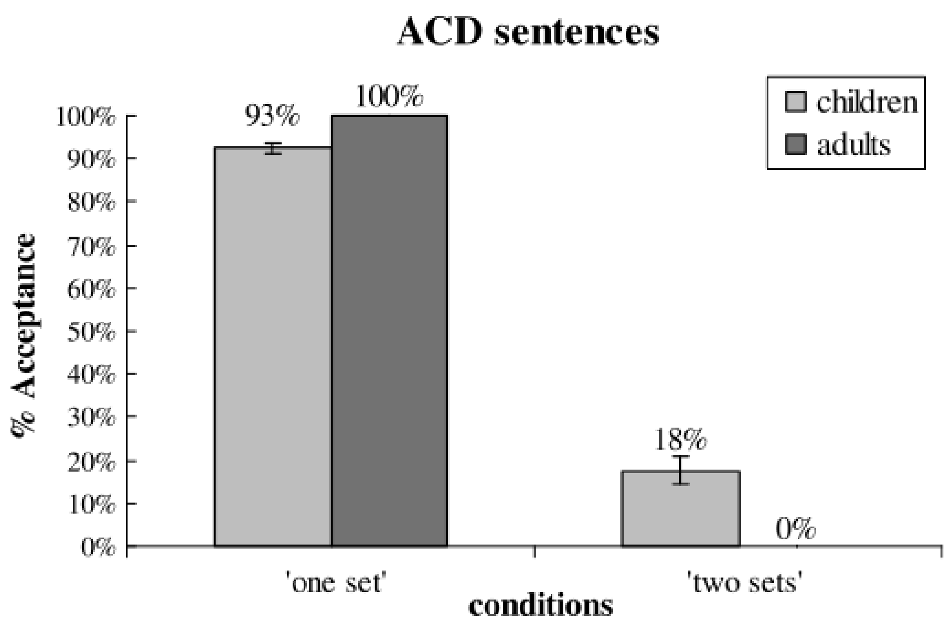
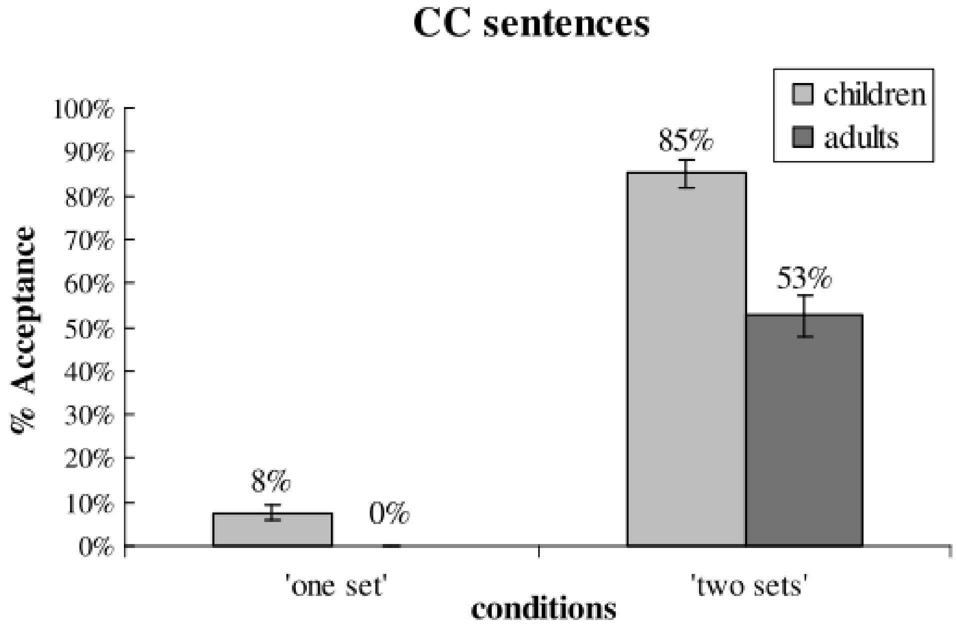


FIGURE 1 Experimental conditions.

Results: ACD



Results: CC



4 Maximality

4.1 More on overuse of "the"

Making noise (Maratsos 1976)

Once there was a lady. She had lots of boys and girls. They were very noisy, and kept her awake all the time. One night she went to bed. She told them to be very quiet. She said 'If anyone makes any noise they won't get any breakfast tomorrow.' Then she went to bed. But do you know what happened? One of them started laughing and giggling. Now let's see, there were four girls and three boys. Who was laughing and giggling like that?

Strong overuse of *the* in these cases. But does't *really* fit in with the "egocentric" idea.

More on "the"

Among the things that we assume about the meaning of *the*: *The X* presupposes that *X* exists and is unique. How about *the Xes*?

(26) I ate the cookies.

It seems that when you use *the* with a plural, it means *all of them*.

Acceptability judgments in L2A research

Wexler (2003): children don't have this "maximality" presupposition.

Munn et al. (2006). Suggest maybe it is due to problems with domain restriction.

(27) Honey, pick up the kids from school.

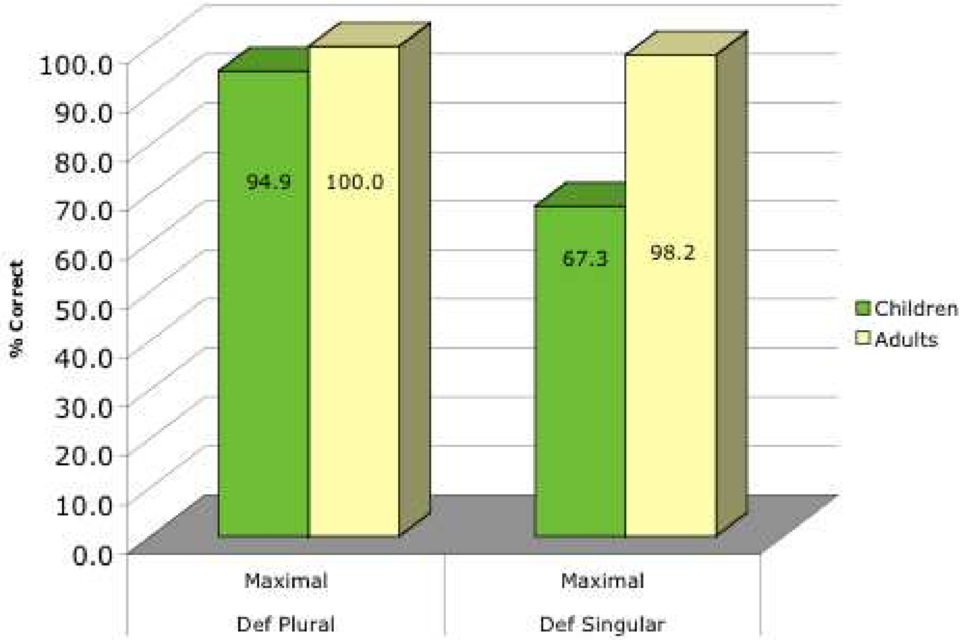
Frogs, barn, house

(28) Give me the frogs next to the barn.

(29) Give me the frog next to the barn.

Frogs, barn, house

Frogs, barn, house, results



References

Lidz, Jeffrey & Julien Musolino. 2002. Children's command of quantification. *Cognition* 84: 113–154.

Syrett, Kristen & Jeffrey Lidz. 2009. QR in child grammar: Evidence from antecedent-contained deletion. *Language Acquisition* 16: 67–81.