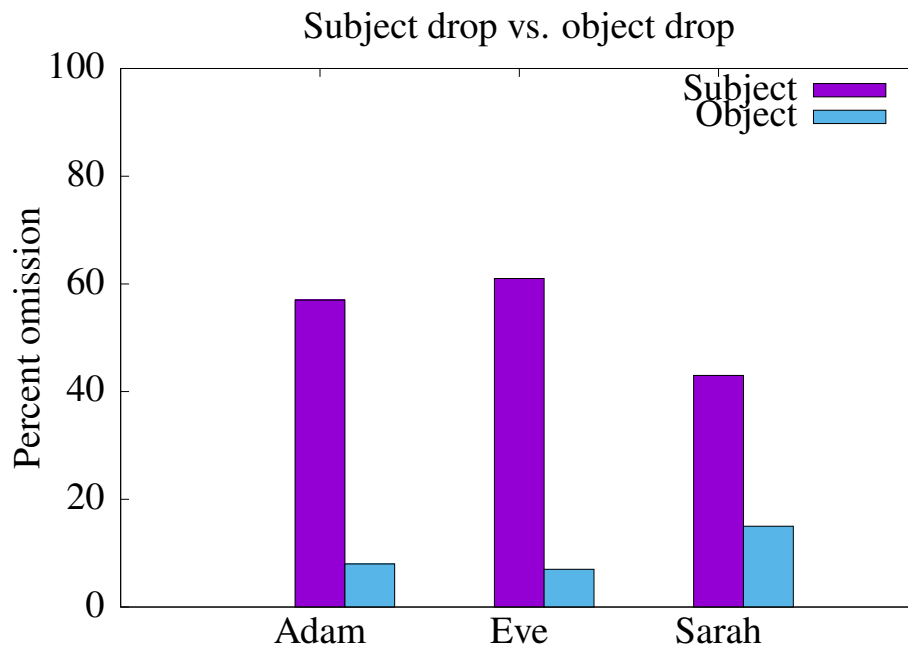# 1 Previously…

1.1 Data

Subject vs. object drop

Root infinitives and null subjectss vs. time

Null subjects vs. finiteness

Null subjects vs. finiteness

NaN
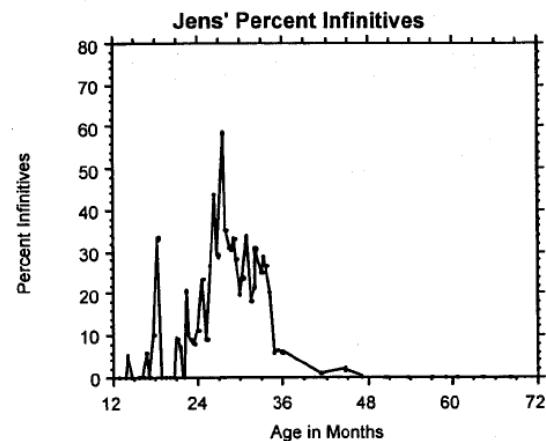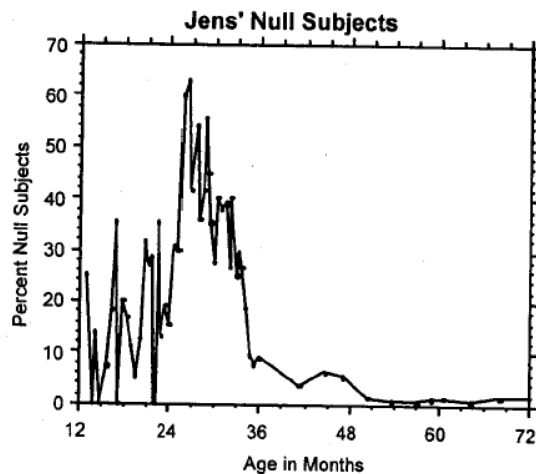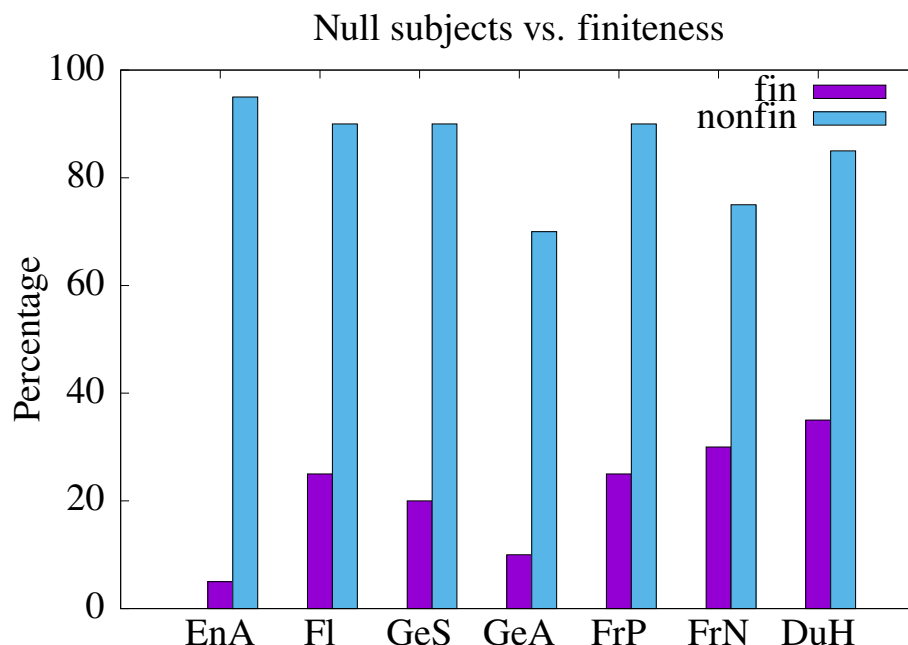
Conclusions we have so far about null subjects

Omitted arguments appear to be almost exclusively omitted *subjects* (holds true across languages, not just for English).

Null subjects seem to be occurring at pretty much the same time as root infinitives (certainly in Danish, but seems generally true). A common cause?

Most null subjects appear with nonfinite verbs. This could be attributed to the general availability of a null subject (PRO) with nonfinite verbs in the adult grammars: I want [PRO to leave].

But *some* null subjects appear with finite verbs.

2 Finite null subjects

2.1 Bromberg & Wexler (1995)

So what allows null subjects?

Bromberg & Wexler (1995) suggest that null subjects with finite verbs arise from a kind of "topic drop" (available to adults in special contexts, perhaps like "diary drop").
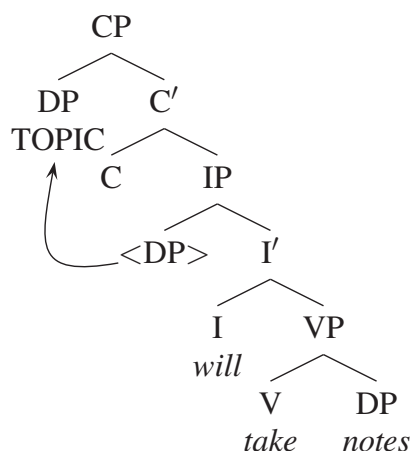
(1) Went to the store. Bought milk.

Proposal (Bromberg & Wexler): Topic-drop applies to Very Strong Topics.

Kids sometimes take (in reality) non-VS topics to *be* VS topics—which is a **pragmatic** error.

The syntax of topic drop

The idea is that only topics can be dropped. Topics move to SpecCP.

```
              CP
            /    \
          DP      C′
        TOPIC    /  \
          ↑    C     IP
          |        /    \
          └── <DP>      I′
                       /  \
                      I    VP
                    will  /  \
                         V    DP
                       take  notes
```


Prediction about null subjects

Root infinitives have two ways of licensing null subjects:

- PRO

- Topic drop

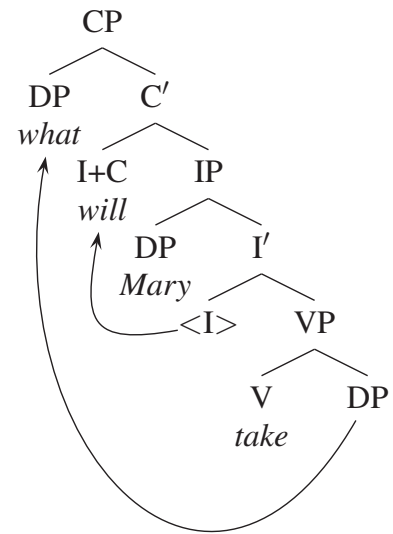Finite verbs have but one way to license a null subject

- Topic drop

So: We expect more null subjects with root infinitives (which we in fact see).

Topics vs. wh-questions

SpecCP is also the place where *wh*-words move in *wh*-questions. And we can't have two things in the same place.
So it shouldn't be possible to have a topic in a *wh*-question.
Predicts: No null subjects in finite *wh*-questions for children.

```
            CP
          /    \
        DP      C′
       what    /   \
            I+C      IP
            will    /   \
                  DP      I′
                 Mary    /  \
                      <I>    VP
                            /   \
                           V     DP
                          take
```

B&W results

	Finite	Nonfinite
Null	2	118
Pronoun	117	131

Finiteness of null/pronominal subjects—Adam's *wh*-questions (Bromberg & Wexler 1995).

2.2   Null subjects in wh-questions

English is unusual

In English, we find just what Bromberg & Wexler predicted: almost no null subject in finite *wh*-questions, but plenty in non-finite *wh*-questions.

But in most other languages that have been investigated (e.g., German, Dutch, French), there are pretty much no null subjects in *wh*-questions at all (not even with root infinitives). Why?

Dutch and French null subjects in wh-questions

	Null subjects	Lexical subjects
Declaratives	1012	3238
Wh-questions	10	464

Data from two Dutch children (Haegeman 1996, from Guasti 2002:161)

	Null subjects	Lexical subjects
Declaratives	488	1125
Wh-questions	2	311

Data from a French child (Crisma 1992, from Guasti 2002:161)

Why is English different?

There isn't a well-accepted or particularly good answer for what makes English different.

But: Bromberg & Wexler (1995) showed that null subjects in English *wh*-questions seem to be pretty much exclusively with nonfinite verbs. So, what's different between English and the other languages here has to do with whether the null subject of infinitives (PRO) is allowed in *wh*-questions.

It is possible to say "I don't know what to buy." So PRO is allowed in English *wh*-questions. I think it is also possible to say *Je ne sais pas quoi faire*, though. So why don't French *children* do this? Guess: something about being an infinitive in a main clause? ("What to do?").

3   Pragmatics

The topic drop explanation

If the Topic Drop hypothesis is basically on track, the idea is that there are two different forces at work here.

One is that null subjects are allowed by virtue of the fact that the children are in the root infinitive stage, and PRO (a null subject) is allowed with infinitives.

The other is that null subjects are also allowed by virtue of the possibility of topicalizing and then dropping the topic. This is not something that is very easy to do in adult English, but we have to suppose you can with a certain kind of (very strong?) topic. What children are doing is letting too many things be very strong topics.

Know-it-alls

What it means to be a topic in this sense is that it is something that is known by both speaker and hearer, old information, recoverable, redundant.

So, to put the problem another way: Children who allow too many things to be topics are essentially treating too many things as "known," "old," "given."

One possibility that has been suggested in this kind of context: Children don't initially quite grasp that not everybody is thinking about what they're thinking about. (A kind of egocentrism, maybe concerns "theory of mind.")

Pragmatics vs. syntax

Development of syntactic capability and development of pragmatic capability are conceptually rather different things. There's no necessary reason they should develop together—and no obvious reason that being in the root infinitive stage would have any implications about pragmatic sophistication.

Pragmatics in some aspects might be something that children have to learn through social interaction (or, in the case of theory of mind, perhaps it is an actual cognitive development that only happens after a certain age—maybe a kind of similar age as the offset of the root infinitive stage).

SEP

We'll see a few developmental language phenomena that will be suggested to have roots in the development of pragmatics. And surely pragmatics develops, and must be responsible for something. However, it's also the case that theoretical analyses of what's going on in the domain of pragmatics tend to be relatively underspecified.

So far, though: Children take too much to be "old."

Possible converging support? Children also tend to overuse the definite determiner ("the") in places where an adult would use an indefinite ("a")—same cause?

4   The role of pragmatics in binding theory

Distribution of anaphors

The part of syntactic theory that is supposed to predict the distribution of anaphors (like *herself*), pronouns (like *her*), and other referring expressions (like *Mary*, or *the doctor*) is Binding Theory.

We've had some exposure to this already in the context of second language acquisition, and the possible referents that anaphors can have (recall, English is more constrained, the "antecedent" of an anaphor like *herself* must be in the same clause, whereas in Japanese it can be further away).

The distribution of pronouns is subject to similar rules, but in a way that can be argued to involve pragmatic knowledge more directly.

Binding theory

Binding theory is generally taken to involve three principles. Right now, we'll be mainly concerned with Principle B, about pronouns.

Principle A. An anaphor must be bound (by its antecedent, above it in the tree) within its binding domain (within the same clause, roughly, in English).

Principle B. A pronoun must *not* be bound (by an antecedent, above it in the tree) within its binding domain (same domain as for Principle A.)

Principle C. A referring expression cannot have an antecedent above it in the tree.

"Above it in the tree" has a particular meaning (c-command).

What pronouns do

(2)   Sc   Alistair, Bart, and Craig are standing around over yonder.
       T?   He is married.

Is (2) true? Well, it depends. Who's "he"?

We think of pronouns as being a way of "pointing" to somebody or something. If we point at Alistair and say "he is married" then it is clear under what conditions (2) is true—it's true just in case "Alistair is married" is true. Even without involving one's finger, the pronoun picks out somebody (but if there's no finger involved, then you need to be able to figure it out from the context).

Indexing and pronouns

The usual way we indicate who a pronoun is intended to "point to" is by using a subscript. The idea is this:

(3)   The Relevant World
       a.   Alistair
       b.   Bart
       c.   Craig

(4)   Alistair$_a$ is married.

(5)   He$_a$ is married.

What Principle B says

   Principle B says: you can't use a pronoun to point to somebody already being pointed just above in the tree.

   (6)   Look, there's Alistair$_a$.

   (7)   Mary saw him$_a$ in the reflection.

   (8)   * Alistair$_a$ saw him$_a$ in the reflection too.

   (9)   Alistair$_a$ saw himself$_a$ in the reflection too.

   More precisely, an object pronoun can't have the same index as the subject of the same verb.

Another use of pointing

   These "indices"—basically indicators of reference, the subscript—are also used to express generalizations with quantifiers.

   (10)   [Every boy]$_x$ said Mary nominated him$_x$.

   The way this is supposed to work is that *Every boy* means you collect together the set of boys, and then you go through them, one-by-one. For each of them, you point at them with your *x* finger and then see if *Mary nominated x* is true. Once you're done, if you didn't encounter any that were false, the whole sentence is true.

   (11)   * [Every boy]$_x$ nominated him$_x$.

Pointing into the world

   Here's the point: Binding theory is a formal statement that regulates the distribution of indices in a tree—it's purely syntactic.

   The thing that connects this to the world is the fact that the indices have an interpretation, in that they point into the world at something/someone.

   Also notice that it's important that *different indices point to different people*.

Different indices for different folks

   Why do different indices have to refer to different people?

   (12)   * Alistair$_a$ saw him$_x$ in the reflection too.

That should be ok, if Principle B is just about whether the indices match. But why wouldn't you be able to point to Alistair both with your *a* finger and your *x* finger?

There seems to be some kind of constraint (a pretty strong one) that says "conserve fingers." You *can* get around this sometimes, but usually if you use different fingers you have to be pointing at someone from kind of different angles.

What if children don't care about their fingers?

What happens, though, if children use any many fingers as they want?

Next time.