

Thursday, August 20, 2015

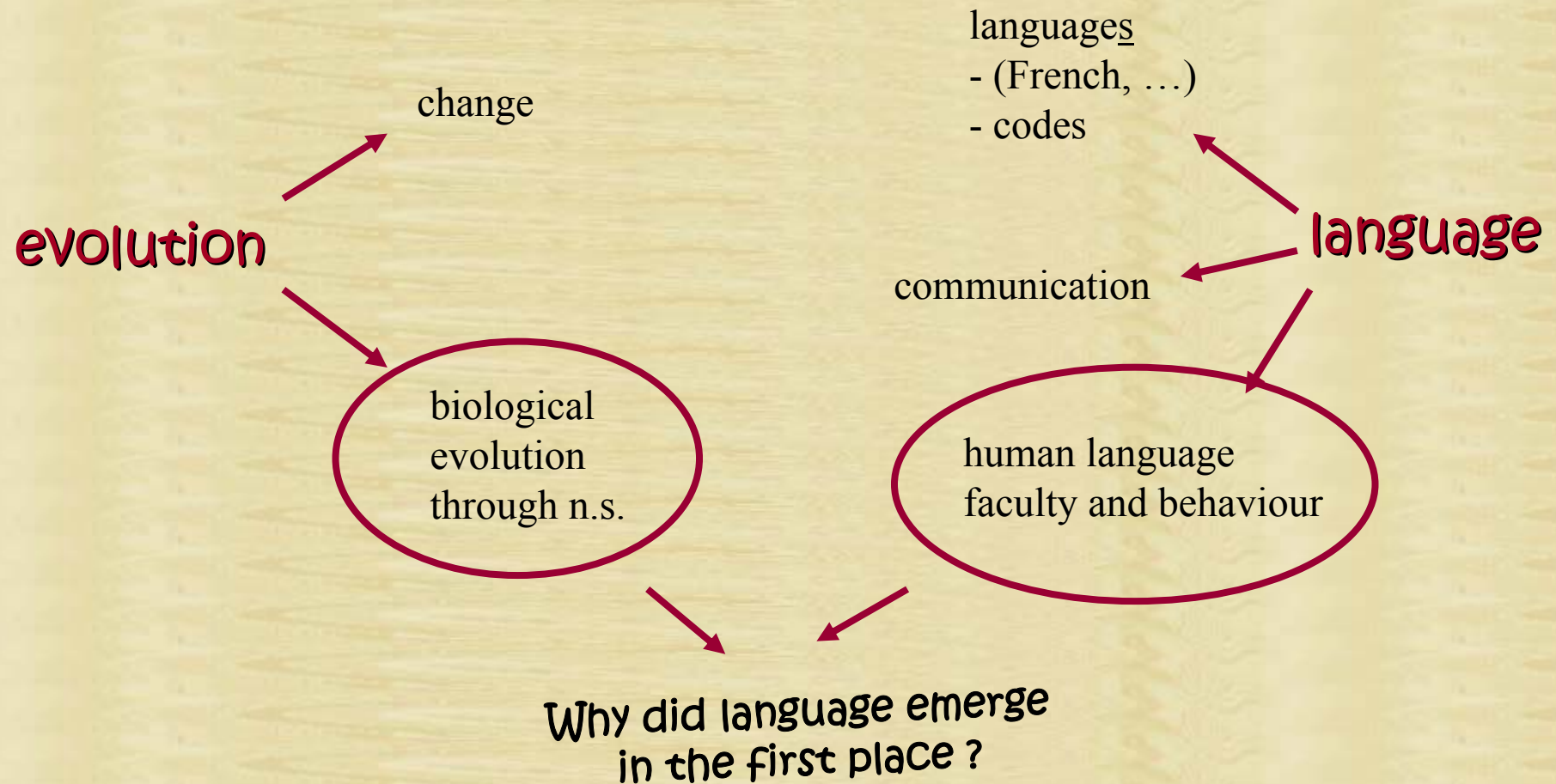
Evolang X - Wien

The role of the human political singularity in the emergence of language



Jean-Louis Dessalles
Telecom PARISTECH

jean-louis@dessalles.fr
www.dessalles.fr



Evolution of language

★ Idea #1: useful for the group or the species

- Basic argument refuted in 1966 (Williams)
- No stable model
- less unstable one: ([Choi & Bowles, 2007](#)).

★ Idea #2: reciprocal cooperation

- No stable model with plausible hypotheses (Dessalles, 1999)
- Wrong predictions about language use

★ Idea #3: social signalling

- Stable, robust models

Ritt, 2004
Lieberman, 1992
Bickerton, 1990
Nowak & Komarova 2001
Dunbar, 1998
Pinker & Bloom 1990
Pinker, 1994
Blackmore 1999
Gärdenfors & Warglien, 2006
Christiansen & Ehrlén 2002
Boyd, 2014
Penn, Povinelli & Holyoak, 2008
Chomsky, 2002
Scarce talking
Carruthers 1996
One-to-one
Savage-Rumbaugh & Lewin 1994
Consequential
Hurford 1991
Cheating detection by speaker

Knight *et al.*, 2000
Gintis, Smith & Bowles, [2001](#)
Dessalles 2010, [2014](#)





« How did we get from an ordinary primate that could not talk to the strange human primate that can't shut up? »
(Burling 2005, p. 4)





Chimps
(*Pan troglodytes*)



Human beings
(*Homo sapiens*)

Hierarchy status	Hierarchy status or “equality” (Boehm, 2000)
Politics alliances, friendship	Politics alliances, friendship
Social agonistic behaviour displays, threats, bullying <div>risky battles</div>	Social agonistic behaviour threats, bullying <div>risk-free killing</div>
Social attraction <div>grooming, . . .</div>	Social attraction <div>conversation, . .</div>

Human language behaviour



- ☀ 16000 words spoken daily, 6 hours/day, 30% of awake time

- ☀ Two main forms

- ◉ Communication about events (event signalling, narratives) ~30%

- example

- ◉ Discussion (logical consistency maintenance) ~60%

- example



Signalling events



Tomasello, M. (2006). [Why don't apes point?](#)
In N. J. Enfield & S. C. Levinson (Eds.),
Roots of human sociality: Culture, cognition and interaction

Human beings systematically
communicate about
anomalous (most often futile) events.



unexpected

www.simplicitytheory.org

Question

Why are we systematically communicating about anomalous (inconsequential) events?

Is this linked to the fact that risk-free killing exists in our species?

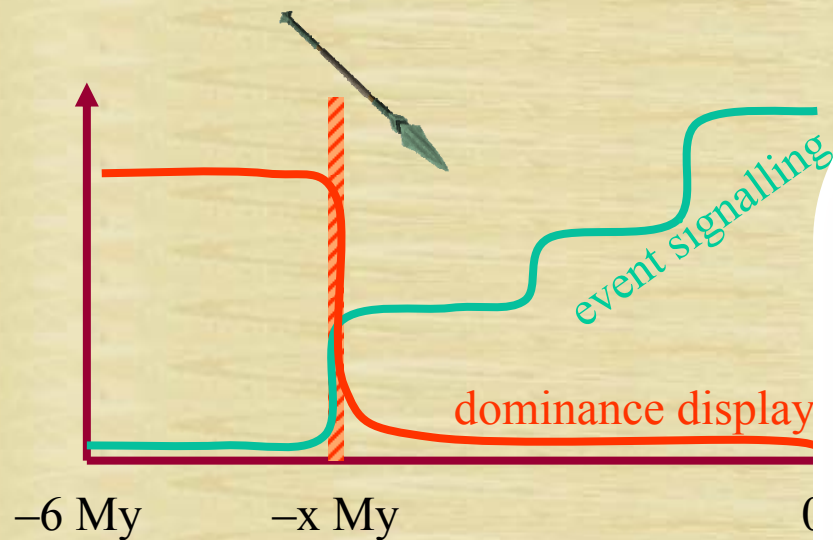
The human political singularity

- It takes 50 minutes for five chimpanzees to kill a member of their community ([Reynolds 2005](#))
- It takes one second for any human to kill another ([Woodburn 1982](#); [Boehm 2000](#):176; [Bingham 2001](#))



<i>Rank</i>	<i>Reproductive success</i>
α -male	40%
β -male	20%
γ -male	7%

The human political singularity



(Boehm, 2000)

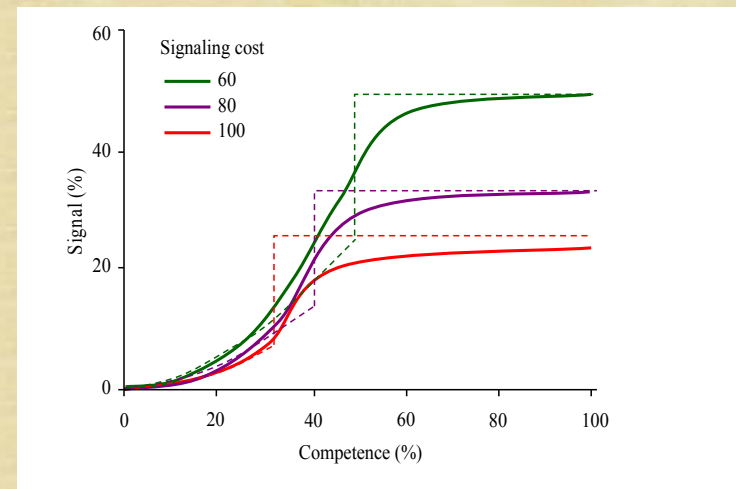
- ✱ No overall increase of violence
- ✱ Individuals get acquainted with
 - ◉ informed individuals
 - ◉ faithful individuals



Language evolved as a social signal

☀ In a risk-free killing context

- ◉ You need informed (and reliable) friends
- ◉ To attract friends:
You signal any anomalous situation
as a way to advertise your ability
to anticipate killing risk
- ◉ Modelling shows that
costly social signals may emerge
and remain stable
in this context



Dessalles, J.-L. (2014).
“Optimal Investment in Social Signals”
Evolution, 68



Chimps seek for
strength and protection

therefore

Chimps display
their strength
and their faithfulness

Hominins seek for
informed friends

therefore

hominins,
when "chatting", display
their ability to anticipate danger



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jean-louis@dessalles.fr

www.dessalles.fr

JEAN-LOUIS DESSALLES

WHY WE TALK

The Evolutionary Origins of Language

Dessalles J-L.
Oxford University Press