CAS LX 400
Second Language Acquisition

Week 5a. UG and L2A:
Functional categories, minimalism

Delving into syntax
• Syntactic theory has advanced quite a bit over the time that theories of L2A have been proposed and tested, and to make sense of the newer results, we will need to dig a little deeper into current syntactic approaches within the Principles & Parameters framework.

The Minimalist Program
• A fairly recent development is the approach to grammar referred to as the “Minimalist Program” discussed at length in Chomsky (1995) (which builds on a lot of prior work).
• Under this conception of grammar, the syntactic principles of language are completely fixed crosslinguistically; the “parameters” are actually aspects of special items in the lexicon (the functional items).

Lexical vs. functional
• To a first approximation at least, it is possible to split the words of a language into two groups, lexical and functional words.
  • *Lexical* words include things like nouns and verbs, and generally the open-class items in the language. These are words that can be easily added to the language, e.g., *xerox*.

Lexical vs. functional
• Functional items are generally *closed-class* words, words that have a strictly grammatical function and which generally cannot have new members added. For example, *the, a, each, or, not, …*
• The functional items are the ones which are most closely tied to the grammar of a language. According to the MP, it is solely properties of these functional categories that determine the differences between grammars of different languages (rather than independent parameters).

Lexical vs. functional
• The *parameters* of a language are features of functional words in the lexicon.
• In a sense, learning the grammar of a language under this view is just a matter of learning the properties of the function words. We’ll delve into this deeper as we continue…
**Functional heads**

- The inventory of functional items in a language is not restricted to words.
- Functional items also include suffixes and prefixes, e.g., -ed (past tense), -s (3sg agreement), -s (plural), -ing (progressive), and so forth.
- Under this view of syntax, the basic structure of the sentence is held together by functional elements, with the lexical elements sort of filling in the blanks.

**X-bar theory**

- For thinking about functional structure in a sentence, we will make use of a recent development in the theory of syntactic structure: X-bar theory.
- X-bar theory is primarily based on the hypothesis that all structural components of a sentence can be described in terms of the X-bar template above.
- X stands for any category (for example V, N, ...)

**Specifier**

- Every category can have a complement (like an object). For example the complement of V is the direct object (*eat lunch*), the complement of P is the object of the preposition (*at school*), the complement of N (*book of poems*).

**Specifier**

- The complement and the specifier are themselves each some kind of XP.
- Consider *book of poems*. Of poems is the complement of the noun *book*. Book of poems is an NP. But of poems is itself an XP—it is a PP (prepositional phrase), with *of* as the P and with the complement *poems*.

**Specifier**

- Here’s *the book of poems*.
- *The* is a determiner, taking an NP complement *book*, which takes a PP complement *of*, which takes an NP complement *poems*.
- So far all of the specifier positions are empty.

**Specifier**

- A fairly clear example of an X-bar structure is a noun phrase with a possessor, like *the student’s book*.
- Notice that the higher D is not a word, it’s the little suffix-like particle (clitic) ‘s.
A real live X-bar structure

- Notice that anything that counts as a “DP” (that is basically a noun phrase with an article, like the student or a happy millionaire) can go into the first slot.
  - The woman from Australia’s book.
  - The storekeeper we met last week’s book.

X-bar parameters

- Languages overwhelmingly tend to use the same ordering in all of their X-bar structures. That is, complements follow the head (in English, say), whether the head is a verb (eat lunch), a preposition (in class), a noun (book that I read).

Clause structure

- Across languages, clauses are believed to have basically the same underlying structure.
- At the top of the structure, there is a “complementizer” phrase that is realized by elements like that, or if:
  - I said [that John left].
  - I asked [if John left].
- A complementizer heads a CP, and takes essentially a whole sentence as its complement.
Clause structure

- However, there is reason to believe based on a lot of syntactic work over the past 10 years that actually tense and agreement are separate things, and that they each need to have their own position in the clause structure.
- So, the Infl phrase was “split” into two phrases, a Tense Phrase (TP) and an Agreement Phrase (AgrP), and their duties were split up as well.
- The subject is in the specifier of AgrP.
- T is where modals (will, must) and tense are initially (i.e. before they move anywhere if they do).

Movement

- Under certain conditions, things move around in the sentence.
- In questions, T usually moves to C.
  - Will John eat lunch?
- In French, V moves to T.
  - Jean (ne) mange pas du chocolat.

Functional categories

- To reiterate, functional categories (T, Agr, D, P) are taken to be where the parameters that differentiate languages are.
- For example, for T we can see that it is either of the “needs a verb” type (French) or not (English).
- Functional categories and their properties are a crucial component of the adult native-speaker knowledge of a language.

Functional categories in L1A

- There is some debate concerning L1A and children’s use of functional categories.
- Kids start out saying sentences that tend to omit words we associate with functional categories—they often do not inflect their verbs (for tense or agreement, a property of T), they often do not use determiners (D).
- Some researchers take this to be evidence that kids learn lexical categories first and only later move on to using functional categories.
Functional categories in L1A

• Over the past decade or so, it has become clearer, however, that kids do seem to have access to (knowledge of) functional categories and their properties. There is a fairly dramatic example of this we can observe in both French and German.

• In French, recall, verbs often move up to T. We know this, for example, because the verb appears before the negative marker *pas* (assumed to mark the boundary between TP and VP).
  
  • *Nonfinite* verbs (like *to go* in *I want to go*) generally occur after the negative marker *pas* (*I want not to go*).
  
  – Ne pas regarder la télé consolide l’esprit critique.

• That is, only *tensed (finite)* verbs move up to T. Nonfinite verbs do not. There is difference, depending on what is in T.

• Children around age 2 are producing multi-word sentences, but across many languages it appears to be the case that they will sometimes use nonfinite verbs where an adult would have to use a finite verb.

• However, what is interesting is that once kids start using finite verbs, they put them in the right place. That is, when the French kid uses a nonfinite verb (even if the adult would have used a finite verb), s/he’ll put it after a negation marker *pas*, and when s/he uses a finite verb, s/he’ll put it before the negation marker *pas*.

• So, even though kids will sometimes use nonfinite verbs, they *know the difference* between finite and nonfinite verb and know how the grammar treats each kind. They are using T correctly. They just sometimes pick the wrong one.

• In German, something very similar happens.

  • German is at a certain level a lot like Japanese; its basic word order is SOV, with the verb at the end of the sentence. However, German has an extra complication; in simple sentences, a *finite* verb has to appear in “second position.”
German and L1A

- This “second position” is generally thought to be C, where something else (like the subject, or any other XP) needs to appear in SpecCP.
- This only happens with finite verbs. Nonfinite verbs remain at the end of the sentence (after the object).

Re: L2A

- This raises the question (in the general ballpark of “how much is L2A like L1A?”) as to whether second language learners show this effect as well.

Functional categories

- Rephrasing a bit, what we’re talking about is essentially the \textit{structural complexity} of the learner’s (L1A/L2A) knowledge (at a given point).
- It has been pretty well established by theoretical linguistics that adult native languages are quite complex, containing functional phrases like AgrP, TP and CP, and there is a lot of support for this idea that most if not all parameteric difference stem from properties of the functional morphemes.

Functional categories

- What we’re looking at is the question of how much of this structure is present in the L1 and L2 learner’s grammar.
- Verb movement (if it conforms to the rules of adult native-speaker verb movement, anyway) serves as evidence for this complex functional structure, since the verb moves into a functional “slot” (T, for example).

Functional categories

- So, the evidence we just reviewed suggests very strongly that kids learning German and French produce sentences which comply with the rules of adult syntax that make reference to this complex functional structure. Kids seem to “know about” the TP and the CP and the rules that pertain thereto.
Functional categories

- The question we’re about to look at is whether adult second language learners also have this same complex structural knowledge in their IL. Do L2’ers “know about TP” in other words?
- Note that if L2’ers can usually produce sentences which are grammatical in the TL but yet don’t “follow the rules” which are associated with that structure (i.e. that only finite verbs move to T), we do not have evidence that their mental representation of these sentences includes the higher functional phrases like TP.

Prévost and White (1999, 2000)

- Prévost and White (1999, 2000) investigated this very question, and here’s what they found.
- Like kids do during L1A, second language learners will sometimes omit, and sometimes provide, inflection (tense, subject agreement) on the verb.
- When there is tense or agreement, the verb is finite (as opposed to being an infinitive). In adult/native languages, finite verbs are generally the ones that move (like in French and German).

Inflection and movement

- The L1A cases of movement of the verb if and only if it is finite are fairly dramatic because it shows that the kids
  - Know the difference between finite and nonfinite (that is, they “know about T” and they know the implications of the properties of T).
  - Know that finite verbs move.
  - Know that nonfinite verbs do not move.
- What about second language learners?

Prévost and White

- Prévost and White try to differentiate two possibilities of what their data might show, given that second language learners sometimes use inflected verbs and sometimes don’t.
  - Impairment Hypothesis. The learners don’t really (consistently) understand the inflection or how to use it. Their knowledge of inflection is “impaired”. Their trees don’t contain the functional XPs.
  - Missing Surface Inflection Hypothesis. The learners will sometimes pronounce finite verbs in their infinitive form (the verbs act finite, the function XP’s are there, but the learner couldn’t find the right inflected form in his/her lexicon in time, so s/he used the nonfinite form).

Prévost and White

- The first possibility (impairment) suggests basically no correlation between verb movement and inflection.
- The second possibility (mispronouncing a finite verb by using its nonfinite form) predicts that
  - When the finite form is pronounced, the verb will definitely be (and act) finite—i.e., it will move.
  - When the nonfinite form is pronounced, it might act finite or nonfinite.

Prévost and White

- P&W looked at spontaneous speech data from two adults learning L2 French (from Moroccan Arabic, after a year) and two adults learning L2 German (from Spanish and Portuguese, after 3 months). Monthly interviews followed for about 2 years.
Prévost and White found…

• Almost no finite (inflected) verb forms in non-finite contexts at all.
• When verbs are marked with inflection, they systematically (overwhelmingly) appear before negation (i.e., they move).
• Many of nonfinite forms used in finite contexts (*used finitely, moved).

<table>
<thead>
<tr>
<th></th>
<th>Oblig. Fin</th>
<th>Oblig. Nonfin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+Fin</td>
<td>-Fin</td>
</tr>
<tr>
<td>A(F)</td>
<td>767</td>
<td>243</td>
</tr>
<tr>
<td>Z(F)</td>
<td>755</td>
<td>224</td>
</tr>
<tr>
<td>A(G)</td>
<td>389</td>
<td>45</td>
</tr>
<tr>
<td>Z(G)</td>
<td>434</td>
<td>85</td>
</tr>
</tbody>
</table>

Prévost and White

• That is, their data strongly supports the hypotheses that:
  – (These) second language learners know the difference between finite and nonfinite verbs.
  – They know that finite verbs move, and that nonfinite verbs do not move.
  – The only real errors they make are essentially lexical retrieval errors (errors of pronunciation), pronouncing verbs which are abstractly finite in their infinitive form.

L2A and L1A

• One thing this tells us is that, despite possible appearances to the contrary, second language learners’ interlanguages are quite systematic and complex, and the L2 learners have the same kind of abstract structural knowledge incorporated into their IL that we can argue for in the case of L1 learners.

L2A and L1

• We don’t know really to what extent “UG” played a role, based only on this—after all, we know that the L1 had the full structural complexity of a natural language, including the distinction (perhaps abstract) between finite and nonfinite, and including (perhaps abstract) subject agreement, etc. There’s no reason that knowledge of the distinction between finite and nonfinite couldn’t simply carry over (“transfer”) to the IL during L2A.

Functional categories

• There is a “competing” view (which we will close out this portion of the course with next time) of the role that abstract functional categories (like T) play in L2A (and L1A).
• It is based on the idea that L2’ers (and actually L1’ers too) proceed to a point where they have the whole functional structure, but by “building up the tree”

Functional categories

• That is, initially L2’ers (and L1’ers) do not represent sentences with AgrP, TP, CP, and all of that, but rather have very reduced representations of sentences, but that they proceed through stages of “taller and taller trees” until the full functional structure is present.