Psychological Background

- Behaviorism
  - The study of observable behavior (responses) in relation to the environment (stimuli)
  - Inner experiences cannot be studied.
  - Complex behavior is reducible to simple stimulus-response patterns.
  - Stimuli and responses can be observed and measured experimentally.

An Historical Overview

Psychological Background

John B. Watson

Psychological Background

B. F. Skinner
Psychological Background

- Behaviorist learning
  - Operant conditioning
  - Reinforcement of desired response to stimulus

Psychological Background

- Operant conditioning
  
  Rover has been conditioned to wipe his feet before entering the house.

Psychological Background

- Operant conditioning

Niño

Psychological Background

- The influence of behaviorism
  - Minimize the introspective study of mental processes and feelings.
  - Substitute the study of the objective behavior of individuals in relation to their environment by means of experimental methods.

An Historical Overview

- Psychological Background
- Linguistic Background

Linguistic Background

- Ferdinand de Saussure
  
  - 1857-1913, Swiss linguist. One of the founders of modern linguistics, he established the structural study of language, emphasizing the arbitrary relationship of the linguistic sign to that which it signifies.
Linguistic Background

◆ Ferdinand de Saussure
  - After his death two of his students compiled his lecture notes and other materials into a seminal work, *Cours de linguistique générale*. The book explained his structural approach to language and established a series of theoretical distinctions that have become basic to the study of linguistics.

◆ Leonard Bloomfield
  - Promoted linguistics as an independent science using scientific procedures.
  - Based his work, especially his approach to meaning, on behaviorist principles.
  - His major work, *Language* (1933) is regarded as the classic text of structural linguistics, also called structuralism.

Structural Linguistics

◆ Speech is the primary form of language.
◆ Distinguish between actual instances of speech (performance) and what speakers know (competence).
◆ Language is a system or structure comprising elements at various phonological, grammatical, and semantic levels.

Contrastive Analysis

◆ Behaviorist psychology
◆ Structural linguistics
◆ The late 1950s

Sputnik

LEONARD BLOOMFIELD (1887-1949)

Bloomfield was one of America’s foremost scientific linguists, concerned with theoretical, descriptive, and applied aspects of his field. A teacher of German and an accomplished Indo-European scholar, he also carried out research on the languages of non-literate peoples, including the Menominee of Wisconsin.
The Contrastive Analysis Hypothesis

1. Contrastive analysis is based on a theory of language that claims that language is habit and that language learning involves the establishment of a new set of habits.

2. The major source of error in the production and/or reception of a second language is the native language.

3. One can account for the errors by considering differences between the L1 and the L2.

4. A corollary to Axiom 3 is that the greater the differences between L1 and L2, the more errors will occur.

5. What one has to do in learning a L2 is to learn the differences. Similarities can be safely ignored as no new learning is involved. In other words, what is dissimilar between two languages is what must be learned.

6. Difficulty and ease of learning are determined respectively by differences and similarities between the two languages in contrast.
The Contrastive Analysis Hypothesis

1. Learning is habit-formation.
2. L1 causes most errors in the L2.
3. Compare and contrast L1 and L2.
4. Bigger differences mean more errors.
5. Learn differences, not similarities.
6. Difficulty is caused by difference.

A Contrastive Analysis of Arabic and English Consonants

In pairs, examine each cell of the consonant chart.
Where are the differences between Arabic and English?
Where are the similarities?
What difficulties does the CAH predict for...
- English speakers learning Arabic?
- Arabic speakers learning English?

Problems with the CAH

What is meant by difference?

<table>
<thead>
<tr>
<th>Quant-?</th>
<th>How much?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualche</td>
<td>Any</td>
</tr>
<tr>
<td>Nessun-</td>
<td>Any</td>
</tr>
<tr>
<td>Qualsiasi</td>
<td>Any</td>
</tr>
<tr>
<td>Più</td>
<td>Several</td>
</tr>
<tr>
<td>Quale?</td>
<td>Which?</td>
</tr>
<tr>
<td>Ogni</td>
<td>Each</td>
</tr>
<tr>
<td></td>
<td>Every</td>
</tr>
</tbody>
</table>

Problems with the CAH

Language learning is habit-formation
Language Learning is Not Habit-Formation

◆ Child: My teacher holded the rabbits and we patted them.
   Adult: Did you say your teacher held the rabbits?
◆ Child: Yes.
   Adult: What did you say she did?
◆ Child: She holded the baby rabbits and we patted them.
   Adult: Did you say she held them tightly?
◆ Child: No, she holded them loosely.

Language Learning is Not Habit-Formation

◆ Child: Nobody don’t like me.
   Mother: No, say “nobody likes me.”
◆ Child: Nobody don’t like me.
   (Eight repetitions of this dialogue)
   Mother: No, now listen carefully; say “nobody likes me.”
◆ Child: Oh! Nobody don’t likes me.

Language Learning is Not Habit-Formation

◆ Child: I don’t see no trees.
   Mother: I don’t see any trees. Not no trees, any trees.
◆ Child: No any trees. No any trees.
   Mother: I don’t see any trees.

Problems with the CAH

Differences between L1 and L2 cause errors in learning L2

Do Differences Always Mean Errors?

◆ Word order in English
   - John ate an apple.
   - John can speak English.
   - I saw him yesterday.
   - The boy hit the dog with a stick.
   - Mary took me there.
   - The boy who hit the dog is my brother.
Do Differences Always Mean Errors?
◆ Word order in English
- NP V NP
- NP AUX V NP
- NP V NP ADVP
- NP V NP PP
- NP V NP ADVP
- NP [NP V NP] V NP

Do Differences Always Mean Errors?
◆ Word order in French
- Jean a mangé une pomme.
- Jean peut parler anglais.
- Le garçon a frappé le chien avec un bâton.
- Le garçon qui a frappé le chien est mon frère.

Do Differences Always Mean Errors?
◆ Word order in French
- NP AUX V NP
- NP AUX V NP
- NP AUX V NP PP
- NP [NP AUX V NP] V NP

Do Differences Always Mean Errors?
◆ What errors in French L2 does the CAH predict?
- I like Mary.
- I like her too.
- The dog ate the apple.
- It ate it.
- I went to Paris.
- Mary’s going there.

Problems with the CAH
The bigger the differences between L1 and L2, the more errors in the L2.
Do Bigger Differences Mean More Errors?

- **Czech (L1) → English (L2)**
  - Czech learners do not transfer Czech declensional or conjugational endings into English

Do Bigger Differences Mean More Errors?

- **Czech (L1) → Russian (L2)**
  - Nominative Plurals:
    - učitel→ učitele (instead of Russian učitelja, "teachers")
  - Imperatives:
    - jez→ * ez (instead of Russian eš “eat”)  
    - jezte→ * ez’te (instead of Russian eš’te “eat”)  
  - Gender:
    - adresa (feminine) → * tvoj (feminine) adres (masculine) (instead of Russian tvoj adres “your address”)

Do Bigger Differences Mean More Errors?

- **Czech (L1) → English (L2)**
  - Lexical transfer from Czech into English is conceivable only in the case of international words that are distinctly felt as foreign in Czech.

Do Bigger Differences Mean More Errors?

- **Czech (L1) → Russian (L2)**
  - Lexical equivalents in L1 and L2:
    - doma - doma “at home”
    - škola - škola “school”
    - bratr - brat “brother”
    - sestra - sestra “sister”
  - Lexical distortions:
    - dnes→ * dnes (instead of Russian segodnja “today”)  
    - věda→ * veda (instead of Russian nauka “science”)
Error Analysis

A solution to the problems of the Contrastive Analysis Hypothesis?

The CAH and EA Compared

Contrastive Analysis  Error Analysis
Strong Predictive  Weak Explanatory
\textit{a priori} \textit{a posteriori}

Error Analysis

1. Collect the data: written or oral
2. Identify errors in the data
3. Distinguish between systematic errors and nonsystematic mistakes
4. Classify the errors you find
5. Quantify the types of errors
6. Evaluate the seriousness of the error
7. Design a pedagogical intervention

Learning Activity

\begin{itemize}
\item Do an error analysis of compositions 2 and 3 on pages 115-118.
\item What are the difficulties that you encounter doing this?
  \begin{itemize}
  \item Are there ambiguities?
  \item How could you resolve them?
  \end{itemize}
\item Do you know what the NLs are of these writers?
  \begin{itemize}
  \item What features determine your choice?
  \end{itemize}
\end{itemize}