Term 4
Linguistics
Lesson 1

Transformational Generative Grammar

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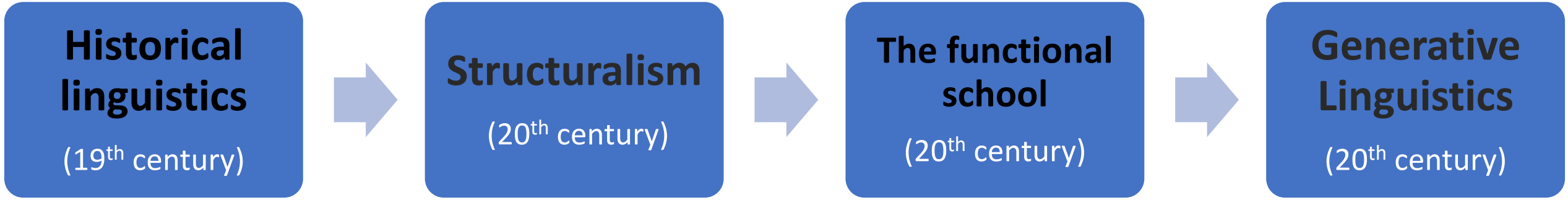
Periods of Modern Linguistics

Linguistics, as any science, has passed through many developmental stages:

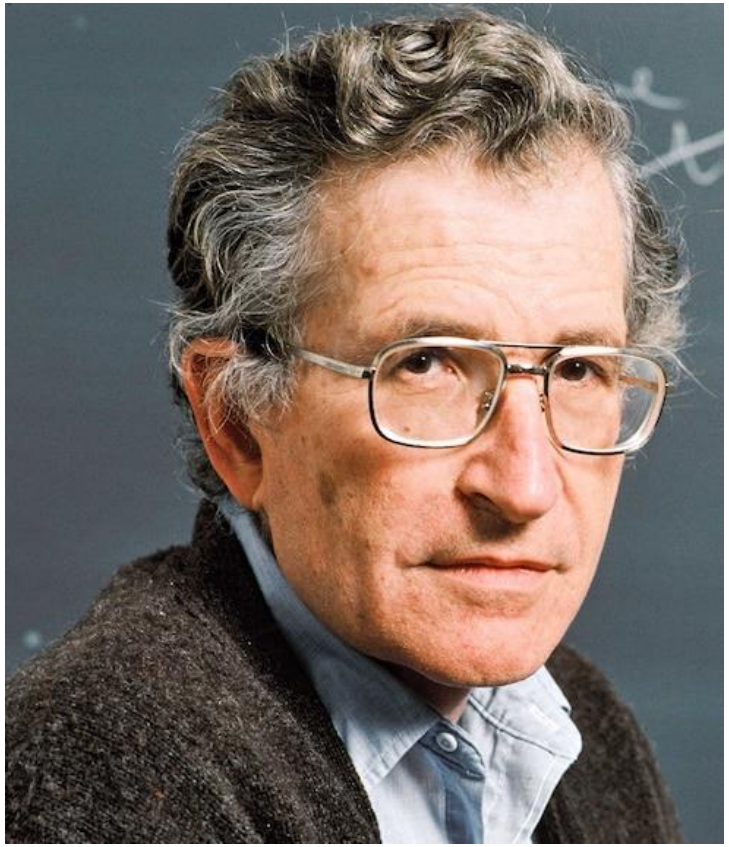


Mentalist Approach to Language Learning

- The mentalist approach to language learning emphasizes the role of the **human mind** in acquiring and using language.
- This perspective, associated with **Noam Chomsky**, highlights the **innate** capacity of humans to learn language through cognitive processes rather than external reinforcement.

3. The Mentalist school (Generative grammar)

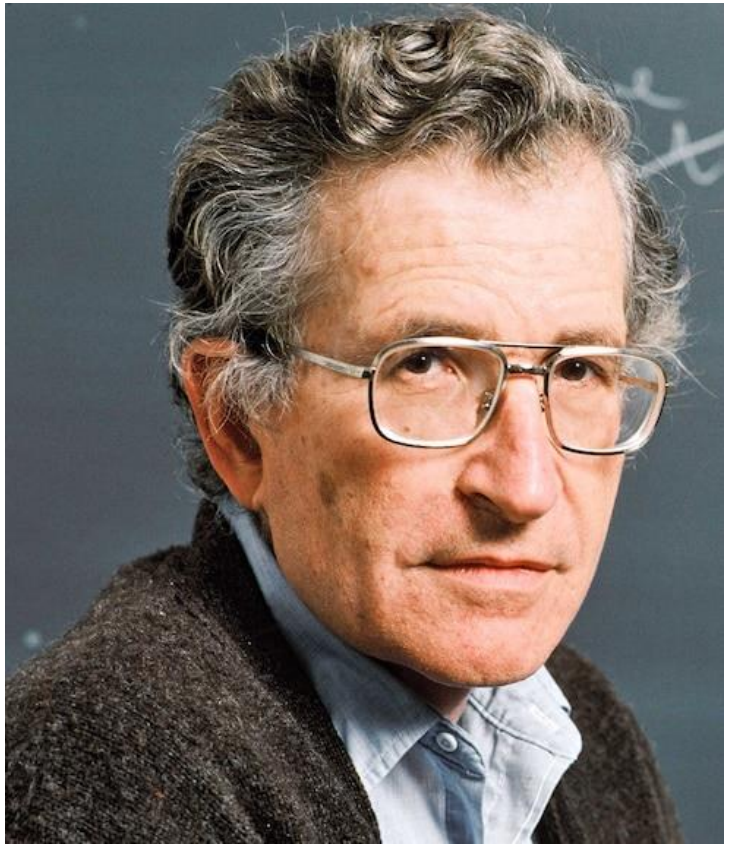
- The mentalist school was established by Noam Chomsky who called for the existence of **mind** in language studies.



Noam Chomsky

3. The Mentalist school (Generative grammar)

- Noam Chomsky
- Born: December 7th, 1928.
- Education: Studied at the **University of Pennsylvania**, earning a Ph.D. in linguistics in 1955 under the mentorship of Zellig Harris.

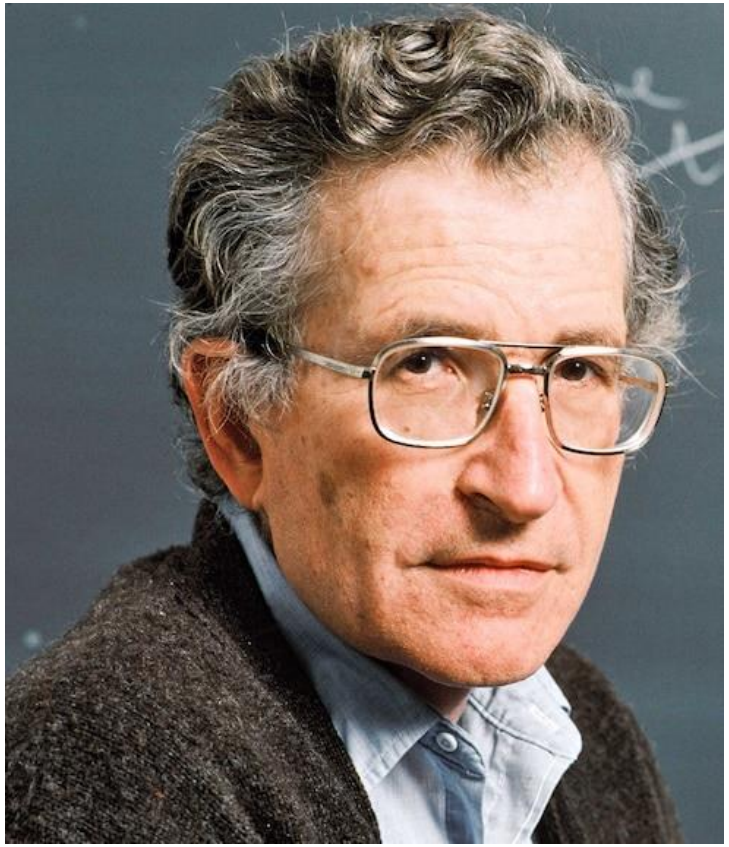


Noam Chomsky

3. The Mentalist school (Generative grammar)

Achievements in Linguistics:

1. Developed Transformational Generative Grammar (TGG)
2. Introduced the concept of Universal Grammar
3. Became an influential political activist and commentator known for his criticism of the US foreign policy.



Noam Chomsky

3. The Mentalist school (Generative grammar)

- **Universal Grammar (UG):** all human languages share a common underlying structure.

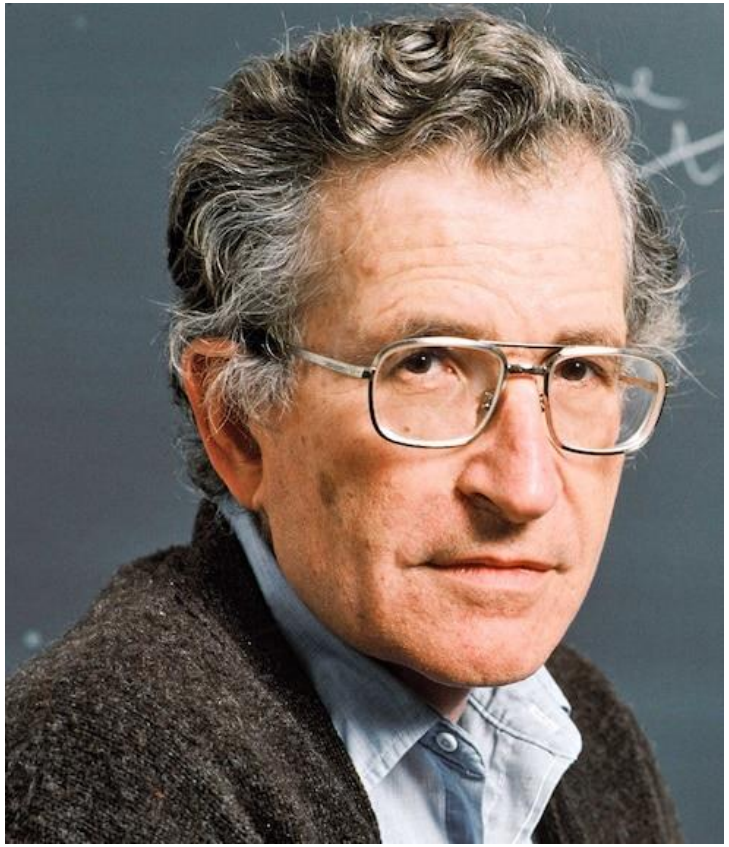
Example of the word order “Subject, Verb, Object”

English

She eats apples.

French

Elle mange des pommes.



Noam Chomsky

Key ideas of the Mentalist Approach

- **Innateness:** Language ability is hardwired in the brain فطرة
- **Universal Grammar (UG):** All languages share a common set of underlying rules.
- **Creativity:** Humans can produce an infinite number of sentences using finite rules.

Mentalism vs. Behaviorism

ASPECT	MENTALISM	BEHAVIORISM
Focus	Internal cognitive processes and innate abilities.	Observable stimuli and responses.
Learning Process	Driven by mental rule formation and hypothesis testing.	Learned through imitation, repetition, and rewards.
Example	A child hears “**The cat is eating**” and “**The dog is running**” then generates "**The cat is running**".	A child says "mama" because it is reinforced.
Key Proponent	Noam Chomsky	B.F. Skinner

1. Deep vs Surface Structures

Deep Structure

- The underlying meaning of a sentence.
- Example: The deep structure of "**The cat was chased by the dog**" is similar to "**The dog chased the cat.**"

Surface Structure

- The actual spoken or written form of a sentence.
- Example: "**The dog chased the cat**" and "**The cat was chased by the dog**" have different surface structures but share the same deep structure.

2. Transformations

Rules that convert deep structures into surface structures.

Example: Transforming a statement into a question:

- Deep structure: "She is coming."
- Surface structure: "Is she coming?"

3. Generative Rules

A finite set of rules that produce all possible sentences in a language.

Example:

A basic rule for sentence formation:

Sentence → Noun Phrase + Verb Phrase.

"The boy" (Noun Phrase) + "plays football" (Verb Phrase) = "The boy plays football."

4. Competence vs. Performance

- **Competence:**
- A speaker's internal knowledge of language rules.

- **Performance:**
- The actual use of language in real-world situations.

Example:

Knowing how to say "I am going to the market" (competence) vs. saying "I’m gonna go to the market" casually (performance).

Core concepts in TGG

1. Deep vs Surface Structures
2. Transformations
3. Generative Rules
4. Competence vs. Performance

Language Acquisition Device (LAD)

The Language Acquisition Device (LAD) is a hypothetical mental mechanism proposed by Chomsky to explain how children acquire language.

Example:

A child hears "The cat is sleeping" and "The dog is barking" and deduces the rule for forming continuous tense sentences.

Language Acquisition Device (LAD)

Baby hears:

1. **The cat is eating**
2. **The dog is running**

Baby internalizes input

Baby says:

1. **The cat is running**

Features of LAD

1. **Innateness** – The LAD is an inborn mechanism that allows children to acquire language effortlessly.

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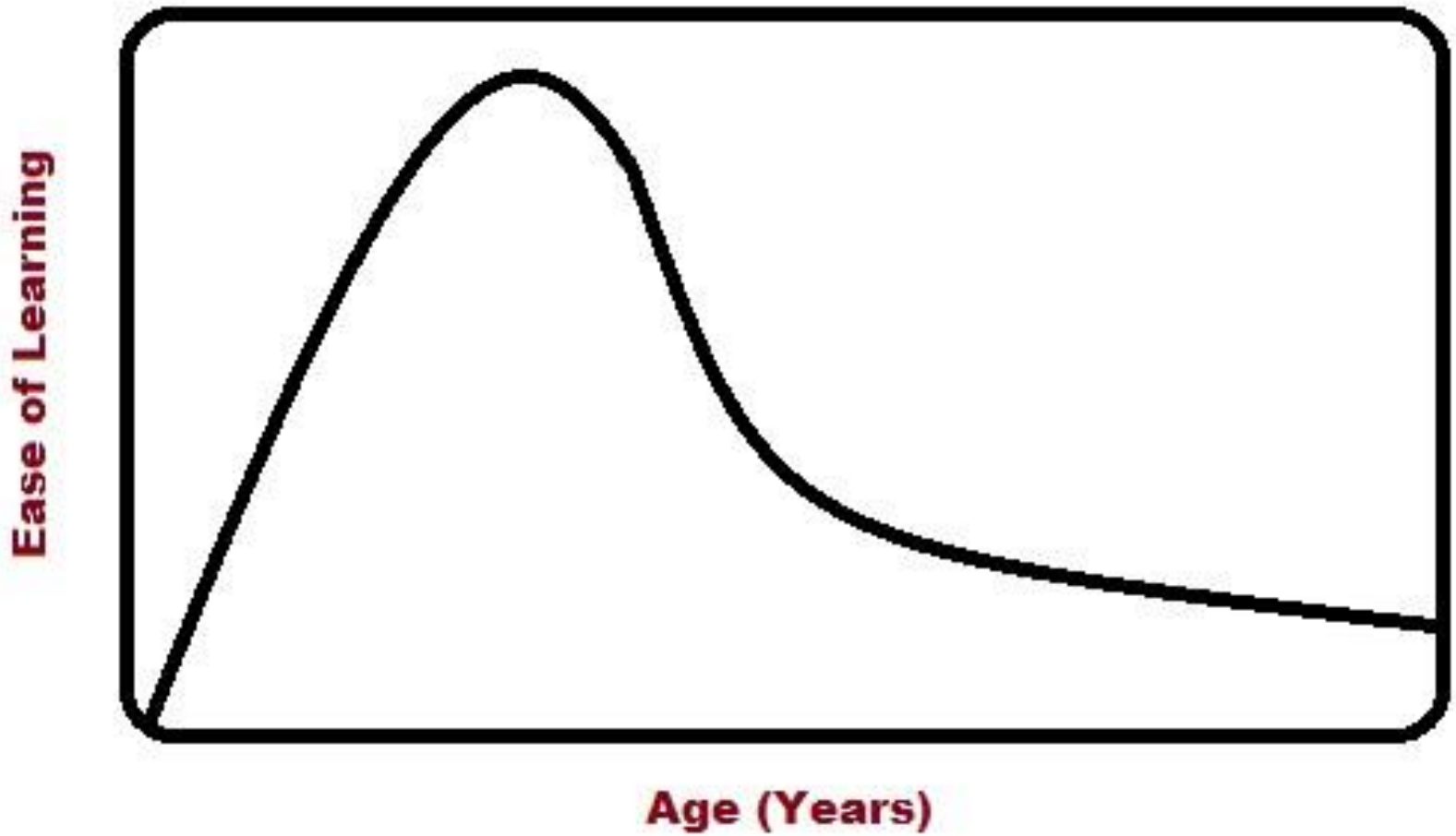
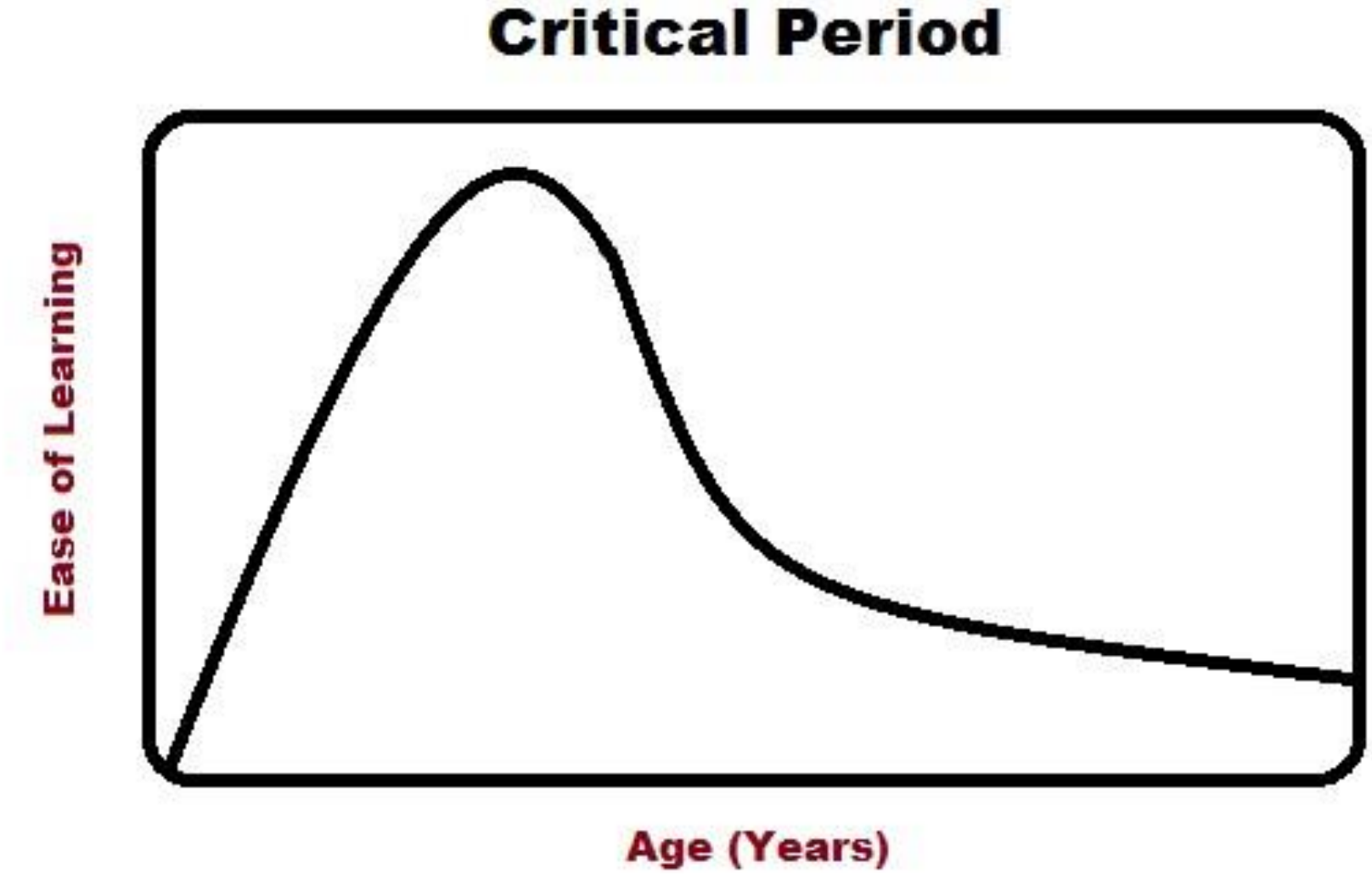
3. **Critical Period Hypothesis** – Language learning is most effective during early childhood when the LAD is most active.

Critical Period





Neuroplasticity

Supporting Evidence

- **Rapid Language Development:** Children acquire complex grammar and vocabulary with little explicit instruction.

- **Similar Stages of Language Learning:** Regardless of culture or language, children progress through similar stages (babbling, one-word, two-word, etc.).

- **Errors Indicating Rule Learning:** Children apply grammatical rules instinctively, such as saying ***goed*** instead of ***went***, showing internalized patterns.

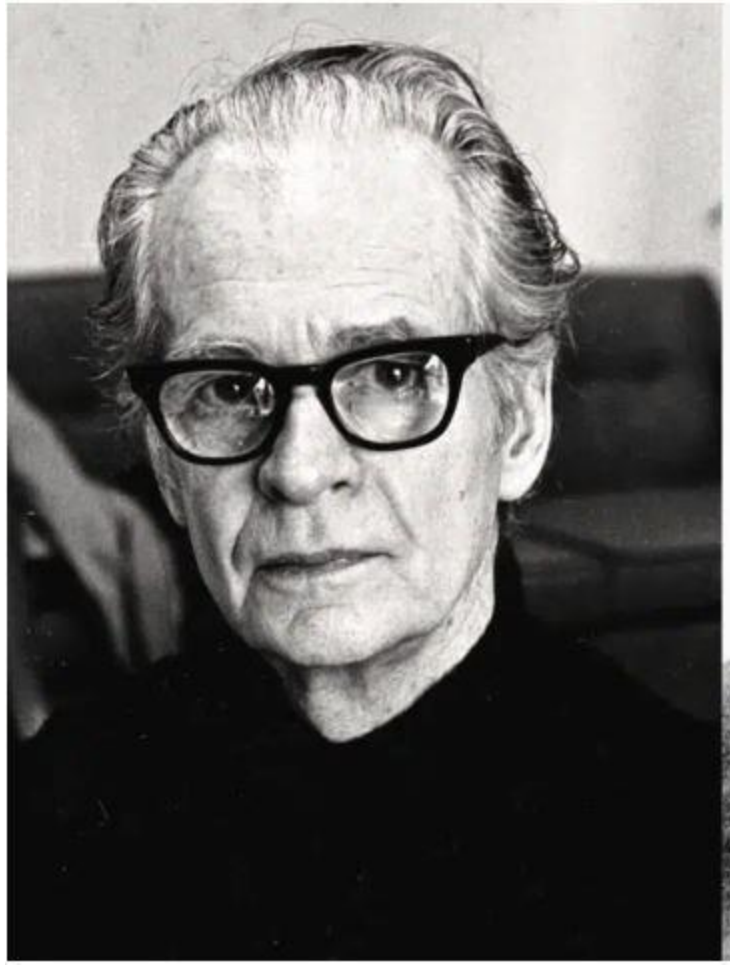
Criticism of the LAD

- Some scholars argue that social interaction and environmental factors play a larger role than an innate device.

- Some language theorists (e.g., Connectionists) suggest language learning emerges from general cognitive patten recognition rather than a specific LAD

Behaviorism VS. Mentalism

	BEHAVIORIST THEORY	MENTALIST THEORY
KEY FIGURE		
CORE IDEA		
LEARNING PROCESS		
ROLE OF MIND		
ROLE OF ENVIRONMENT		
CRITICISM		



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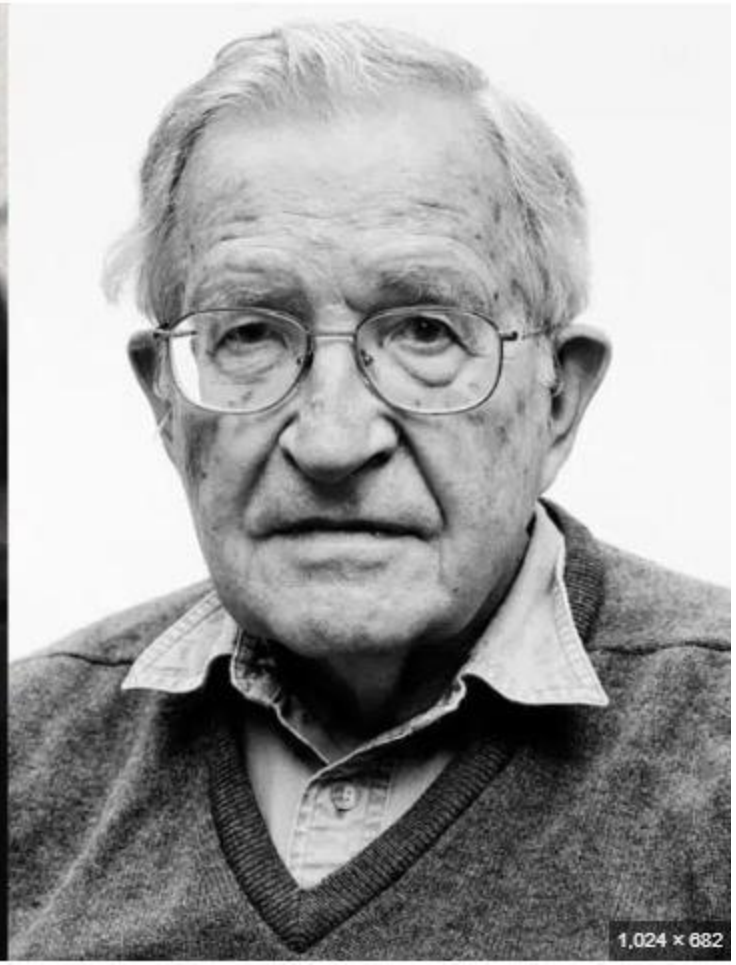


1928

Skinner vs. Chomsky

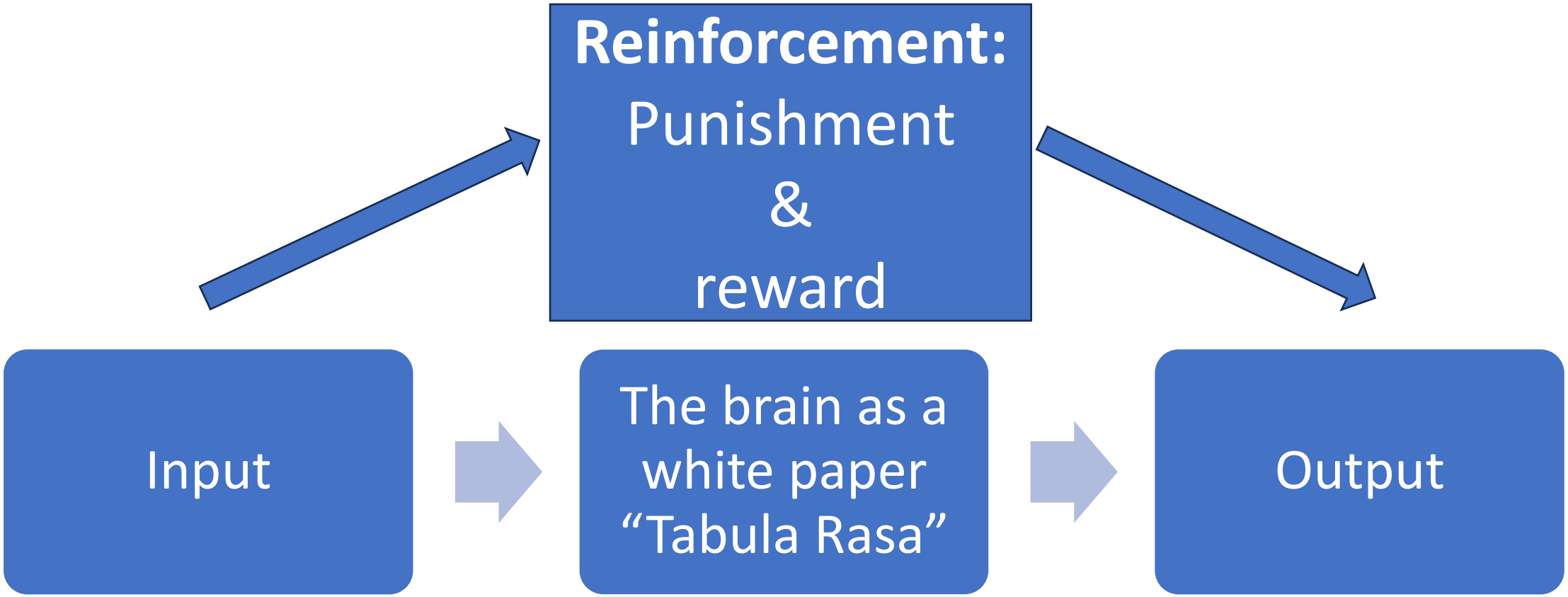
"I did not direct my life. I didn't design it. I never made decisions. Things always came up and made them for me"

Skinner vs. Chomsky

“I did not direct my life. I didn’t design it. I never made decisions. Things always came up and made them for me”

"Language is not a habit structure. Ordinary linguistic behavior is innovative”

Language learning according to behaviorism



Language learning according to mentalism

Input

LAD that we are born with

Output

Behaviorism VS. Mentalism

	BEHAVIORIST THEORY	MENTALIST THEORY
KEY FIGURE	(Burrhus Frederic Skinner)	(Noam Chomsky)
CORE IDEA	Imitation and habit formation	Innateness of language acquisition
LEARNING PROCESS	Copying, rewards, corrections	Generating grammar and Language Acquisition Device (LAD)
ROLE OF MIND	Passive, blank slate (tabula rasa)	Active, processes innate rules
ROLE OF ENVIRONMENT	Highly important	Less important
CRITICISM	Cannot explain creativity, rapid learning	Underestimates social interaction, lacks biological proof

QUESTIONS