

Is Syntax Uniquely Human?

On the origins of syntax

- Berwick & Chomsky (2017), Progovac (2015)
 - Merge is uniquely human and language-specific**
- Tomasello (2008), Heyes (2018)
 - reject UG in favour of cultural view
 - differences are not language specific**
 - N.B. Chomsky's idiosyncratic use of 'language'

What makes human language unique?

- Hauser, Chomsky and Fitch (2002)
 - “FLN takes a finite set of elements and yields a potentially infinite array of discrete expressions.” (p.1571)
 - **unlimited** string lengths
 - performance vs. competence
 - strings organised **hierarchically**



Performance vs. competence (Chomsky 1965)

- Performance
 - What speakers can do in practice – limited by working memory, etc.
- Competence
 - What speakers can do in principle
 - UG is a claim about competence

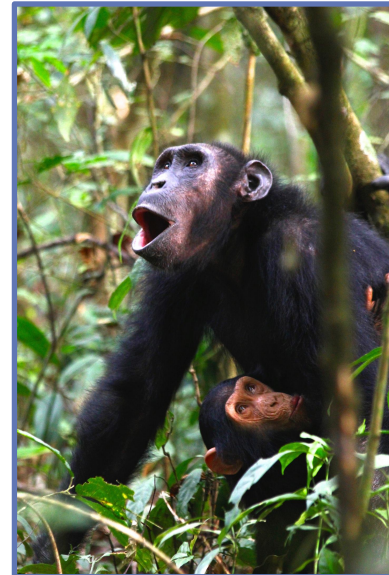
Syntax in Children and Great Apes



Studies from Enculturated Apes

Syntax in wild chimpanzees?

- little evidence from gestural studies (e.g. Hobaiter & Byrne 2014)
- recent findings suggest some precursors of syntax in animal vocalisations
 - (Crockford et al. 2012)
 - food grunts produced more for friends (Slocombe et al. 2010)
- often **triadic** (see above examples)



Kanzi (and Panbanisha) (Savage-Rumbaugh, Shanker & Taylor 1998)



Kanzi's production of English

- Savage-Rumbaugh, Shanker & Taylor (1998)
 - Relatively fluent with **Lexigram** (≈ 450 signs, $\approx 30-40$ signs daily)
 - Simple (mostly 2-3 element) combinations of verbs and nouns
 - Pairs of Lexigram symbols, or Lexigram symbol and plus point
- Rivas (2005)
 - Comparable to sign-language trained chimpanzees
- **No evidence of syntactic hierarchies**

An “infinite array of discrete expressions”?

- Rivas (2005)
 - production of mostly 2-3 unit strings
 - no evidence of structure
 - qualitative difference



- Objection
 - compares performance (apes) vs. competence (humans)
 - quantitative difference?



Kanzi's production of English

https://www.youtube.com/watch?v=AJ_3l1z5r0s

Contrast Kanzi with recent videos of Bunny the talking dog.

https://www.tiktok.com/@whataboutbunny/video/7066063588884122926?is_copy_url=1&is_from_webapp=v1&lang=en

Kanzi's comprehension of English

<https://www.youtube.com/watch?v=2Dhc2zePJFE>

Kanzi's comprehension of English (via Truswell 2017)

- (Savage-Rumbaugh, Shanker & Taylor 1998)
 - Can **track grammatical differences**
 - a. 525. (C) Put the tomato in the oil.
 - b. 528. (C) Put some oil in the tomato.
- Truswell (2017): Dendrophobia
 - Some struggles
 - e.g. 'Fetch the tomato and the oil'
 - Evidence of **absence of hierarchies?**



Lessons for cognitive development (Lloyd 2006)

- Limited syntax following enculturation
 - something must be **shared**
 - **exapted** (non-communicative function)?
- Bonobo syntax stalls as children's soars
 - something is **unique to humans**
 - needed for **linguistic hierarchies**?



What explains hierarchy?

- A biological change?
 - **adapted** (selected for communication)?
 - **exapted** (selected for what)?
- A **cultural** change?
 - Some sort of social norms?



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