Kids omit subjects

- Until after around 2 years old, kids will often omit subjects:
  - Drop bean.
  - Fix Mommy shoe.
  - Helping Mommy.
  - Want go get it.
- Why?

The null subject parameter

- Adult languages differ in whether they require overt subjects or not.
- English does:
  - *Go to the movies tonight.
- Italian and Spanish do not:
  - Vado al cinema stasera.  (Italian)
  - Voy al cine esta noche.  (Spanish)
  ‘(I) go to the movies tonight.’

S_0 = Italian

- Hyams (1986) proposes that kids learning English go through a stage during which they are speaking Italian.
- The “null subject parameter” has an initial setting, that of Italian.
- Kids use that setting until they “reset it” to the English value.

Resetting the parameter

- Null subject languages do not have expletives like _it_ or _there_.
- The English input will provide plenty of examples
  - No, it’s not raining.
  - It’s not cold outside.
  - There’s no more.

Resetting the parameter

- Null subject languages do not have unstressed pronouns.
- The English input (once the kids have figured out stress/focus) will still contain pronouns where they “should” be dropped.
Two kinds of “null subject languages”

- Italian:
  - “rich inflection”—the identity of the “missing” pronoun is recoverable from the form of the verb

- Chinese:
  - “no inflection”

Morphological uniformity?

- Suppose that the value of the null subject parameter depends solely on the verbal inflection:
  - Null subjects are permitted in all and only languages with morphologically uniform inflectional paradigms.

- Italian—uniformly inflected
- Chinese—uniformly uninflected
- English—mixed

Do kids start out speaking Chinese?

- French kids still seem to drop subjects even after they’ve mastered verbal inflection (French having mixed morphology, it is not supposed to be a null subject language)

Processing accounts…

- Kids have severely limited processing power, and so they leave off subjects to ease the load. (Bloom 1990)

- In favor:
  - Length limitations even in imitations
  - Kids omit things other than subjects
  - Some kids don’t eliminate subjects, only reduce their frequency.

Do kids start out speaking Chinese?

- Actual Chinese kids drop ~20% subjects.
- English kids only drop ~3-8% subjects.
- English kids use lots of overt subject pronouns (~70% of their overt subjects)—much higher than comparable Italian kids.
- Conclusion? English kids aren’t speaking a null subject language—something else is going on.
Processing accounts…

- Contra? Hyams points out:
  – Build house…Cathy build house
  – Go nursery…Lucy go nursery
  – Kathryn want build another house.

- Bloom: So, no absolute limit on length, only a tendency to reduce length.

Bloom (1990)

- Bloom (1970) found:
  – negated sentences tend to lack subjects more frequently than non-negated sentences.

- Bloom (1990):
  – Hypothesis: sentences without subjects will have longer VPs than sentences with subjects.
  – Looked at past tense verbs and cognitive states (*need*) to avoid any confusion with imperatives.

Bloom (1990)

- VP length (words from verb to the end) counted for sentences with and without subjects.

- Results: Sentences with subjects were (statistically) significantly shorter than those without.
  – E.g., Adam 2.333 with, 2.604 without.

Bloom (1990)

- In fact, “long subjects” (lexical subjects), “short subjects” (pronouns), and null subjects correlated with an increase in VP length as well.

Bloom (1990)

- It is a fact that subjects are dropped more frequently than objects by kids at this stage—why?
  – subjects tend to be given (old) information
  – maybe processing “saves the heaviest load for last”

Hyams & Wexler (1993)

- The difference between subjects and objects is big.
  – Adam & Eve both drop around 40-50% of their subjects in an early stage, and in a later stage are down to 15-30%—meanwhile their rate of object drop stays around 5-10%.
Hyams & Wexler (1993)

• “Informativeness”?
  – All else being equal, the ration of missing subjects to specific subjects is equal to the ratio of missing objects to specific objects.

• Turns out that kids drop specific subjects about twice as often (Adam 52%) as they drop specific objects (Adam 21%).

Hyams & Wexler (1993)

• Considering Italian adults, we find exactly the same correlation Bloom reported for English kids: VP seems to be longer where there is null subject, shorter with a pronoun, and shorter still with a lexical subject.

• Regardless of why the correlation holds, if it is a processing deficiency in kids, what is it for the Italian adults?

• Seems like kids act like they’re speaking Italian.

Hyams & Wexler (1993)

• Consider the proportion of pronouns to lexical subjects.
• “Output omission” model would predict that younger kids would tend to drop more lexical subjects than pronouns, compared to the ratio they wind up at.
• Grammatical omission model would predict that younger kids would tend to drop more pronouns (since some are being realized as null subjects)

We find:
• Adam goes from about 3:1 in favor of lexical subjects (during subject drop stage) to 1:2 (after subject drop stage).
• When he’s dropping subjects, they are coming out of the “pronoun” pile—the number of lexical subjects is staying about the same across development.

Ok, so perhaps we know what it isn’t…

• Consider adult English—finiteness (tense) determines where null subjects are allowed:
  – We plan [— to leave soon]
  – * We plan [Pat to leave soon]
  – * We said [— will leave soon]
  – We said [Pat will leave soon]

• And kids at this age often use nonfinite verbs, so maybe it’s grammatical for kids in the same way it’s grammatical for adults…
Tense and null subjects

- O'Grady, Peters, and Masterson (1989): Kids don’t know the difference between finite and nonfinite verbs, and so allow subjects to be dropped like in adult nonfinite clauses.
- Kids produce few modals, and lots of uninflected verbs at this stage—as predicted?

Subjects vs. finiteness

- Turns out, null subjects seem to correlate with nonfinite verbs (Hyams’ BUCLD talk summarizes results of this sort):

<table>
<thead>
<tr>
<th>Language</th>
<th>Finite</th>
<th>Nonfinite</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>overt</td>
<td>null</td>
</tr>
<tr>
<td>French</td>
<td>74%</td>
<td>26%</td>
</tr>
<tr>
<td>German</td>
<td>80%</td>
<td>20%</td>
</tr>
<tr>
<td>English</td>
<td>51%</td>
<td>49%</td>
</tr>
</tbody>
</table>

Rizzi (1993/4)

- This “around 2 year old” stage is characterized by a couple of symptoms:
  - nonfinite verbs in matrix clauses in certain languages (specifically, non-null subject languages)
  - dropped subjects
- How might we explain this co-occurrence?

Tense and null subjects

- …well, sort of. If they don’t know the difference between finite and nonfinite, why don’t they overuse subjects in clauses which should be nonfinite?
- They don’t…
  - *gonna [me go]

Subjects vs. finiteness.

- So it does seem like the kids know the difference between finite and nonfinite—and they (tend to) drop subjects with nonfinite verbs and preserve subjects with finite verbs.

Null subjects and C

- Crisma (1992): French kids typically (1/114 =1% vs. 407/1002=41%) do not produce null subjects with a wh-phrase.
- Valian (1991): English kids typically (9/552=2%) do not produce null subjects with a wh-phrase.
- Poeppel & Wexler (1993): German kids typically exclude null subjects from post-V2 position.
Null subjects and C

- It looks like: If the kid shows evidence of CP (wh-words, V2), then the kid also does not drop the subject.

- Rizzi’s idea:
  - A discourse-licensed null subject is available only in the highest specifier in the tree (topic-drop).
  - Axiom: CP=root
  - Kids don’t “get” the axiom until between 2-3 years old.

Truncated trees

- The result (of not having CP=root) is that kids are allowed to have truncated structures—trees that look like adult trees with the tops chopped off.

- Importantly: The kids don’t just leave stuff out—they just stop the tree “early.” So, if the kid leaves out a functional projection, s/he leaves out all higher XPs as well.

Truncation

- If kid selects anything lower than TP as the root, the result is a root infinitive—which can be as big as any kind of XP below TP in the structure.

- Note in particular, though, it can’t be a CP.

- So: we expect that evidence of CP will correlate with finite verbs.

Truncation

- Pierce (1989) looking at French observed that there are almost no root infinitives with subject clitics—this is predicted if these clitics are instances of subject agreement in AgrS; if there is no TP, there can be no AgrSP.

Truncation and NegP

- But we do find negative Root Infinitives—a very central book to the study of Root Infinitives (Pierce 1989) was about the acquisition of French and showed that negation followed finite verbs and preceded nonfinite verbs (that is—French kids know the movement properties of finiteness, and thus they have the concept of finiteness).
Truncation and NegP

- So, is TP higher than NegP?
- Hard to say conclusively from the existing French data because there are not many negative root infinitives—but further study could lead to a theoretical result of this sort about the adult languages.

Truncation and null subjects

- As for null subjects:
  - If the tree is just a VP, the subject can be omitted in its base position—it’s still in the specifier of the root.
  - If the tree is just a TP, the subject can be omitted from the normal subject position—note that this would be a finite verb with a null subject.
  - If the tree is a CP and SpecCP is filled (like in a wh-question) we expect no null subjects.

Null subject languages vs. root infinitives

- The idea (set in a “minimalist” framework) is that a verb needs to get to AgrS—it has a feature/property (parametric) that marks it as needing to get to AgrS in a grammatical sentence. Hence, the kid needs AgrS.

For next time:

- Read O’Grady chapter 5 (and, if you want, Bloom 1990 and Hyams & Wexler 1993) on null subjects.
- Read Poeppel & Wexler (1993) and Rizzi (1993/4) on root infinitives.
- Write up a 1-2 page summary of Poeppel & Wexler (1993):
  - What are their main points?
  - What is the evidence? (mention “modal drop”, Radford, and Rizzi)
  - Is this evidence convincing? If not, why not?