Interests of Language Specialists

- **Linguist** – language symbols and the rules the symbols follow
- **Psycholinguist** – the psychological processes and constructs of language
- **Sociolinguist** – language use & rules in relation to role, socioeconomic level, & linguistic or cultural context
- **Behavioral psychologist** – the behavioral context of language
- **Speech-language pathologist** – disordered communication
Behavioral Theory

• **1930s - 1940s:** Language is learned through association between a stimulus and the following response.

• **B. F. Skinner** – behavioral psychologist
  - All behavior is *operant* – learned.
  - Behavior change resulting from a *reinforcer* or *punisher* is called *learning*, or *operant conditioning*.

  - Published *Verbal Behavior (1957)* – described language as a verbal behavior that is modified by the environment.
Behavioral Model of Language Acquisition

Language development: An Introduction (Owens, 2008)
Limitations & Contribution of Behavioral Theory

Limitations:

*Review of Verbal Behavior* (Chomsky, 1959) - Language is too complex to be acquired by behaviorist principles.

- Reinforcement
- Imitation
- Syntactic development

Contribution:

- Basis of remedial programs for language intervention.
Psycholinguistic Theory: Syntactic/ Nativist Model

• **1950s – 1960s**: Emphasized language form and the processes they represent.

• **Noam Chomsky**

• **Biological basis** – Humans have an innate capacity for language.

• **Syntactic Structures (1957)** - 2 levels of Linguistic processing –

• **Aspects of the Theory of Syntax (1965)** – a complete grammar requires syntax, phonology, & semantics. Syntax is most important.
Language Acquisition

• Developmental similarities within & across languages.

• **Language acquisition device (LAD)** – (Chomsky):
  - inborn language acquisition mechanism
  - contains universals in semantic classes of words and the rules for generating sentences.

• **Nativists** – There are special brain mechanisms for the acquisition & use of language.
Premises of Nativist Theory

Allen & Seidenberg, 1999:

1) Language is so complex that it would be impossible to learn without prior knowledge.

2) Children learn language quickly and apparently, with little effort.

3) There are structural commonalities among human languages that suggest linguistic universals.

Studies following nativist approach focus on describing Universal Grammar (UG) and on identifying neurological structures dedicated to language.
Limitations & Contributions of Nativism

Limitations:
• Stresses syntactic structures but mostly neglects phonetics, semantics, & pragmatics.
• Inappropriate for describing 1- & 2-word levels of development.
• Theory based on adult data.
• Deemphasizes the environment & early social & cognitive growth.
• Notion of LAD is too simplified.

Contributions:
• Chomsky formulated his own grammatical rules.
• Spearheaded search for linguistic universals
Psycholinguistic Theory: Semantic/ Cognitive Model

- **Beginning in 1963**: A complete account of language must consider semantics.

**Semantic Revolution - Late 1960s:**

- Move from a syntactic-transformational to a semantic analysis

**Louis Bloom** applied Chomskyan syntactic analysis to child language.

- Syntactic rules are inadequate for describing meanings of child language.

- Relationships among entities in children’s speech are consistent & are expressed by word-order rules.
Semantic Revolution cont.

- Hypothesized that semantics of language develop prior to syntax.
- **Schlesinger (1971)** – Semantic relationships first expressed by word order and then by syntactic devices used by adults.
- Cross-cultural studies showed early semantic rules are universal – attributed to general pattern of cognitive development, not innateness.
- Language acquisition is dependent on early **cognitive development**
- **Bowerman (1974):** Described cognitive factors needed before a child can acquire language e.g., ability to represent objects & events that are not present
Limitations & Contributions of Semantic/Cognitive Model

Limitations:
• Some children with normal cognition don’t acquire language typically.
• The connection between cognition & language acquisition isn’t fully explained.

Contributions:
• Presents a more realistic picture of young children & of the relationship between child & adult language.
• Relates language acquisition to the cognitive skills that are necessary to learn language.
Sociolinguistic Theory

• Focuses on the reasons or social/communicative functions of language – USE.

• The value of an utterance depends on its effectiveness in achieving the speaker’s goal.

• FORM & CONTENT are shaped by the goal to communicate effectively.

• FORM is impacted by the speaker’s:
  1) Perceived knowledge of the listener’s knowledge &
  2) Communicative context – roles of participants, setting
Sociolinguistic Theory: Language Acquisition

• Language acquisition is a process of socialization that follows a transactional model – a child learns to understand the rules of dialog in child-caregiver interactions.

• Infants learn to communicate their intentions nonverbally → communication refined through child-caregiver interactions.

• Parental responsiveness forges a child-caregiver bond that fosters more communication.

• Caregivers train children through joint/shared reference - shared attention on an object or event.
Limitations & Contributions of Sociolinguistic Theory

Limitations:
• Does not adequately account for language acquisition by itself.
• Does not explain how a child associates a symbol with its referent and how language structure is acquired.

Contributions:
• Refined the concept of reinforcement by Skinner: Reinforcement is subtle and embedded in the child-caregiver relationship; not direct.
• Emphasizes the importance of environmental linguistic input and the role of caregiver modeling and feedback.
Interactionalist Approaches

- 2 main approaches: **Constructivism & Emergentism**
- Views language as a structure arising from **interacting patterns in the human brain** rather than from language-specific structures, such as an LAD.
- **Linguistic representations** emerge from the interplay of:
  1) **Physical parts** of the human brain that are involved in language processing.
  2) The **manner** in which these brain parts process information.
  3) The **tasks** in which these brain parts are involved.
  4) Aspects of the **language signals** to which these brain parts are exposed.
Premises of Emergentism

• **Grammar** is the *brain’s solution* to the problem of exchanging complicated messages between people using a *limited speech channel*.

- Nature is full of examples of emergence.
- Some word & morpheme combinations evolved because they’re convenient to process given *cognitive limitations*.

• The brain evolved for many *varied* purposes and language is only one of them.
Limitations & Contributions of Interactionalist Approaches

Limitations:
• Involves complicated mental models to explain how the brain processes language.
• Does not explain what is considered language knowledge in an individual.

Contributions:
• Replaces the debate between nativism & behaviorism with a model aimed at explaining the interplay of biology and environment.
• Recognizes that language is a form of the information that humans process.
## Models of Language Acquisition

<table>
<thead>
<tr>
<th>Language Form</th>
<th>Behavioral</th>
<th>Psycholinguistic-Syntactic</th>
<th>Psycholinguistic-Semantic/Cognitive</th>
<th>Sociolinguistic</th>
<th>Emergentist</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Language</strong></td>
<td>Functional units (mands, tacts)</td>
<td>Syntactic units (nouns, verbs)</td>
<td>Semantic units (agents, objects)</td>
<td>Functional units: speech acts (requesting, commenting)</td>
<td>All components of language</td>
</tr>
<tr>
<td><strong>Acquisition</strong></td>
<td>Selective reinforcement of correct form</td>
<td>Language-acquisition device (LAD) contains universal phrase structure rules used to decipher the transformational rules of language</td>
<td>Universal cognitive structures help child establish nonlinguistic relationships later expressed as semantic relations</td>
<td>Early communication established through which child expresses intentions preverbally; express language develops to early intentions</td>
<td>Language acquisition is the result of a child’s processing language with limited cognitive abilities</td>
</tr>
<tr>
<td><strong>Environmental Input</strong></td>
<td>Reinforcement and extinction; parental modeling</td>
<td>Minimal</td>
<td>Cognitive relationships established through active involvement of child with environment</td>
<td>Communicative interaction established first; parental modeling and feedback</td>
<td>Language input is the foundation for the child’s cognitive processing</td>
</tr>
</tbody>
</table>

*Language development: An Introduction (Owens, 2008)*