11. The initial state in L2A

CAS LX 540: Acquisition of Syntax

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Differentiating languages

The basic model coming out of Linguistics (syntax, mainly) of adult native speakers and first language acquisition is that languages differ in terms of **parameter settings**. (And in how words are pronounced, that kind of thing.)

So, clearly, to acquire a second language requires setting up a second system that is different from the first language in terms of (some of) the parameter settings.

If you like, maybe you can think of these as different "user accounts" (languages) under the same operating system (UG). The settings (like localization, like desktop organization), though the basic functioning is the same.

The initial state and parameter "resetting"

There are two—intertwined—questions about second language acquisition that this model causes us to confront.

- What are the parameter settings first assumed in the interlanguage?
- To what extent can those parameter settings be changed?

Possibilities

The options for the initial state would seem to be basically these:

- Some kind of "default" state (maybe the same as the L1 initial state)
- The parameter settings of the L1 (full transfer)
- Some, but not all, parameter settings of the L1 (partial transfer)
- Some kind of indeterminate state (unset, or unstable settings)

Evidence

The kind of evidence we should then be looking for would be to see what kind of effects there might be of different L1s on the acquisition of L2. That is, what kind of "transfer" effects there are.

We also want to see to what extent the interlanguage grammar differs from L2—are the parameter values "flaky"? Are they first the L1 values and then the L2 values?

Another question is: are the parameter values *ever* set as in the L2?

Approaches

We'll look at a couple of approaches in a bit of detail and see what the evidence for them is.

- "Full Transfer Full Access"—The IL starts off with the L1 grammar wholesale. All properties of the L1 are transferred to the IL. After this, parameter settings can be changed to accommodate the L2 input.
- "Minimal Trees"—The IL starts off with just VPs (no functional projections), and the tree grows as time goes by. The properties of the L1 VP are transferred to the IL, but the properties of higher functional categories are not dependent on the L1.
- "Valueless features"—The IL starts off with all of the parameters "unset," a kind of default state.

Initial state
Effects of the L1—"transfer"
Models

Basic word order
Reflexives
Telicity
Verb raising

Evidence of transfer

Before getting to models, let's take a look at what kinds of evidence has been gathered relating to the question of the initial state.

There are at least two angles from which to view the question—

- In places where the L1 and L2 differ, to what extent do L2'ers initially behave in the "L1 way" (and, second, do they come to behave in the "L2 way"? Do they show evidence of any "non-L1/non-L2 way" along the way?)
- For L2'ers starting with different L1s, what kind of differences are there?

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Erdem

Erdem (Haznedar 1997), L1 Turkish, L2 English. 4 years old.
Longitudinal case study, spontaneous production. Turkish is SOV,
neg-final, English is SVO, neg-initial

(1) First three months, Turkish values

    a. I something eating.

    b. Finish no.

(2) Fourth month and beyond, English values

    a. You eating apple.

    b. I not eat cornflake.

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Korean/Turkish/Romance speakers learning German

Vainikka & Young-Scholten (1994): L2 German (head-final, V2).

(3) Korean/Turkish L1, at least 3 (advanced), 95% of the time.

    a. Eine Katze Fisch alle essen.
       a   cat   fish   all   eat-INF
       'A cat ate the entire fish.'

(4) Romance L1, predominantly head-initial

    a. De esse de fis.
       she eat   the fish
       'She's eating the fish.'

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V&YS: Evidence of headedness transfer

V&YS report a couple of studies, where for all the subjects the target language is German. One cross-sectional study had 6 Korean, 11 Turkish, and 6 Spanish L1 speakers. Another, longitudinal study, followed 1 Spanish speaker and 4 Italian speakers.

L1	L1 headedness	% head-final VPs in L2
Korean/Turkish	final	98
Italian/Spanish (I)	initial	19
Italian/Spanish (II)	initial	64

In the VP stage, speakers seem to produce sentences in which the headedness matches their L1 (and not German, where they differ).

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V&YS: Evidence of headedness transfer

Among the Romance speakers, there seem to be two steps. (Years after arrival indicated where different from the start of study, files generally every two weeks.)

Speaker	NL	Age	VPs	Files	V-initial	V-final
Bongiovanni	I	18	20	1–6	13 (65%)	7
Salvatore	I	35	44	1–3	35 (80%)	7
Jose	S	17	20	1–3	15 (75%)	7
Rosalinda	S	40(13)	24	n/a	24 (100%)	7
Antonio	S	51(18)	68	n/a	20	48 (65%)
Jose	S	17	37	4–5	23	14 (38%)
Lina	I	33	24	6	7	17 (71%)
Salvatore	I	35	25	6	6	19 (76%)

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Differences in the treatment of reflexives

One place where languages differ is in the treatment of reflexives (*himself*, *herself*, etc.). There is a universal principle that is generally taken to govern reflexive use across languages:

Principle A of the Binding Theory

An anaphor (e.g., reflexive) must have an appropriate kind of antecedent above it in the tree, within the "binding domain."

Languages differ in both what counts as an appropriate kind of antecedent, and what the size of the "binding domain" is.

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Anaphors in English

In English, basically any DP can be an antecedent, and the "binding domain" is essentially the clause containing the anaphor. (See White 2003, section 2.3)

(5)   Mary$_i$ saw herself$_i$.

(6)   Mary$_i$ said [that Susan$_j$ saw herself$_{j,*i}$].

(7)   Bill said [that Susan$_i$ saw herself$_i$].

(8)   * Mary$_i$ said [that Bill saw herself$_i$].

(9)   Mary$_i$ asked Susan$_j$ about herself$_{i,j}$.

(10)   Mary$_i$ asked Bill about herself$_i$.

(11)   Bill asked Mary$_i$ about herself$_i$.

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Anaphors in Japanese

In Japanese, the "binding domain" for *zibun* 'self' is much bigger—the whole sentence—but only *subjects* count as appropriate antecedents. (Though cf. Japanese *zibun-zisin*: local antecedents, subjects only).

(12) Mary$_i$ ga [Susan$_j$ ga zibun$_{i/j}$ o semeta to]
     Mary NOM Susan NOM self ACC blamed that
     omotta.
     thought
     'Mary$_i$ thought [that Susan$_j$ blamed herself$_{i/j}$].'

(13) Kanja$_i$ ga kangofu$_j$ ni zibun$_{i/*j}$ no koto nitsuite
     patient NOM nurse DAT self GEN matter about
     tazuneta.
     asked
     'The patient asked the nurse about herself.'

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Reflexives in L2 Chinese

L2 Chinese, different L1's, looking at the binding domain for *ziji* 'self' (which in Chinese is a subject-oriented, long-distance anaphor). Yuan (1998). Intermediate L2'ers, but still show "initial state" effect—also, much less useful evidence from the input.

L1 and level	% long-distance
L1 Japanese	92%
L1 English (intermediate)	53%
L1 English (advanced)	71%
Native Chinese	94%

Conclusion: Whether the L1 has a long-distance anaphor makes a difference.

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Telicity and how it works in English

Languages differ with respect to how "telicity" is marked. A telic interpretation is one that has an endpoint, and an atelic one lacks the endpoint. In English, one determiner of telicity seems to be whether the object can be measured. Spanish works the same way.

(14) Atelic interpretations, unmeasurable object

    a. John assembled chairs (for an hour / #in an hour).

    b. Mary drank beer (for an hour / #in an hour).

(15) Telic interpretations, measurable object

    a. John assembled a chair (in an hour / #for an hour).

    b. Mary drank five beers (in an hour / #for an hour).

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Telicity in Bulgarian

In Bulgarian, telicity is actually marked by a particle on the verb, and the type of object makes no difference.

(16) Pih   vino-to (edin čas / #za edin čas).
     drink wine-the one   hour in one hour
     'I drank the wine (for an hour / #in an hour)'

(17) Iz-pih   vino-to (edin čas / #za edin čas).
     pref-drink wine-the one   hour in one hour
     'I drank (up) the wine (in an hour / #for an hour)'

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Effect on L1 on interpretation of telicity

Slabakova (2000). Naturalness (–3 to +3) of *Antonia worked in a bakery and. . . (made a cake/made cakes)*.

L1	telic rating	atelic rating
L1 Bulgarian	1.44	1.95
L1 Spanish	0.55	2.04
L1 English (Am.)	0.19	2.09
L1 English (Br.)	0.81	2.41

Conclusion: Whether the L1 marks telicity via the object makes a difference.

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Differences in verb raising

Languages differ in whether the verb raises (as we've seen). As a reminder: The verb raises in French, not in English.

(18) a. Marie regarde*i* [souvent [$_{VP}$ t*i* la télévision.]]

b. * Marie [souvent [$_{VP}$ regarde la télévision.]]

(19) a. * Mary watches*i* [often [$_{VP}$ t*i* television.]]

b. Mary [often [$_{VP}$ watches television.]]

(20) a. * The children like*i* [not [$_{VP}$ t*i* spinach.]]

b. The children (do) [not [$_{VP}$ like spinach.]]

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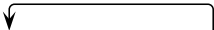Basic word order
Reflexives
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Verb raising in L2

White (1990, 1991) showed that French L1 speakers acquiring English as an L2 would accept both orders, suggesting that they at least sometimes raise the verb over adverbs as in the L1. However, they would consistently fail to raise the verb over *not* (White 1992), unlike French.

Yuan (2001) looked at L2 acquisition of Chinese (SVO, no verb movement) in the same terms.

(21)   Zhangsan changchang kan   dianshi.
         Z.   often   watch television.

(22)   * Zhangsan kan$_i$ changchang t$_i$ dianshi.
           Z.   watch   often   television.

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Verb raising in L2 Chinese

	Production			Judgments		
Group/level	SAVO	*SVAO	Other	SAVO	*SVAO	Both
L1 English 1	223	9	8	136	3	4
L1 English 2	140	0	0	88	0	2
L1 English 3	160	0	0	91	0	4
L1 English 4	120	0	0	63	1	8
L1 French 1	148	0	2	70	5	2
L1 French 2	141	0	19	93	2	0
L1 French 3	167	0	3	98	0	1
Native Chinese	92	0	8	60	0	0

Conclusion: Pretty much no evidence of verb raising from either language.

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Support for FTFA

The effect of the L1 on the L2 (the transfer part): Yuan 1998 (reflexives), Haznedar 1997, Vainikka & Young-Scholten 1996 (word order), Slabakova 2000 (telicity).

The other aspect of FTFA concerns whether L2'ers can "reset" the parameters to the L2 values (which we'll take up more next time), or even to values of neither the L1 nor L2 (which we'll take up more the time after that).

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Falsifiability

What kinds of evidence would lead us to conclude that FTFA is *incorrect*?

White (2003) highlights that a potential problem (with FTFA as with any proposal) is that once might be able to "explain away" counterexamples (like cases where speakers of different L1s behave the same way in the L2) as simply being beyond the transfer stage.

For example, Yuan's (2001) evidence that even French L1 speakers don't raise the verb in L2 Chinese—because they've already had enough exposure to have acquired that?

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Minimal Trees: the idea

Vainikka & Young-Scholten, in a series of papers, proposed the
Minimal Trees model for second language acquisition.

The basic idea is that the starting point for second language syntax is a
very reduced syntactic structure, which gets more complex over time.
It is much like the Small Clause model in L1 acquisition—beginning
L2'ers have syntactic structures that consist only of a VP, and as they
advance, their trees become taller.

L2A takes place in stages, with grammars that successively replace
each other.

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Minimal Trees: Initial state and transfer

V&YS propose a certain kind of "full transfer"—but limited to the VP.

Since the initial grammar only generates VP, only parameters that affect the VP level are transferred from the L1. Most relevantly: headedness transfers.

Other parameters (such as whether the verb raises to I) do not transfer.

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Minimal Trees: evidence

We saw evidence of headedness transfer (VP), but the other part of the proposal is that functional categories are missing—we're looking for the same sort of evidence we sought for in the Small Clause model of L1 acquisition.

Things associated with missing parts of the structure should be missing (or maybe default). Working backwards, if there is no C, we should expect no complementizers (*that*, *if*) and no *wh*-questions. If there is no I, we should expect no modals/auxiliaries, verb raising, or subject agreement. (Perhaps this could be made more refined by considering TP and AgrP separately.)

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VP stage: data

At the VP stage, V&YS find a lack of: verb raising, auxiliaries and modals, agreement, complementizers, *wh*-movement, questions, embedded clauses. Differentiation between VP-i and VP-ii has to do with whether the head is initial (VP-i) or final (VP-ii).

stage	L1	Aux	Modal	default agr
VP	Kor	1	1	68%
VP	Tur	0	1	75%
VP-i	It	0	0	65%
VP-ii	It	0	0	82%
VP-i	Sp	8	5	74%
VP-ii	Sp	1	1	57%

All of the auxiliaries and modals came from Rosalinda (Sp.): three *wolle* 'want' and five *is(t)* 'is'. She doesn't *control* IP yet?

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TP stage: data

A little further along, some auxiliaries and modals, Korean/Turkish
speakers raise the verb about 46% of the time (but note: TP in
German is head-final, yet in L2 TP stage it must be assumed to be
head-initial), still a lot of default agreement.

stage	L1	Aux	Modal	default agr
TP	Sp	21	9	41%
TP	Tur	0	5	68–75%

AgrP stage: Korean/Turkish speakers raising the verb 76% of the
time, some embedded clauses with complementizers, complex
wh-questions attested.

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Minimal trees: assessment

The stages are not very clean—why are there *any* complementizers in the AgrP stage? Perhaps a better way to think about it is in terms of competition between AgrP and CP grammars, where the CP grammar initially loses most of the time, but gains power.

Though, also, there are NegPs and DPs, even in the VP stage, which are functional categories. And there is evidence that, e.g., English children learning French seem to manage to raise the verb. And we need to assume that some of the CP functions can be "emulated" in lower phrases (*wh*-questions in pre-CP stages, head-initial TP in order to get V2 in pre-CP stages), though again maybe this can be answered in terms of grammar competition.

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Valueless Features

The Valueless Features hypothesis (Eubank 1993/1994) supposes that parameters in the initial state are initially "unset" (which is taken to imply variability between "on" and "off" values).

There is certainly a fair amount of variability, but there are still a number of case where the "on" setting doesn't seem to be in evidence. The primary example White (2003) points to is verb-raising—we don't see verbs raising past negation, even if they raise past adverbs, and we don't see verb raising at all in Yuan's (2001) L2 Chinese study. White (2003) also points to a number of methodological problems in the studies that even seem to support the Valueless Features hypothesis.

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Where we are

Ultimately, it seems like something like the Full Transfer/Full Access hypothesis is closest to being able to explain what we're seeing, although we have not spent much time looking at the "full access" part of this.

Generally, there seems to be a strong effect of the L1, and there seems to be more knowledge pertaining to the higher functional structure in the interlanguage than would be expected on the Minimal Trees hypothesis, and more constraint than would be expected on the Valueless Features hypothesis.