Looking at interlanguage processing

Looking at IL processes
- Connectionist/Emergentist Models
  - The Competition Model
- Processing Approaches
  - Processability Theory
  - Information Processing
- Input Processing
- Knowledge Types

THE COMPETITION MODEL

What is your interpretation of these English sentences?
What criteria do you use to interpret them?

The cows eat the grass.
How do you know?

Who or what does the eating?

The competition model

The grass eat the cows.
How do you know?

Who or what does the eating?
The competition model

- The grass eats the cows.

Who or what does the eating?

- How do you know?

The competition model

- The pencil sees the boys.

Who or what does the seeing?

- How do you know?

The competition model

- Syntactic ambiguity is resolved by cue strengths. Consider:

  - A asked B to go.
  - Jimmy asked his mother to go play.
  - Jimmy went to play.
  - The doctor asked Jeff to go see a specialist.
  - Jeff went to see a specialist.

The competition model

- The boy asked the girl to go.

Who went?

- How do you know?

The competition model

- The dog asked the girl to go.

Who went?

- How do you know?
The competition model

- The girl asked the chair to go.
- How do you know?
- Who went?

The competition model

- The chair asked the dog to go.
- How do you know?
- Who went?

The competition model

In processing meaning in sentences we use these cues:
- Syntax
  - Word order (SVO)
- Morphology (Case of nouns, Agreement between subject and verb)
- Meaning
  - ± Human
  - ± Animate

The competition model

- In some cases the meaning-based and syntactic cues converge to give the same interpretation of a sentence.
- In other cases the meaning-based and syntactic cues conflict.
- The interpretation we choose is based on competition among the cues.

The competition model

- Different languages assign different weights to syntactic and meaning-based cues.
- Learners of a second language give most weight to meaning-based cues.
- Learners of a second language tend to transfer the weights associated with the cues in their first language.

The competition model

- Here is part of an Italian conversation among friends as they decide what to order at a restaurant. What is your interpretation of these Italian sentences?
- What criteria do you use to interpret them? Are your criteria the same as the ones you used to interpret the English sentences?
The competition model

Italian vocabulary

- allora = well
- anche = also
- aonsigliare = to recommend
- gli spaghetti = spaghetti
- io = I
- la pastasciutta = pasta

le lasagne = lasagne
mangiare = to eat, take, have
prendere = to have, take, eat
qui = here
sempre = always
un primo = a first course

The competition model

- Io mangerei un primo.
- Allora mangio anch’io la pastasciutta.
- Ha consigliato le lasagne qui Franco, no?

Who or what will eat what?

Who or what always eats what here?

Who or what will eat what?

Who or what recommended what here?
The competition model

- No, le lasagne le ha consigliate Elizabeth.

Who or what recommended what?

The competition model

- Allora, io gli spaghetti prendo.

Who or what will eat what?

The competition model

- Io mangerei un primo.
- La pastasciutta Franco la prende sempre qui.
- Allora mangio anch’io la pastasciutta.
- Ha consigliato le lasagne qui Franco, no?
- No, le lasagne le ha consigliate Elizabeth.
- Allora, io gli spaghetti prendo.

What are the relative cue strengths of English and Italian?

- Processability Theory

Looking at interlanguage processes

PROCESSABILITY THEORY
Processability theory

- Manfred Pienemann studied the acquisition of German as a second language (GSL) by Gastarbeiter from Italy, Spain, and Turkey.
- He found a developmental sequence in the acquisition of GSL word order rules.

Developmental sequence of GSL word order rules

- Stage X: Canonical word order (SVO)
  - die kinder spielen mit ball
  - the children play with the ball
  - S V O

- Stage X + 1: Adverb pre-posing
  - da kinder spielen
  - there children play
  - ADV S V

- Stage X + 2: Verb separation
  - alle kinder muss die pause machen
  - all children must the break have
  - S MOD O V

- Stage X + 3: Inversion
  - dann hat sie wieder die knoch gebringt
  - then has she again the bone brought
  - ADV AUX S O V

- Stage X + 4: Verb → End
  - er sagte dass er nach hause kommt
  - he said that he home came
  - S V [COMP S ADV V]
Developmental sequence of GSL word order rules

- **Stage X**: Canonical word order
- **Stage X + 1**: Adverb pre-posing
- **Stage X + 2**: Verb separation
- **Stage X + 3**: Inversion
- **Stage X + 4**: Verb → End

Developmental stages in ESL question formation

1. Single units including words and lexical chunks
2. Questions formed with SVO word order and rising intonation: You like number one?
3. Fronting of wh-word or unanalyzed do without inversion: Why you do that?
4. Inversion in yes/no- and wh-questions with copula be: Where’s my book?
5. Inversion of auxiliaries after wh-words: What’re you doing?
6. Inversion across the full range of contexts required in production of negative and tag questions: You didn’t work this the whole story, do you? You just want to copy, do you?

Pienemann’s teachability/learnability hypothesis

- Learners can only learn the next stage in the developmental sequence.
- If they are at stage N, they can only learn N + 1.
- If they are taught an N + 3 structure, they cannot learn it.
- They can only learn N + 1.

Critique of processability

- Liu’s (2000) longitudinal study of a child learning English as a second language in Australia:
  - Stage 4 and 5 questions emerged in interactions with the researcher long before Stage 3 forms emerged. The child’s participation in the interactional context with the researcher altered a so-called universal sequence of acquisition of interrogatives in his interlanguage.

A continuum of representation

- **Implicit knowledge is**... Knowledge about the underlying structure of a language
- **Explicit knowledge is**... Knowledge about which we are conscious

Looking at interlanguage processes

**KNOWLEDGE TYPES**
A continuum of representation

How is implicit knowledge acquired?
- The acquisition of implicit knowledge takes place naturally, simply, and without conscious operations.

How is explicit knowledge acquired?
- The acquisition of explicit knowledge takes place by means of consciously testing hypotheses in search of a structure.

Implicit knowledge
- Is also called procedural knowledge or know-how

Explicit knowledge
- Is also called declarative knowledge or know-that

A continuum of representation

Unlike the Monitor Model’s non-interface theory ...
- Implicit and explicit knowledge are both used in production.

Automaticity and control

A speaker may process language automatically but not have control. Consider this conversation at the G8 summit in Okinawa, Japan.
- Prior to the summit, Japanese Prime Minister Yoshiro Mori spent some time brushing up on his English. Upon meeting U.S. President Bill Clinton, he apparently became flustered and, instead of saying How are you? said instead: Who are you? President Clinton responded: I’m Hillary Clinton’s husband. However, Prime Minister Mori, unaware that he had asked the wrong question, was anticipating a response something like I’m fine, and you? And responded I am too.

Automaticity and control

A speaker may control a structure but may not be able to process it automatically. Consider ...

Sein (ist) or haben (hat) with German perfect tense verbs
- have – haben: She had – Sie hat gehabt.
- go - gehen: She went – Sie ist gegangen
- buy - kaufen: She bought – Sie hat gekauft.
- travel – fahren: She traveled – Sie ist gefahren.

Choose haben (hat) or sein (ist)

<table>
<thead>
<tr>
<th>English</th>
<th>Deutsch</th>
</tr>
</thead>
<tbody>
<tr>
<td>She helped her father.</td>
<td>Sie ________ ihrem Vater geholfen.</td>
</tr>
<tr>
<td>She traveled to Hong Kong.</td>
<td>Sie ________ nach Hong Kong gefahren.</td>
</tr>
<tr>
<td>What did she see there?</td>
<td>Was ________ sie dort gesehen?</td>
</tr>
<tr>
<td>She once lived in Munich.</td>
<td>Sie ________ damals in München geblieben.</td>
</tr>
<tr>
<td>Maria became a teacher.</td>
<td>Maria ________ Lehrerin geworden.</td>
</tr>
<tr>
<td>When did Marilyn Monroe die?</td>
<td>Wann ________ Marilyn Monroe gestorben?</td>
</tr>
<tr>
<td>Ms. Erll waited for the bus.</td>
<td>Frau Erll ________ auf den Bus gewartet.</td>
</tr>
<tr>
<td>She found the money.</td>
<td>Sie ________ das Geld gefunden.</td>
</tr>
<tr>
<td>She went home.</td>
<td>Sie ________ nach Hause gegangen.</td>
</tr>
</tbody>
</table>
Automaticity and control

1. A learner’s knowledge of a second language differs from a native speaker’s knowledge in ...
   - how much structure of language the learner knows
   - what the learner knows implicitly and explicitly
   - how the learner has analyzed the language

2. A learner’s increasing knowledge of a language does not necessarily entail greater accuracy. Consider ...
   - A child first uses lookit.
   - The child then uses get it.
   - But that doesn’t mean that lookit is analyzed as look + it.

3. A learner’s reanalysis of IL grammar does not mean that the learner is moving toward the grammar of the target language. Consider ...
   - A learner first hears went and uses it.
   - The learner later analyzes past tense in English as verb + ed and produces goed.

4. Increasing competence in the target language does not necessarily imply that the learner has an increase in conscious awareness (explicit knowledge) of structure.

Restructuring

- Restructuring means the process of changing mental representations when new knowledge comes available.
- Restructuring can result in U-shaped behavior: Movement away from the target in the short term. Consider ...
  1. Went
  2. Goed
  3. Went

The development of negation in ESL

- Time 1
  - No (imperative)
  - No English (= I can’t speak English)
- Time 2
  - No (answer to a question)
  - I can’t speak English
  - My husband not here
  - Not raining
The development of negation in ESL

- Time 3
  - No (answer to a question)
  - I can’t speak English
  - My husband not here
  - My husband not home
  - Don’t touch
  - Don’t touch it

- Time 4
  - My husband not here
  - Hani not sleeping
  - I can’t speak English
  - No, I can’t understand
  - I don’t know
  - Don’t eat
  - No, this is … (answer to a question)

Krashen’s monitor model

- The acquisition-learning hypothesis
- The natural order hypothesis
- The monitor hypothesis
- The input hypothesis
- The affective filter hypothesis

“Acquisition” and “learning”

- Adults have two distinctive ways of developing competences in second languages ..
  - acquisition, that is by using language for real communication …
  - learning .. "knowing about" language.

- This complete non-interface position results in an inefficient structure of the brain.
- Second language learners do learn to speak, even in a formal grammar-translation FL environment.
- How do you know when you are ‘learning’ and not ‘acquiring’?
- How do you know when you are ‘acquiring’ and not ‘learning’?
The natural order

- We acquire the rules of language in a predictable order.

- Has only been shown to apply to a limited number of structures:
  - English morphemes
  - German word order
  - English negation

- There is a lot of variation.
- There is no explanation for the 'natural order.'

The Monitor

- Conscious learning can only be used as a Monitor or an editor.

- "The other day, while listening to the radio, I heard the announcer announce:
  ワーグナー の かげき、かみがみ の たそがれ
  wagunaa no kageki, kamigami no tasogare

  Knowing that kageki = 'opera' and that kami = 'god' or 'hair' or paper,' and knowing that there is a (fairly unproductive) rule in Japanese for pluralizing by reduplication, I concluded that kamigami must be the plural of kami 'god,' and that therefore wagunaa must be Wagner and tasogare must mean 'twilight,' and that I was in danger of hearing Die Götterdämmerung."

Comprehensible input

- Humans acquire language in only one way - by understanding messages or by receiving comprehensible input.

- Learners learn one rule at a time. They move from stage $i$ to stage $i + 1$.

- How much comprehensible input is enough?

- What about incomprehensible input?
The affective filter

- The affective filter is a mental block, caused by affective factors that prevents input from reaching the language acquisition device.

The affective filter

- The affective filter explains individual differences among L2 learners, especially adult-child differences.
- How does it work?
- In what way is it selective?
  - E.g., How does it explain that a learner has NOT learned 3rd person singular –s while the same learner has learned past tense?