1 Subject case

1.1 Child errors with subject case

English case errors

Among the ways in which "kids talk funny" are in their use of subject pronouns in English, to wit:

(1)   a. Him fall down.   (Nina 2;3.14, file 17)

          b. Her have a big mouth.   (Nina 2;2.6, file 13)

What does this mean with respect to what the children know about syntax? Do they simply not know the right forms for pronouns? Also, this seems to be something that happens primarily in English—why not in other languages?

1.2 Syntactic assumptions about case marking

Case forms in English

To begin to address this question, let's take a look at what exactly these errors are.

In English, pronouns take on different forms depending on whether they are the subject (*he*, *she*, *I*), a possessor (*his*, *her*, *my*), or something else, like an object (*him*, *her*, *me*).

The name for the different forms is "case"—subject case ("nominative," like *I*), object case ("accusative," like *me*), possessor case ("genitive," like *my*).

Case forms more generally

In English, the only place we see this difference between subject and object case is with pronouns—other nouns don't sound any different as subjects or objects. But lots of languages *do* differentiate their nouns in terms of what their syntactic role is. German, Japanese, Korean, Russian, . . . , it's very common to do this.

A common assumption in theoretical syntax is that it's just kind of an accident that English only displays different case forms in its pronouns—that is, English is

like all the other languages in having different forms for subjects and objects, the only difference is that in English they all sound the same (except for the pronouns). So the subject case form of *me* is *I*, and the subject case form of *Pat* is *Pat*, while the object case forms are *me* and *Pat*.

Case and the syntax

The fact that subject case goes with subjects led to the idea that it is I that is responsible—the subject is in the specifier of IP, and the thing in the specifier of IP gets "assigned" subject case by I. Meanwhile, objects get assigned object case by V.

In the more elaborated syntax of IP we talked about last time (where IP was split into TP and AgrP), the subject case function is generally attributed to AgrP, which is what we will assume here.

1.3   Child subject case errors

Non-nominative subjects

Children acquiring English seem to somewhat frequently put subject pronouns in the wrong case.

(2)   Him fall down.   (Nina 2;3.14, file 17)

(3)   Her have a big mouth.   (Nina 2;2.6, file 13)

This happens at the same time that children are also using root infinitives, in the ages from 2 to 3. Schütze & Wexler (1996) explored this connection and propose that in fact these phenomena arise from a common source, explaining why they happen together.

Finiteness versus case

They start by recalling an observation made by Loeb & Leonard (1991) that seems to indicate that children *don't* make these case errors when the verb form is finite. It's only with the root infinitives that case errors arise (and even then, only part of the time).

Loeb & Leonard (1991), 7 normally developing children:

subject	Finite	Nonfinite
he/she	436	75
him/her	4	28
% non-NOM	0.9%	27%

Additional observations

Schütze & Wexler (1996) follow this up by studying the transcripts of three further children (Nina, Peter, and Sarah, from the CHILDES database), and find basically the same pattern, but with some interesting additional observations.

There are just about no errors with pronouns apart from subjects. All of the objects children use come out in the correct object case, and the same (just about) with the possessors. The children *know* the case forms.

Almost all of the data support the generalization that when the verb is finite, the subject is nominative. Of the exceptions, most of the non-nominative subjects they found with a finite verb occurred with a past tense verb. (Weird, no?)

Nina, Peter, Sarah

Nina (1sg)

subject	Finite	Nonfinite
I	40	45
me	2	13
% non-NOM	5%	22%

Peter (1sg)

subject	Finite	Nonfinite
I	243	29
me/my	3	8
% non-NOM	1.2%	22%

Nina (3sg)

subject	Finite	Nonfinite
he/she	255	139
him/her	14	120
% non-NOM	5%	46%

Sarah (3sgf)

subject	Finite	Nonfinite
she	21	24
her	3	14
% non-NOM	13%	37%

1.4 Default case

Object case pronouns in subject position

The vast majority of the errors are object case pronouns in subject position. Why might that be?

Schütze & Wexler observe that in sentence fragments, and other places where a full sentence structure isn't expected, adults will use object case. Object case seems to be kind of a default.

(4)   Me/*I, I like beans.

(5)   Who did it? Me/*I.

(6)   Me/*I too.

Default case outside of English

In most other languages, subject case (nominative) seems to be the default. English is kind of weird in this respect. For example, German:

(7)   Der, den habe ich gesehen.
      he, him have I   seen.
      'He, him I saw.'

This might explain why subject case errors are so apparent in English but not in other languages. If children are using the default case in subject position, it will be an obvious error in English. In German, the default case is the same as it would have been anyway.

2   The Agr/Tense Omission Model

2.1   Separating Agr and T

A simple account that doesn't work

A kind of obvious sort of account might be to suppose that I is responsible for both subject case and for finiteness, and so if I is missing (or in some other way "broken"), then we would expect default case in the subject and a root infinitive.

The child data doesn't really bear that out, however, although it seems to be kind of in the right direction.

For one thing, some of the root infinitives occur with nominative subjects. The simple account predicts they should all have accusative subjects. Second, there are a few accusative subjects with past tense verbs, but those are predicted to have been nominative.

Splitting IP into Agr and T

Part of Schütze & Wexler's solution to this is to use the "Split-IP" hypothesis discussed at the end last time: There isn't just I, rather there is an AgrP and a TP.

Their basic idea is that for children, either Agr or T could be missing, but it's only when Agr is missing that the subject receives default (object) case. When Agr is there, the subject gets subject case. However, when *either* Agr or T is missing (with one exception), the verb form is nonfinite.

This explains why there are so many nominative subjects with root infinitives: those are cases where T was missing but Agr was there. The other cases (non-nominative subjects) are cases when Agr was missing but T was there.

2.2   Morphological explanation of infinitive forms

Tense and agreement morphology in English

The other part of Schütze & Wexler's story is that the tense and agreement morphology on a verb form is determined by the following rules in English:

(8)   a.   [tns=pres, agr=3sg] $\rightarrow$ –s
      b.   [tns=past] $\rightarrow$ –ed
      c.   [] $\rightarrow$ $\emptyset$

That is: if the sentence contains both present (T) and 3rd singular (Agr) features, the verb will end in *s* (modulo irregulars). Otherwise, if it contains past (T) features, the verb will end in *ed* (cf. *I danced*, *he danced*, *you danced*). Otherwise, the verb is just a bare form.

Predictions for children

If the rules in (8) are correct, known by both adults and children, then if T or Agr is missing from the structure, then 3sg present agreement should not surface, since both are required to condition the suffix *s*.

Notice, though, that if Agr is missing (which should yield a non-nominative subject), the verb can still surface in a past tense form, since the conditions for *ed* do not require Agr.

This explains those "exceptions" where past tense forms appeared with non-nominative subjects—those were cases where Agr was missing, but the intended tense was past.

2.3 Summary of predictions

Evaluation

The Agr/Tense Omission Model thus makes the following predictions, which line up almost perfectly with the observations.

- T and Agr both included: nominative subject, finite verb.

- T missing, Agr included: nominative subject, nonfinite verb.

- T included and past, Agr missing: accusative subject, past tense verb.

- T included and not past, Agr missing: accusative subject, nonfinite verb.

- T and Agr both missing: nonfinite verb—genitive subject?

- No configuration: accusative subject, 3sg present verb (*him cries*).

3 The unique checking constraint

3.1 Why T and Agr might be missing
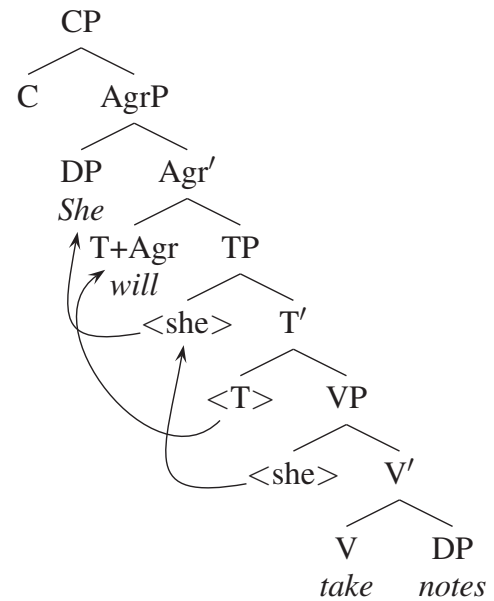
Explaining the cross-linguistic generalizations

The Agr/Tense Omission Model (ATOM) works pretty well in English, although it has reduced one question to another: Why are Agr and T sometimes omitted?

Related to this is the question of why some languages (the null subject languages) do not seem to exhibit the root infinitive phenomenon, which is supposed to arise from the omission of Agr or T.

We'll look at one particularly influential proposal about this, Wexler's (1998) "Unique checking constraint."

The syntactic requirements on T and Agr

The story begins at the intersection of the VP-internal subject hypothesis and the Split-IP hypothesis we discussed last time. In particular, the assumption that the subject moves first into the specifier of TP and then to the specifier of AgrP.

```
              CP
             /  \
            C   AgrP
               /    \
             DP      Agr'
             She    /    \
                 T+Agr    TP
                 will    /   \
                     <she>    T'
                            /    \
                         <T>      VP
                                /    \
                            <she>     V'
                                     /   \
                                    V     DP
                                   take  notes
```

Motivating movement

The trend in syntactic theory in the past 15 years has been to derive the properties of syntax from a "lazy" algorithm, a machine that basically does as little work as it can get away with doing.

The requirement that the subject has to move first to the specifier of TP and then to the specifier of AgrP is encoded in the theory by saying that T and Agr each have a "need" for the subject. Since T needs the subject, the subject moves there—the movement wouldn't happen if T didn't need it. Since Agr also needs the subject, the subject then moves there.

The process of "satisfying" the need T has is referred to as "checking"—the idea being something like checking an item off of the derivational to-do list.

3.2 The unique checking constraint

Two things the subject has to do

In an English sentence, both T and Agr need the subject (a DP). So there are two things that the subject must do. First, it must move to the specifier of TP, satisfying the need of T (checking the D-feature of T). Then, it must move to the specifier of AgrP (checking the D-feature of Agr).

Wexler's proposal is that what's special about children in the root infinitive stage is that they are subject to the Unique Checking Constraint.

Unique checking constraint
A subject (DP) can only check one D-feature.

3.3 Making lemonade

The best of bad options

Under Wexler's proposal, the child in the root infinitive stage is basically stuck choosing from among bad options. The assumption is that there is something in the adult grammar that says you need to have T, and something that says you need to have Agr.

Tense constraint
A main clause must include T.

Agr constraint
A main clause must include Agr.

But it is simply impossible to satisfy all three constraints (the Tense constraint, the Agr constraint, and the Unique checking constraint) at once. You can satisfy any two of them, but not all three.

Any choice is fine

Given the constraints the child is under, one constraint must be violated, and the one which is violated is presumed to be chosen more or less arbitrarily.

Satisfy Tense constraint and UCC, violate Agr constraint:AgrP is omitted.

Satisfy Agr constraint and UCC, violate Tense constraint:TP is omitted.

Satisfy Tense and Agr constraints, violate UCC:Adult form.

3.4 Doing the best you can

Minimize violations

Wexler also proposes (also kind of in keeping with the "lazy" idea about syntax) that syntax will not violate more constraints than it has to. A child subject to the UCC acquiring English must violate at least one of these constraints (Tense constraint, Agr constraint, UCC), but it will never violate two of them, since it is possible to get away with violating just one.

Minimize Violations

Given two representations, choose the one that violates as few grammatical constraints as possible. If two representations violate the same number of constraints, then either one may be chosen.

The connection with null subject languages

Wexler also proposes that this allows for an explanation of why Spanish, Italian, and Catalan do not seem to have a root infinitive stage.

The idea, essentially, is that what differentiates null subject languages from non-null subject languages is Agr does not have a D-feature to check (Agr doesn't need the subject to move to its specifier).

If Agr doesn't need D, then the UCC creates no conflict: The Agr constraint and Tense constraint can both be satisfied, at the same time as the UCC (the subject can check the D-feature of T and that takes care of everything). Minimize Violations then ensures that neither Agr nor T will ever be omitted.

4   Evaluating ATOM/UCC and Truncation

4.1   Wh-questions

Root infinitives in *wh*-questions

The ATOM/UCC proposal does not seem to make any prediction about the availability of root infinitives in *wh*-questions.

Last time we saw that (a) root infinitives are rare or nonexistent in French and Dutch, and (b) the truncation model has a ready explanation for this: a root infinitive necessarily lacks CP, so of course there would be no *wh*-questions.

Under the ATOM/UCC model, there is no clear reason why lacking either T or Agr would result in the inability to form a *wh*-question. On the other hand, English *does* seem to have *wh*-questions with root infinitives, unlike Dutch and French.

(9)   Where train go?   (Adam 2;4)

4.2 Subject case errors

Subject case results

On the flip side, the ATOM/UCC model seems to do a better job explaining the subject case results than the truncation model.

Under the truncation model, we should only see (a) both AgrP and TP, or (b) TP without AgrP. Never AgrP without TP. So, this leaves the nominative subjects with root infinitives unaccounted for. (And even if the proposed order of AgrP and TP were reversed, this would then predict never TP without AgrP, so the past tense "exceptions" are left unexplained).

4.3 Beyond root infinitives

The UCC in other domains

Although we won't talk about it yet, we will come back later in the semester to some other predictions that the UCC makes as well, which seem at least plausibly borne out. These have to do with the production of object clitics in languages with object agreement on the verb (like French), and maybe also certain facts about objects and negation in Korean.

5 Summary

Two accounts of the optional infinitive stage

ATOM/UCC: Agr is tied to subject case, verbal morphology depends on features of both Agr and T, and the UCC can cause Agr or T to be omitted. Null subject languages have an Agr with no "needs," so the UCC can always be satisfied.

Truncation: Children can (relatively arbitrarily) stop building their trees short of CP, with the consequences that go with that. Null subject languages must always have T.

There are pros, there are cons. At the moment, maybe the UCC is winning, but we still have the question raised above about *wh*-questions.