COGS300

Language is not an instinct

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Disclaimer

- much of the debate between Pinker & Tomasello centres around the Principles & Parameters approach to grammar
- no longer the mainstream in syntax
- the two sides have gotten considerably closer since then; see e.g.

  Hauser, M. D., Chomsky, N., & Fitch, W. T. (2002). The faculty of language: what is it, who has it, and how did it evolve? *Science*, 298(5598), 1569-1579.

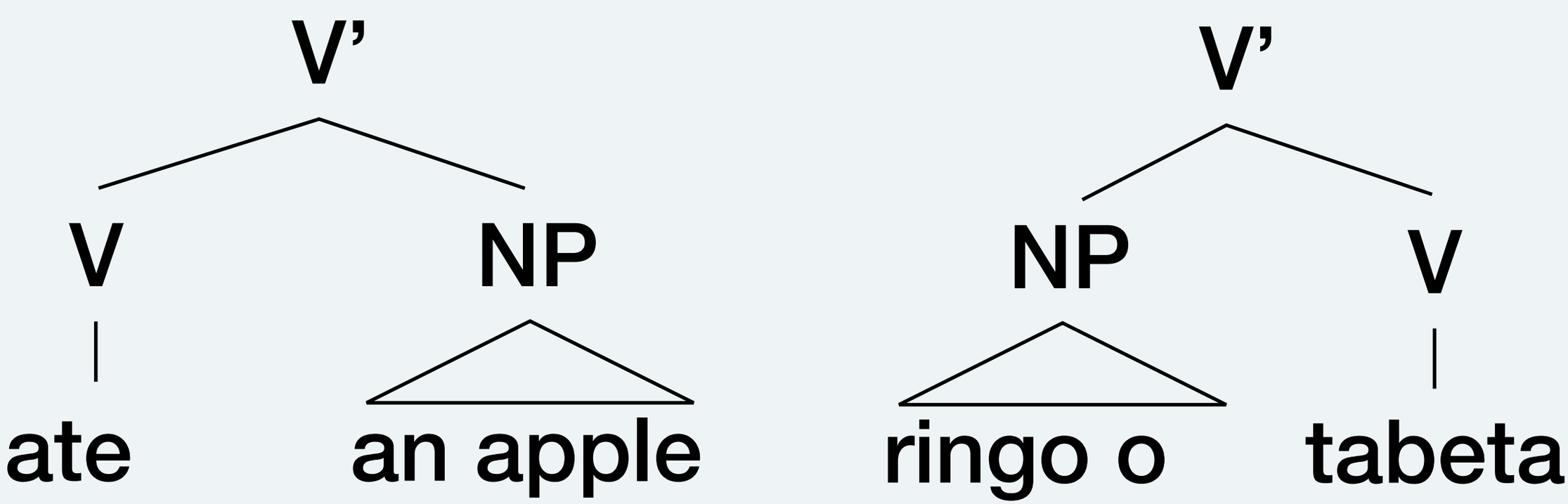
- … but the debate can still be pretty vitriolic!

A few key concepts

- principles & parameters: language acquisition consists of figuring out how individual languages realise meta-rules
- e.g.
  - **principle**: an X’ contains a head and a complement (e.g. X’ = ate an apple)
- **parameter**:
  A. the head precedes the complement
  B. the head comes after the complement

A few key concepts

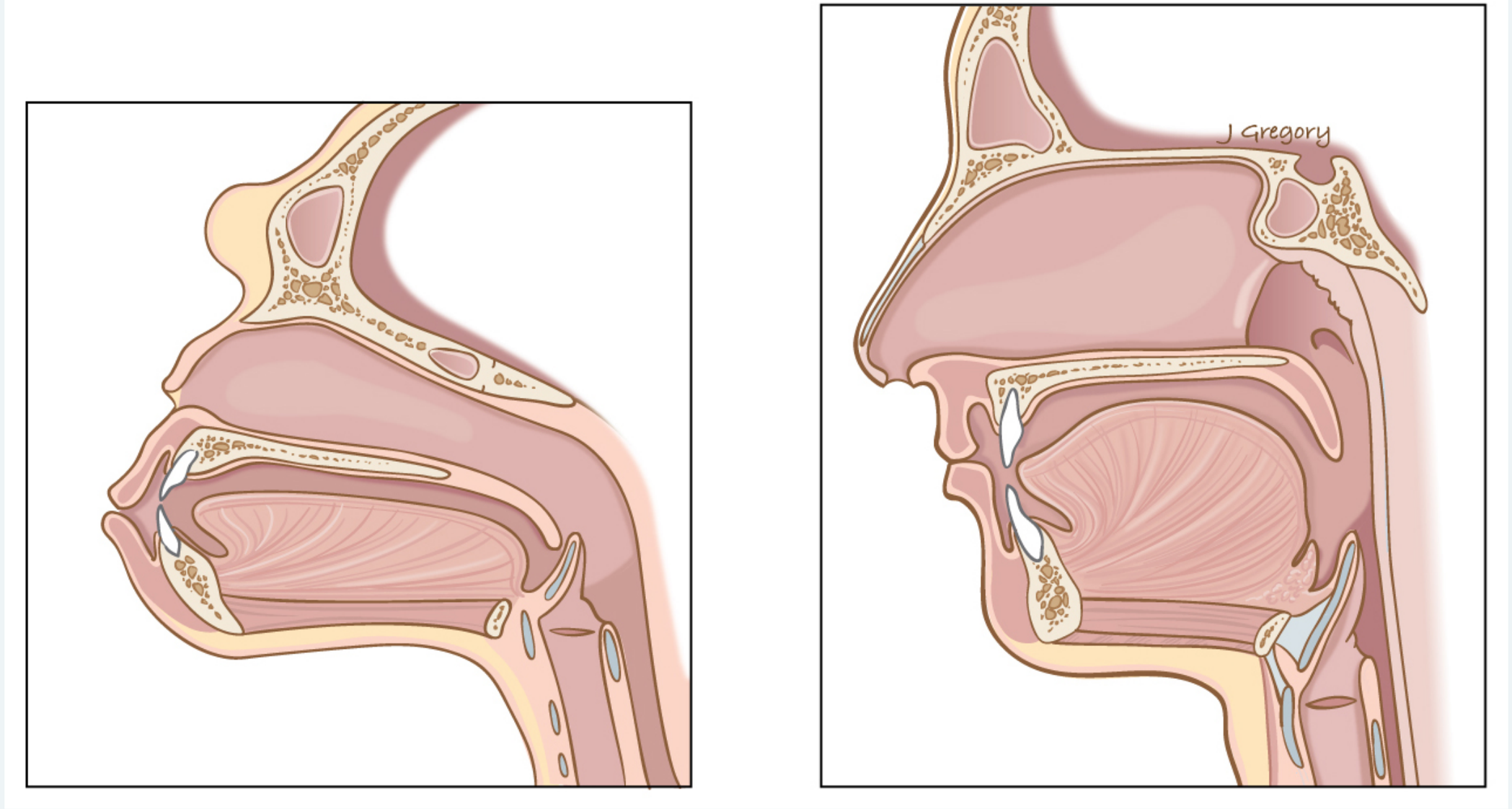
- principles & parameters: language acquisition consists of figuring out how individual languages realise meta-rules



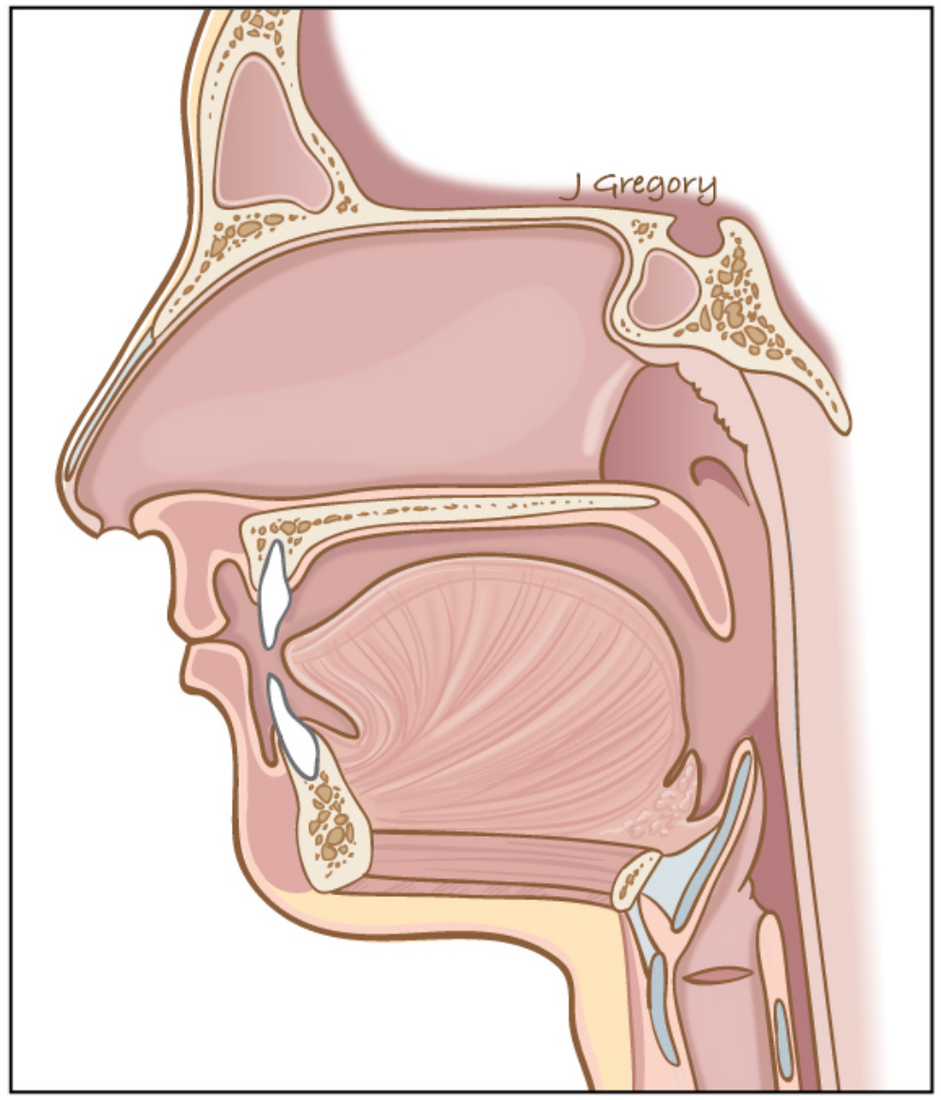
A few key concepts

- innateness, weak version: language relies on species-specific, genetically coded cognitive and physiological features that are present (though not necessarily expressed) in humans from birth
- e.g. …

The descended larynx



The descended larynx



A few key concepts

- modularity: the language faculty = an “organ” whose internal representations & processes are domain-specific and is informationally encapsulated (i.e. does not need to continuously refer to other cognitive systems to operate)
- evidence:
  - uniqueness of structures (no parallels to phrase-structure outside of language?)
  - double dissociations (general cognitive deficits do not necessarily affect language and vice versa)
  - …

A few key concepts

- innateness, strong version: language relies on a modular language faculty that is species-specific, genetically coded and is present (though not necessarily expressed) in humans from birth

Exercise

Try to design a toy-language that deviates from one or more universal (or near-universal) features of language. Some example universals:

- constituents & hierarchical structure
- arbitrariness (e.g. the shape of words typically doesn't suggest their meaning)
- recursion (you can embed a certain type of constituent inside the same type of constituent)
- nouns / verbs (maybe not universal)

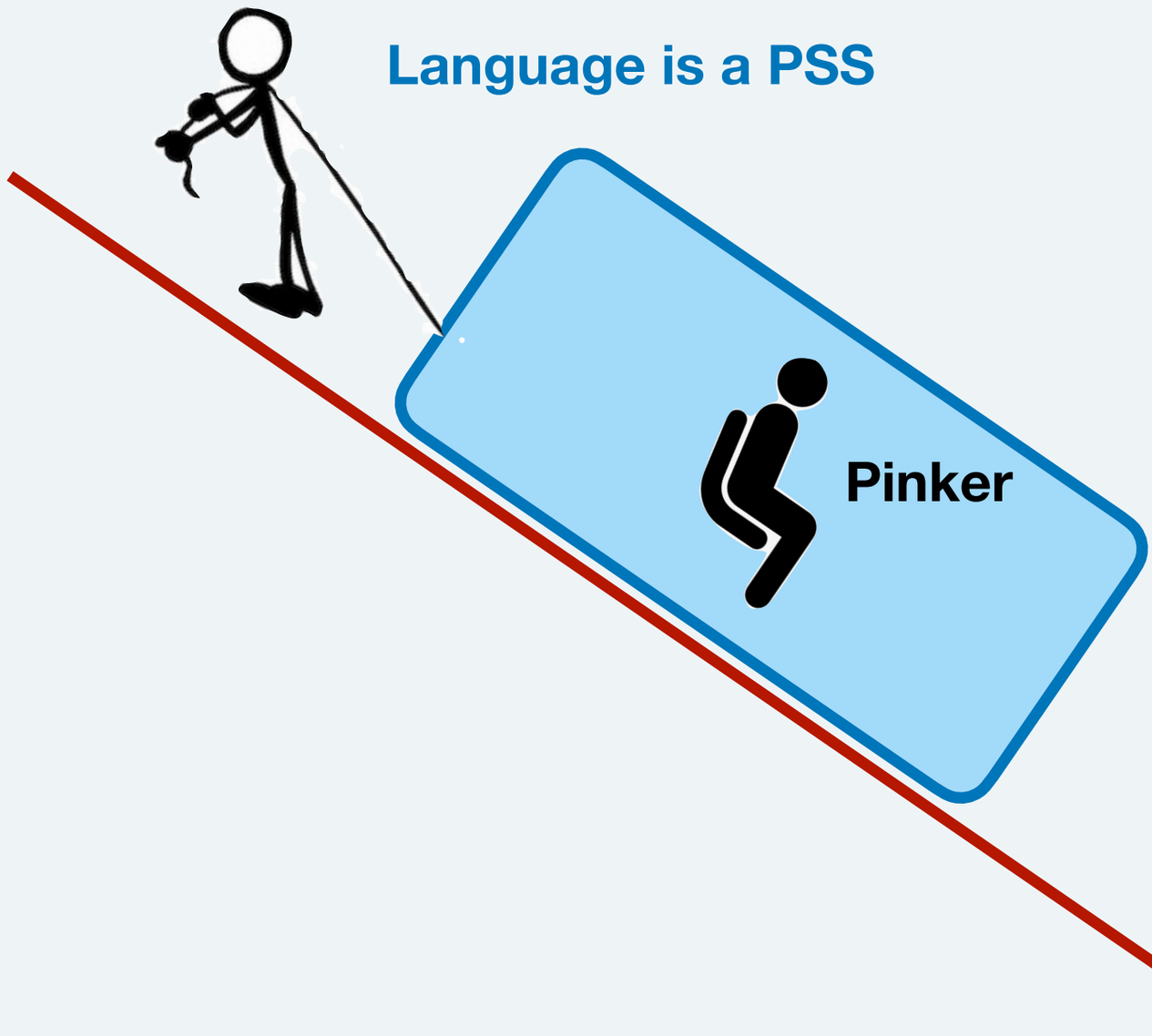
Name your language. Translate the following three sentences into your language:

Penguins eat stinky fish.
Stinky fish eat penguins.
Penguins eat stinky fish that eat stinky algae.

Tomasello

Language is not an instinct

Language is a PSS



Pinker

Language is an instinct

Tomasello (1995)

- arguments against innateness
  - universality of language (all cultures have it)
  - species-specificity ≠ genetic coding
- language universals:
  - are they really universal? (e.g. sign languages, nouns / verbs, etc.)
  - English-centric…
  - universally present ≠ genetic coding! (see above)

Tomasello (1995)

- arguments against modularity
  - domain-specific representations – many other examples where it would be difficult to argue for true modularity (e.g. chess)
  - double dissociation
    - linguistic savants – impairments in other areas too?
    - specific language impairment – not truly specific?
    - brain localisation – Broca's area vs. Wernicke's area – not really! (also, localisation can emerge without genetic coding)