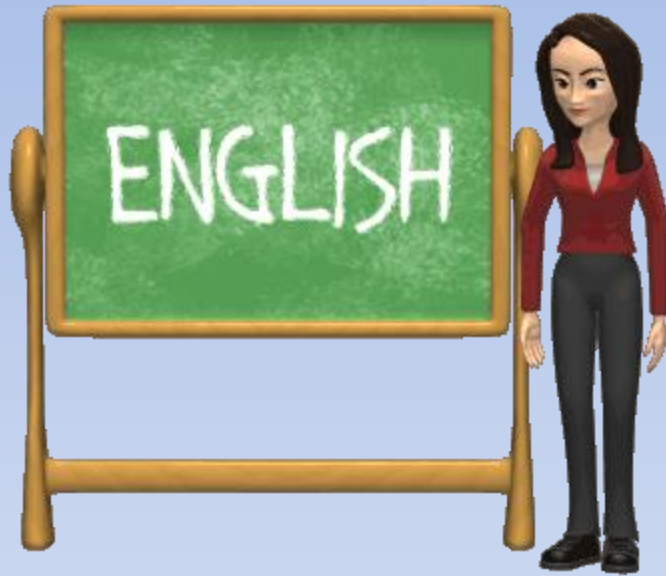


# How do we learn language?



Learn Chinese Characters Vol1A

**Learn Chinese Characters** Volume 1A

水	心	人	口	小
山	天	下	上	中
文	明	日	用	才
生	公	白	平	不

End

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How do we explain language  
development?

# Skinner

- Skinner thought that we can explain language development through *social learning theory* (which is?).



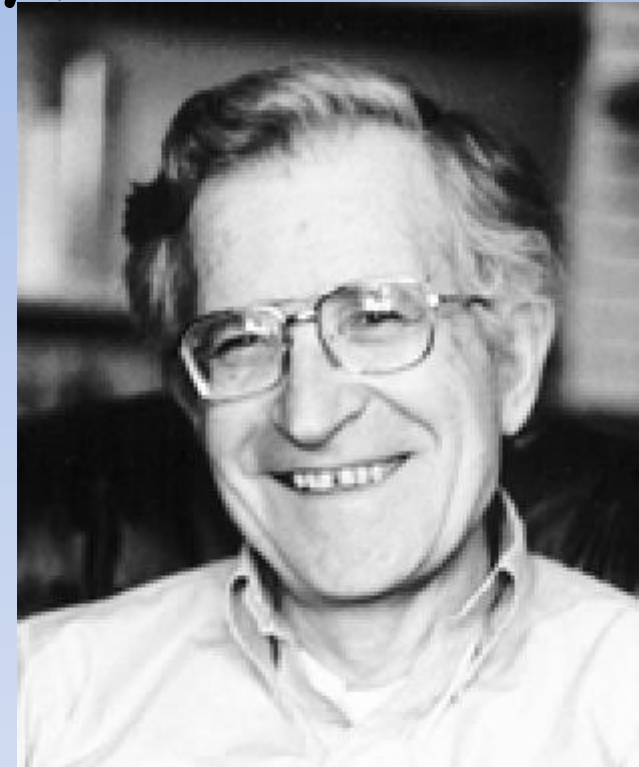
"It sure didn't pay to increase my vocabulary *that time!*"

# Chomsky's Theory (nativist theory)

- We learn language too quickly for it to be through reinforcement and punishment.



- *Inborn universal language acquisition device (LAD)*
- LAD contains a set of features common to all languages, which he termed a **universal grammar**.





# Chomsky's Transformational Grammar

- Surface Structure vs. Deep Structure
- Surface (Shallow) Structure
  - syntactic form of actual sentence
  - version of a sentence that can be spoken and heard.
- Deep Structure:
  - more abstract meaning of sentence
  - it is not spoken, but is represented in the mind when a sentence is produced or heard

# Different surface structures but same deep structure:

- Sue corrected the homework.
- The homework was corrected by Sue.

or:

- The boy kissed the girl.
- The girl was kissed by the boy.
- Was the girl kissed by the boy?

According to Chomsky, we are able to look under the different surface structure and recognize that they have the same deep structure, telling us that they have the same meaning.

Same surface structure but can have different deep structures:

Visiting relatives can be a nuisance.

or

Annie hit a man with an umbrella

or

The shooting of the hunters was terrible.



# Quick processing check:

- The two sentences “Elena won the race” and “The race was won by Elena” share which of the following structures?
- A. Sentence
- B. Syntactic
- C. Surface
- D. Deep
- E. Phonemic

# Critical period hypothesis

Eric Lenneberg - 1967

- There is a critical period for language learning.
- There is no agreement about how long this sensitive period lasts.
- Genie (The Wild Child) provided evidence that language cannot be learned after puberty.

Does language influence our  
thinking?

# Sapir -Whorf's Linguistic Determinism

(Strong influence)

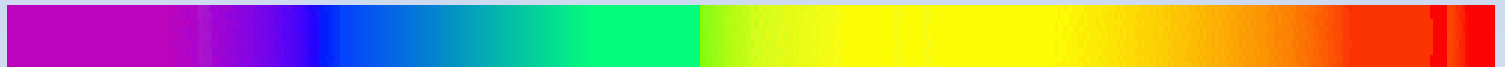
- The idea that language *determines* the way we think (not vice versa).
- Whorf argued that the Hopi tribe has no past tense in their language, so Whorf says they rarely think of the past.  
(Now known to be false.)



# Linguistic relativity (Weaker influence)

- Sapir-Whorf's hypothesis that language can influence the way we think
- People who speak different languages perceive and think about the world quite differently from one another

	Basic Color Terms					
English	purple	Blue	Green	Yellow	Orange	Red
Shona	cipswuk a	citema		cicena		cipswuk a
Bassa	hui			zǒza		



- Hungarian distinguishes between *piros* "light red" and *voros* "dark red"
- Russian distinguishes between *sinij* "dark blue" and *goluboj* "light blue"

A man and his son were in an automobile accident. The man died on the way to the hospital, but the boy was rushed into surgery. The emergency room surgeon said "I can't operate, that's my son!" How is this possible?

# Language influences thinking

- Studies of the effects of the generic pronoun "he" show that subtle prejudices can be conveyed by the words we choose to express our everyday thoughts
- Some evidence indicates that vocabulary enrichment, particularly immersion in bilingual education, can enhance thinking
  - Children of signing deaf parents become fluent in sign language and outperform other students on measures of academic and intelligence achievement

# Thinking in Images

To a large extent thinking is language-based.  
When alone, we may talk to ourselves.  
However, we also think in images.

We don't think in words, when:

1. When we open the hot water tap.
2. When we are riding our bicycle.



# Thinking without Language

- **Artists, composers, poets, mathematicians, scientists, athletes think in pictures.**
- **Part of Olympic training now includes “visualization,” which consists of athletes visualizing themselves completing a flawless performance, out-witting an opponent, beating a certain time, etc.**

Do Animals think?



# Kohler's Chimpanzees

- Kohler exhibited that Chimps can problem solve.



# Do animals use language?

