

Today's topic:

- **Non-human apes and language?**

Background preparation:

- *Kaplan Ch 4, "Chimpanzees can talk to us"*

0. Today's objectives

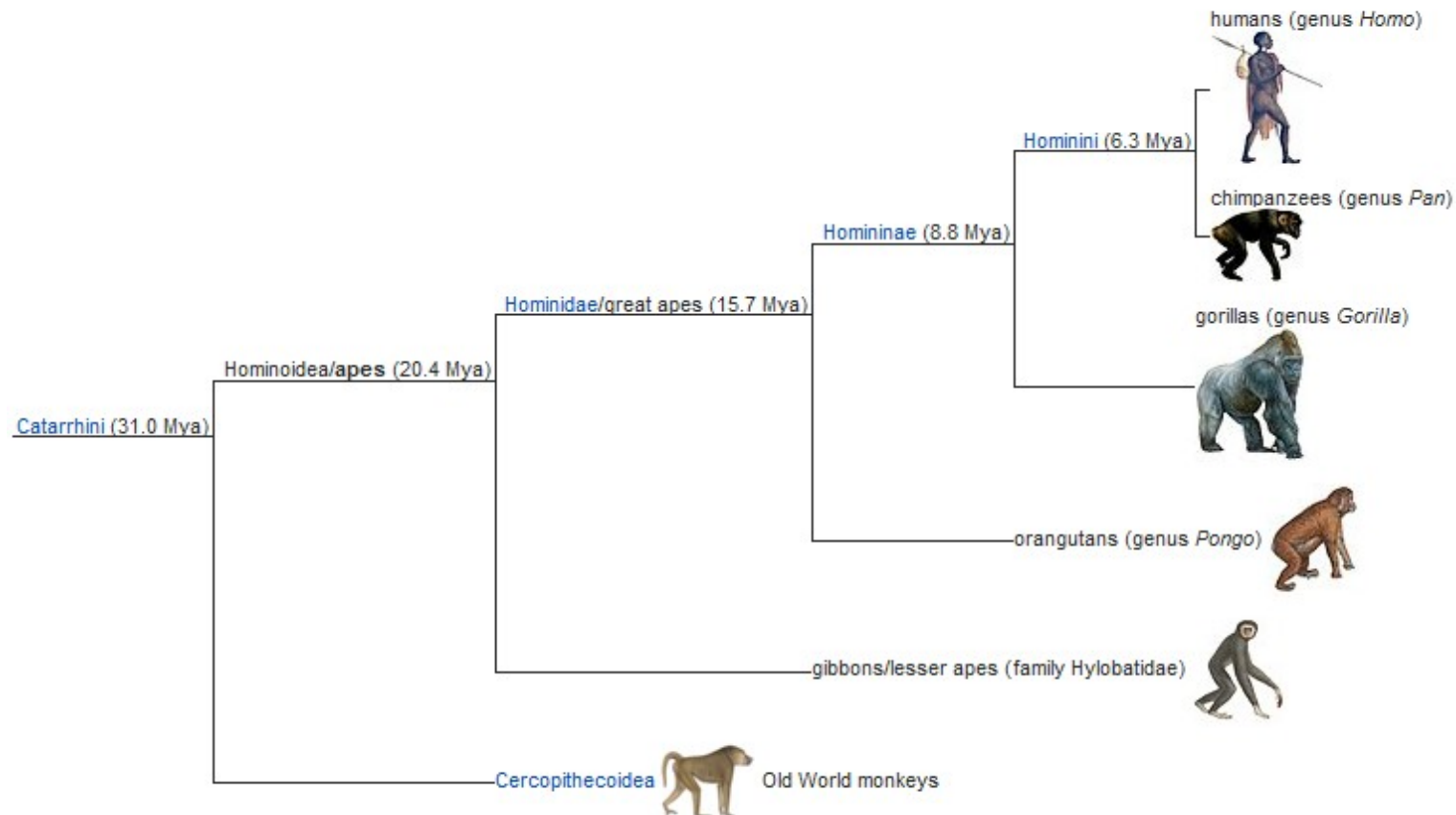
After today's class, you should be able to:

- Describe key characteristics of research projects involving the teaching of language-like systems to non-human apes
 - What symbols did the systems consist of?
 - How were the apes taught?
- Explain how the ways in which the apes used these symbol systems **were** and **were not** like human language

0. Warm-up: Taxonomy of apes

The [cladogram](#) of the superfamily Hominoidea shows the descendant relationships of the extant hominoids that are broadly accepted today.^{[12][13][3][clarification needed]} For each clade, it is indicated approximately how many million of years ago (Mya) newer extant clades radiated.^[14]

(Wikipedia)



human

**chimp,
bonobo**

gorilla

0. Warm-up: Is it language?

Group discussion

- Name at least one way that one of the ape communication systems discussed in this chapter is **similar** to human language
- Name at least one way that one of the ape communication systems discussed in this chapter is **different** from human language

1. Spoken human language

- Video of [Viki](#) (1940s), a chimpanzee raised in a human family and taught spoken English words (YouTube; start at 0:45)
 - How successful was this project?

1. Spoken human language

- Attempts to teach apes to produce **spoken human language** were not successful
 - What is an important potential reason for this lack of success?
 - How did later experiments try to address this issues?

2. Visual symbol systems

- What were these communication systems like?

2. Visual symbol systems

- Sarah (chimpanzee), 1960s | [RIP Sarah](#), 2019! (*NY Times*)
 - Magnetic plastic symbols for words
 - Had to be arranged in the appropriate order to make a “sentence”
- Lana (chimpanzee), 1970s
 - Computerized system with abstract visual symbols for words — “lexigrams”
 - Lexigram buttons had to be pushed in the appropriate order to make a “sentence”

2. Visual symbol systems

- Video of [Lana](#) (YouTube)

(warning: if you watch this video on your own, there is a discussion of human developmental disorders at 4:33 that is disturbing by today's standards)

- Lexigrams (from the Kaplan textbook web site)
 - Some [utterances](#), and their results
 - A [list of lexigrams](#) and their “translations” as assigned by the researchers

2. Visual symbol systems

Discussion

- What was training like for Sarah? For Lana?
- What kinds of things did Sarah and Lana learn to do with their symbol systems?
- How was their symbol use **like** and **unlike** human language use?

2. Visual symbol systems

- Kanzi (bonobo), 1980s–
 - Same lexigram system as Lana
 - Upgraded technology!
- Video of [Kanzi](#) (YouTube)
 - What are Kanzi and his trainer doing here?
 - What does this video, on its own, show about the ability of Kanzi to use **language**?

2. Visual symbol systems

Discussion

- What was different about Kanzi's training compared to Sarah's and Lana's?
- What kinds of things does Kanzi do with his symbol system?
- In what ways is Kanzi's use of this system **like** and **unlike** human language?

2. Visual symbol systems

- 1st-generation studies:
 - Intensive, repetitive training
 - Sarah and Lana mostly used their systems to ask for things they wanted; little/no **social** use
- Kanzi:
 - Learned more naturalistically, including from other chimps
 - Kaplan (2016: 70) “...requesting, naming, responding to requests, and so on”
 - Primitive syntax? / not human-like

3. ASL-inspired systems

Discussion

- Washoe (chimpanzee), 1960s–70s
- Koko (gorilla), 1970s–2010s
- Nim (chimpanzee), 1970s
 - What were their signing systems like?
 - What was their training like?
 - How was their signing use like and unlike human language use?

3. ASL-inspired systems

- Koko (gorilla), 1970s–2010s
 - Exposure to spoken English and to ASL signs (in English word order)
 - Knew and used many signs
 - Much social interaction with humans
- [Video of Koko](#) (YouTube)
 - Compare Koko's signs with Patterson's interpretation: comments?

3. ASL-inspired systems

- What are some of the issues with reports of Koko's abilities?
 - Signs, or pointing gestures / pantomime?
 - “Rich interpretation” or *over*interpretation by researchers?
- Transcript of AOL “live chat”, mediated by Patterson
 - How plausible do you find Patterson's commentary on what Koko is signing?

3. ASL-inspired systems

- Washoe (chimpanzee), 1960s–70s
 - Exposure began as infant
 - Did not spontaneously begin to sign very much; trainers had to shape her hands
- What kinds of things did Washoe learn to do? What kinds of things did she not do with her signing?
- What are some of the problems or concerns in interpreting Washoe's signing?

3. ASL-inspired systems

Did Washoe have a **language system**?

- Gestures, actions, or signs?
 - Deaf signers thought the hearing trainers were too generous in recording 'signs' by Washoe
- 'Rich interpretation,' or overinterpretation?
 - Example: WATER BIRD (when W saw swan on lake)
- What were Washoe's motivations for using signs?
 - H. Terrace later argued that many of Washoe's utterances were imitations of trainer utterances
 - What else did Washoe typically sign *about*?

3. ASL-inspired systems

- Nim Chimpsky (chimpanzee), 1970s
 - Began training as infant
 - Social interaction and formal teaching sessions
- What is the significance of the following utterance?
GIVE ORANGE ME GIVE EAT ORANGE ME EAT
ORANGE GIVE ME EAT ORANGE GIVE ME YOU
- What is the significance of...?
 - What Nim typically signed about
 - Imitation

3. ASL-inspired systems

- Loulis (chimpanzee), 1970s
 - Given as infant to Washoe to raise
 - Was not taught ASL signs by humans
 - Part of a social group of signing chimps: Washoe and three others
- What are some of the things he (and his group) did, that previous signing-based studies had not found?
- Did his use of signing still have characteristics that were not like language?

3. ASL-inspired systems

- What Loulis could do
 - He learned many signs from Washoe (sometimes she shaped his hands)
 - He (and the others) signed to other chimps, with or without humans present
- Characteristics that were not like language
 - Long utterances very repetitive
 - No increase in **grammatical complexity** over time
 - High proportion of (wild) chimpanzee gestures

4. Is it “language”?

- Some proposed “design features” (defining characteristics) of human language: (Hockett 1960)
 - **Displacement:** Can be about things that are removed in space and time, or don’t exist
 - **Arbitrariness** (Saussure): No logical connection between form (sound, sign, shape) and meaning
 - **Productivity:** New thoughts can be expressed
 - **Duality of patterning:** Meaningful units are made up of combinations of meaningless units
- Do we see these characteristics in any apes’ use of their symbol systems?

4. Is it “language”?

- What point is Kaplan making in section 4.4 about bee dances (and whether humans can “use” them)?

4. Is it “language”?

- Can animals **communicate**...
 - with each other?
 - with humans?
- Can animals (chimpanzees, bonobos, gorillas) communicate with humans using **symbols** they have **learned** from humans?
- Are there **meaningful differences** between animal communication and what humans do when they use language?

5. Tips for Group 2 (Ch 4 case study)

- Kaplan doesn't include a case-study section in Ch 4
- Some topics you could explore for the myth "Chimpanzees [non-human animals] can talk to us":
 - A study reporting on one of these apes, or another animal, being taught a **human symbol system**, and the (measurable) results
 - A study reporting on the characteristics of an animal communication system **in the wild**, and to what (measurable) extent it shares features with human language [could be apes, other monkeys, birds, dolphins/whales, etc.]