

## The chimp language studies

Attempts to teach the great apes (*chimps, gorillas, orangutans*) to talk



- Early studies
  - **Gua** (Kellogg & Kellogg, 1930's)
  - **Viki** (Keith & Cathy Hayes)
- The chimp vocal tract is very different from humans - they cannot make the variety of sounds we can.

Image source: [www.ling.lancs.ac.uk/chimp/langac/LECTURE4/4chimp.html](http://www.ling.lancs.ac.uk/chimp/langac/LECTURE4/4chimp.html)

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## Artificial language studies

- **Sarah** (David Premack)
  - Communication system using colored pieces of plastic with language-like qualities.



Image source: [www.ling.lancs.ac.uk/chimp/langac/LECTURE4/4token.htm](http://www.ling.lancs.ac.uk/chimp/langac/LECTURE4/4token.htm)

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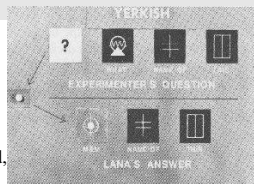
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## Artificial language studies, cont.

- **Lana** (the Rumbaughs)
  - Taught a system of communication using keyboard lexigrams (Yerkish)
  - If Lana wanted a particular food or reward, she had to ask the computer to give it (*Please machine give apple. Please machine show slides.*)



**Video of Lana:**  
[www.ling.lancs.ac.uk/staff/paulb/lana.mpg](http://www.ling.lancs.ac.uk/staff/paulb/lana.mpg)

Image source: [www.ling.lancs.ac.uk/chimp/langac/LECTURE4/4token.htm](http://www.ling.lancs.ac.uk/chimp/langac/LECTURE4/4token.htm)

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## ASL Studies

- **Washoe** (Gardners)



Washoe signs tooth

- Movie of Washoe  
[www.ling.lancs.ac.uk/staff/paulb/washoe.mpg](http://www.ling.lancs.ac.uk/staff/paulb/washoe.mpg)

Source: [www.ling.lancs.ac.uk/chimp/langac/LECTURE4/4asl.htm](http://www.ling.lancs.ac.uk/chimp/langac/LECTURE4/4asl.htm)

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## Other ASL studies

- Koko (Penny Patterson, gorilla)
- Nim Chimpsky (Terrace, chimpanzee)
- Chantek (Lyn Miles, orangutan, raised as a human child but now at zoo)



Koko

Source: <http://www.gorilla.org/>

Lyn Miles & Chantek



Nim signs "baby"



Source: [www.ling.lancs.ac.uk/chimp/langac/LECTURE4/4asl.htm](http://www.ling.lancs.ac.uk/chimp/langac/LECTURE4/4asl.htm)

Alan Mothner / AP Photo

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## Initial ASL results

- At first, the reports very positive.
- Examples coining new terms:
  - "water bird" for swan
  - "cookie rock" for stale danish
  - "apple that-is orange-colored " for orange
- Stories in National Geographic, Nova, 60 minutes, 20/20; People, Life, Penthouse; Holly Hunter movie "animal behavior"; Pepsi commercials.
- "Language is no longer the exclusive domain of man" - Penny Patterson.



Washoe

Image source: [www.geocities.com/RainForest/Vines/4451/TalkWithChimps.html](http://www.geocities.com/RainForest/Vines/4451/TalkWithChimps.html)

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## General critiques by Terrace

- Every sign used had been just used by an experimenter

Susan N.: *Who smart?*

Washoe: *Smart Washoe.*

Susan N. *Smart.*

Washoe: *Smart.*

Critical video of Nim:  
[www.ling.lancs.ac.uk/staff/paulb/nim1.mpg](http://www.ling.lancs.ac.uk/staff/paulb/nim1.mpg)

Susan N.: *Who stupid?*

Washoe: *Susan stupid.*

Susan N. *Who?*

Washoe: *Washoe.*

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## Terrace's critiques, etc.

- Repetitions were deleted from experimenters' gloss
  - thus, "eat eat eat apple apple apple eat apple" glossed as "eat apple"
- Everything they do is a request for food
- Longer sentences do not add additional information.
  - Children say "apple" then "eat apple" then "I want to eat apple", but chimps' longer strings just have lots of repetitions

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## Terrace's critiques, cont.

- Typical sentences
  - Nim eat Nim eat.
  - Drink eat me Nim.
  - Me gum me gum.
  - Tickle me Nim play.
  - Me eat me eat.
  - Me banana you banana me you give.
  - You me banana me banana you.
  - Banana me me me eat.
  - Give orange me give eat orange me eat orange give me eat orange give me you.



Image source: [www.geocities.com/RainForest/Vines/4451/TalkWithChimps.html](http://www.geocities.com/RainForest/Vines/4451/TalkWithChimps.html)

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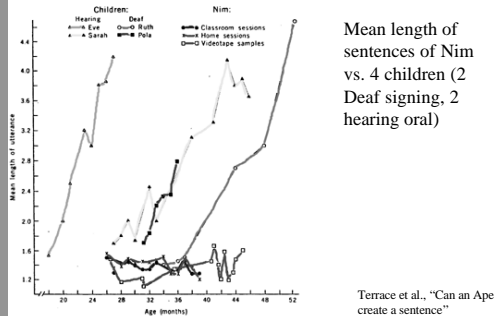
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## Sentence length




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*Every time the chimp made a sign, we were supposed to write it down in the log . . . They were always complaining because my log didn't show enough signs. All the hearing people turned in logs with long lists of signs. They always saw more signs than I did . . . I watched really carefully. The chimp's hands were moving constantly. Maybe I missed something, but I don't think so. I just wasn't seeing any signs. The hearing people were logging every movement the chimp made as a sign. Every time the chimp put his finger in his mouth, they'd say, "Oh, he's making the sign for drink," and they'd give him some milk . . . When the chimp scratched itself, they'd record it as the sign for scratch . . . When [the chimps] want something, they'd reach. Sometimes [the trainers would] say, "Oh, amazing, look at that, it's exactly like the ASL sign for give!" It wasn't.*

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## Excerpts from 1998 on-line chat with Koko

**Moderator:** I'll start taking questions from the audience now. Our 1st question is: M. asks, Koko are you going to have a baby in the future?

**Koko:** Pink.

**Dr. Patterson:** We've had earlier discussion about colors today.

**Koko:** Listen! Koko loves eat.

**Moderator:** Me too!

**Dr. Patterson:** What about a baby? She's thinking...

**Koko:** Unattention.

**Dr. Patterson:** She covered her face with her hands... which means its not happening, basically, or it hasn't happened yet.

**Koko:** I don't see it.

**Moderator:** That's sad!

**Dr. Patterson:** In other words, she hasn't had one yet, and she doesn't see it happening. She needs several females and one male to have a family. In our setting it really isn't possible for her to have a baby.

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## Excerpts with Koko, cont.

*Question:* Would Koko like to have a kitten, a dog, or another Gorilla as a friend?

*Koko:* dog

*Dr. Patterson:* She actually has two dog friends right now, one kitty, and two gorillas.

*Moderator:* S. asks What are the names of your kittens? (and dogs?)

*Koko:* foot

*Dr. Patterson:* Foot isn't the name of your kitty.

*Moderator:* Koko, what's the name of your cat?

*Koko:* no



Source: <http://www.gorilla.org/>

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## Excerpts with Koko, cont.

- *Question:* Do you like to chat with other people?
- *Koko:* fine nipple
- *Dr. Patterson:* Nipple rhymes with people, she doesn't sign people per se, she was trying to do a "sounds like ..."



Source: <http://www.gorilla.org/>

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## Excerpts with Koko, cont.

While Koko plays with her alligator and other toys, Dr. Patterson starts talking about plans to build a more natural environment for Koko on Maui...

*Koko:* fake

*Dr. Patterson:* The alligator is biting the lady doll...  
[explaining Koko's actions]

*Moderator:* What does fake mean to her?

*Koko:* gorilla

*Dr. Patterson:* She knows that what I'm saying hasn't happened yet.

*Koko:* brown

*Moderator:* She IS smart!

*Koko:* bad

Video of Koko:  
[www.ling.lancs.ac.uk/staff/paulb/koko.mpg](http://www.ling.lancs.ac.uk/staff/paulb/koko.mpg)

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## Kanzi

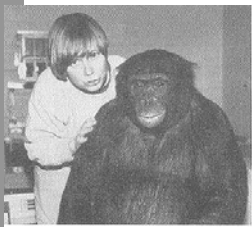


Image source: [www.geocities.com/RainForest/Vines/4451/TalkWithChimps.html](http://www.geocities.com/RainForest/Vines/4451/TalkWithChimps.html)

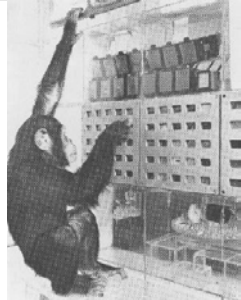


Image source: [www.ling.lancs.ac.uk/chimp/langac/LECTURE4/4token.htm](http://www.ling.lancs.ac.uk/chimp/langac/LECTURE4/4token.htm)

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## Kanzi, some clips

- Kanzi in experimental condition  
[www.ling.lancs.ac.uk/staff/paulb/kanzi.mpg](http://www.ling.lancs.ac.uk/staff/paulb/kanzi.mpg)
- Kanzi on the telephone  
[www.ling.lancs.ac.uk/staff/paulb/tele.mpg](http://www.ling.lancs.ac.uk/staff/paulb/tele.mpg)

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