**Why Only Us, by R. Berwick& N. Chomsky, MIT**

**The essential points raised are:**

**1. Language fundamentals**

  Human language is species-specific;

  its primary purpose is for thought;

        language is structural, not linear;

  language contains discrete infinity, a finite computational system, with infinite grammatical combinations.

  (For N. Chomsky,  the theory of a biological language faculty is focused in Universal Grammar that is systematically constrained.)

**2.**LANGUAGE works through the

             **sensory-motor** interface to externalize thought (cf. printer) and

 **conceptual-intentional** interface to think (cf. computer’s processing system)

 For **grammar to work**we need brain with fibers interconnecting language regions in the brain; these fibers appear only in human brain and only of people aged 2 to 3 and older, “..the brain is not properly ‘wired up’ at birth to do syntactic processing.” In particular, the dorsal pathway connecting the anterior frontal lobe to Broca’s area is absent in infants. Only humans, and only those over about 2 or 3 yrs of age,  have a complete fiber-tract circuitry. And only this group seems to have the structural syntactic processing.

(Macaques, or “Old World monkeys,” also do not have a complete dorsal-to-ventral fiber-tract “ring,” … the ring is incomplete.)

3. reconciling **unity and diversity:**

    Chomsky: "All languages have the same “menu” to choose from, but each language will only “order” certain items; the differences among human languages are superficial, i.e., all of us share one common language."

4. The question, **Language serves no biological function, and every other species on the planet manages just fine without it; so why did it evolve (A. Wallace, 1869)?**<https://en.wikipedia.org/wiki/Alfred_Russel_Wallace#/media/File:Alfred-Russel-Wallace-c1895.jpg>

             Human language was not selected for communication, but for THOUGHT!

5. **Language's**conceptual-intentional interface/ the “inner mental tool” helped gain a selective advantage in early modern humans, as it aided in “better planning, inference, and the like”. It developed recently (60,000 years ago?) and suddenly (it probably did not exist 80,000 years ago).

**Songbirds'**“sophisticated vocal learning” abilities is similar to humans’ in that they teach it to their young, there is left-brain lateralization, and there is a critical period. BUT birdsong is only similar to the sensorimotor externalization where linear dependencies occur. The main aspect of human language is not similar: Structural dependencies are absent in birdsong and there is **no conceptual-intentional interface**.

6. Since its evolution, language has not evolved any more.

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