

## SIGNS OF THE APES, SONGS OF THE WHALES

### ---- APE RESEARCH ----

Keith and Catherine Hayes: Chimp named Vicky able to speak 2 words (papa & cup) out of the 4 words attempted.

Beatrice and Allen Gardner, University of Nevada (1966): Taught Washoe American Sign Language (ASL). End result = equivalent to 4 year old's vocabulary (over 130 words).

Roger Fouts: Demonstrates how Washoe (17 year old in video) has taught her adopted son (Louis) and other chimps ASL and now the 5 chimps communicate with each other w/o human intervention in the learning of ASL. As of the date of the video, Louis had acquired 41 signs from the other chimps.

Lynn Miles, University of Tennessee:

- Chantek an Orangutan (member of great ape family) had the cognitive abilities of 2-year-old human child and the language capabilities of the same.
- Research has demonstrated a relationship between a child's ability to manipulate objects and its language development.
- Miles and her assistants try to communicate with Chantek in natural situations such as playing, looking for food, or walking in the woods. In these environments, Miles feels Chantek can sign spontaneously about the world around him.

**QUES:** How do you define human language?

Herbert Terrace, Columbia University: Nim Chimpsky

- He was raised in a university-owned mansion and treated like a human infant. He wore clothes and ate at a table. The idea was for him to identify with his human caretakers and to use that as a basis for the emergence of language.
- After analyzing 20,000 of Nim's signing samples, Terrace and his students concluded that Nim was saying very little on his own – mostly he was imitating his teachers.
- Problem with ape language – apes only sign to demand something.
- Can an ape create a sentence?
  - Terrace concluded after all of this work that chimps could not create a sentence (syntax).
  - Clever Hans: Horse that appeared to be able to do complicated math problems. Under closer examination Oskar Pfungst (psychologist) detected that the horse was actually responding to subtle cues inadvertently coming from his trainer.

Koko (gorilla born 1971): Was taught ASL for 11 years as of the date of video.

- Francine Patterson:
  1. Novel combinations (productive) – that is Koko often invents signs or creates sign combinations to describe new things – e.g., white tiger for zebra and finger bracelet for ring.
  2. IQ = 85-95 (IQ test are culturally biased, e.g., which 2 things are good to eat?).
  3. Spontaneously signs to herself when no one is around (contradicts the charge that all ape language can be explained by cueing).
  4. Imitates very little and when she does imitate she adds to it considerably.
  5. Another gorilla who was taught ASL made up a story about a capture → possibly his own capture.

### ---- DOLPHIN RESEARCH ----

Louis Herman, Kewalo Basin Lab, University of Hawaii:

1. Determine if dolphins can be taught to understand grammar/syntax.
  - a. Dolphins know what to do based on word order. Dolphins w/o knowledge of grammar would need 500 signs to do what his dolphins can do with 30 something.
    - (1) They can do something they have not been taught by understanding grammar → they can understand something they have never heard before.
    - (2) Their language is receptively productive.

### ----- SEA LION -----

Grammar like dolphins.