



BBC News Sport Weather Capital Culture Aut

NEWS TECHNOLOGY

Home | UK | Africa | Asia | Europe | Latin America | Mid-East | US & Canada | Business | Health | Sci/Envir

5 July 2013 Last updated at 12:24 GMT

Share

Human gestures perplex Asimo, Honda museum robot guide

Honda's popular robot Asimo faced problems with gesture recognition on its first day as a museum guide at the Miraikan science museum in Tokyo.

The machine struggled to differentiate between museum-goers raising their hands to ask a question and raising their hands to take photos, Associated Press reported.

It is "working" as a tour guide at the museum for the next four weeks as a trial.



Asimo is reported to have had problems identifying arm gestures

9:58 PM
"I like fishing at the river bank"

Got it.

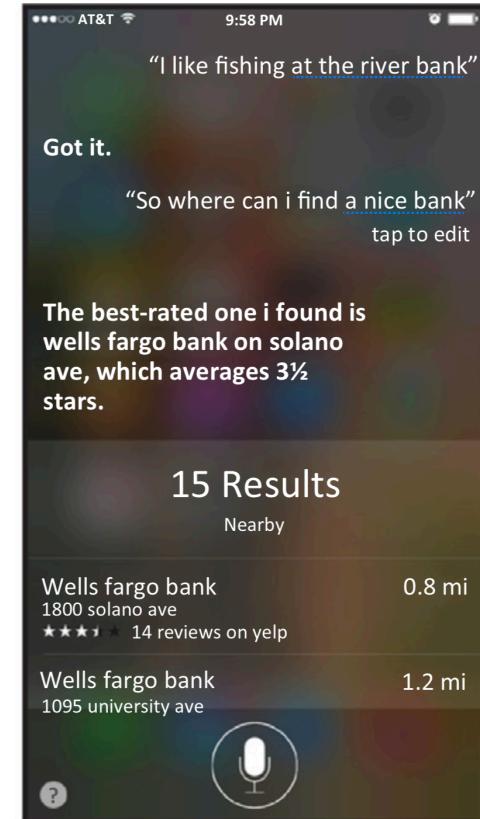
"So where can i find a nice bank"
tap to edit

The best-rated one i found is wells fargo bank on solano ave, which averages 3½ stars.

15 Results
Nearby

| Location | Distance |
|---|----------|
| Wells fargo bank 1800 solano ave | 0.8 mi |
| Wells fargo bank 1095 university ave | 1.2 mi |

?



Why is this not an issue for us, humans?



- Gain insight into how humans became such big-brained, other-regarding apes
- Gain insight into how human brains developmentally construct and pathologically lose an understanding of mind
- Gain insight into how human brains achieve mutual understanding and how this elusive capacity underpins social interaction, culture, and society
- Get a thorough background in neuroscientific approaches for advancing our understanding of human social phenomena
- Learn how to critically read the neuroscientific literature and view opposing theories and data in perspective



Course outline

- Module 1: Primate Social Cognition
- Module 2: Ontogeny and Pathology
- Module 3: Communication

Class Schedule

| Week | Monday | Wednesday | Friday |
|---------|--|---|---|
| Week 1 | 3/29 Arrival of Man Friday | 3/31 Functional Anatomy of the Social Brain | 4/2 Animal Social Cognition Team Assignments |
| Week 2 | 4/5 Game Theory | 4/7 Agent-based Modeling | 4/9 Dual 1: Big Brains |
| Week 3 | 4/12 Cooperative Breeding | 4/14 Theory of Mind | 4/16 Dual 2: Social Development |
| Week 4 | 4/19 Constructing Understanding | 4/21 Psychiatry of Social Cognition | 4/23 Dual 3: Autistic Communication |
| Week 5 | 4/26 Neurology of Social Cognition | 4/28 Degeneration of Social Cognition <i>Exam Questions due</i> | 4/30 Dual 4: Prefrontal Social Reasoning |
| Week 6 | 5/3 Midterm | 5/5 X-hour | 5/7 X-hour |
| Week 7 | 5/10 Primate Communication | 5/12 Human Communication | 5/14 Dual 5: Brain-To-Brain Coupling |
| Week 8 | 5/17 Electrophysiology of Communication | 5/19 Neural Dynamics of Communication | 5/21 Dual 6: Promoting <u>Prosociality</u> |
| Week 9 | 5/24 <u>Neurosemiotics</u> | 5/26 Final Class <i>Exam Questions due</i> | 5/28 |
| Week 10 | 5/31 NO CLASS Memorial Day | 6/2 Final | |



Course expectations

- Midterm & Final
- Exam questions (4 MC/exam)
- “Dual perspectives”

Class Schedule

| Week | Monday | Wednesday | Friday |
|---------|--|---|---|
| Week 1 | 3/29 Arrival of Man Friday | Functional Anatomy of the Social Brain | 4/2 Animal Social Cognition Team Assignments |
| Week 2 | 4/5 Game Theory | 4/7 Agent-based Modeling | 4/9 Dual 1: Big Brains |
| Week 3 | 4/12 Cooperative Breeding | 4/14 Theory of Mind | 4/16 Dual 2: Social Development |
| Week 4 | 4/19 Constructing Understanding | 4/21 Psychiatry of Social Cognition | 4/23 Dual 3: Autistic Communication |
| Week 5 | 4/26 Neurology of Social Cognition | 4/28 Degeneration of Social Cognition <i>Exam Questions due</i> | 4/30 Dual 4: Prefrontal Social Reasoning |
| Week 6 | 5/3 Midterm | 5/5 X-hour | 5/7 X-hour |
| Week 7 | 5/10 Primate Communication | 5/12 Human Communication | 5/14 Dual 5: Brain-To-Brain Coupling |
| Week 8 | 5/17 Electrophysiology of Communication | 5/19 Neural Dynamics of Communication | 5/21 Dual 6: Promoting Prosociality |
| Week 9 | 5/24 Neurosemiotics | 5/26 Final Class <i>Exam Questions due</i> | 5/28 |
| Week 10 | 5/31 NO CLASS Memorial Day | 6/2 Final | |

Why do we have Big Brains?

Geocentrism!

Heliocentrism!



| | TEAM X | TEAM Y | JUDGES |
|----------------|--------------------|--------------------|-------------------|
| 15 MIN | Constructive phase | | |
| 15 MIN | | Constructive phase | |
| RECESS (5 MIN) | | | |
| 5 MIN | Rebuttal phase | | |
| 5 MIN | | Rebuttal phase | |
| RECESS (5 MIN) | | | |
| 5 MIN | | | Closing statement |

Arrival of Man Friday



1. Motivation for social neurocognition

Disconnect between neuro and psych, creating a social world

Why social neurocognition?

“It was the arrival of Man Friday on the scene
which really made things difficult for Crusoe”

(Nicholas Humphrey – The social function of intellect –
in: Growing points in Ethology, CUP, 1976)

...at the same time, in another universe...

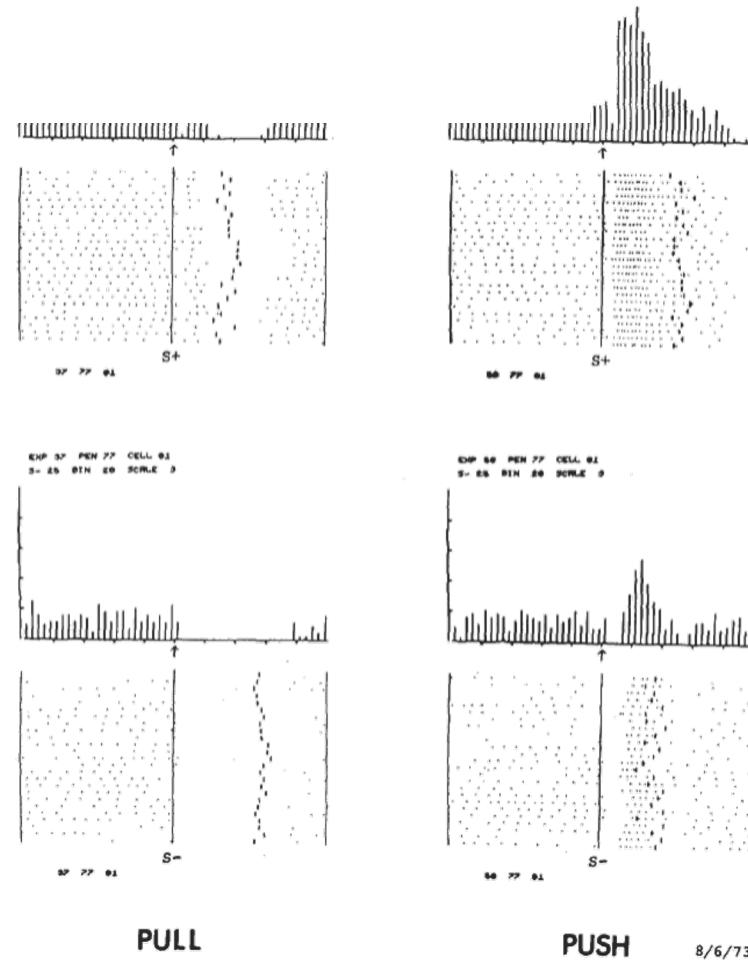
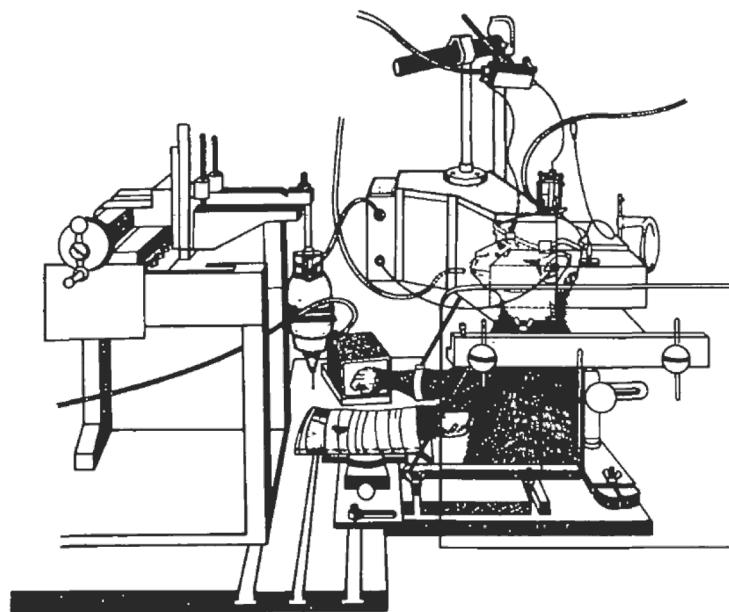
A disconnect between social psychology and neuroscience



GATING OF MOTOR CORTEX REFLEXES BY PRIOR INSTRUCTION

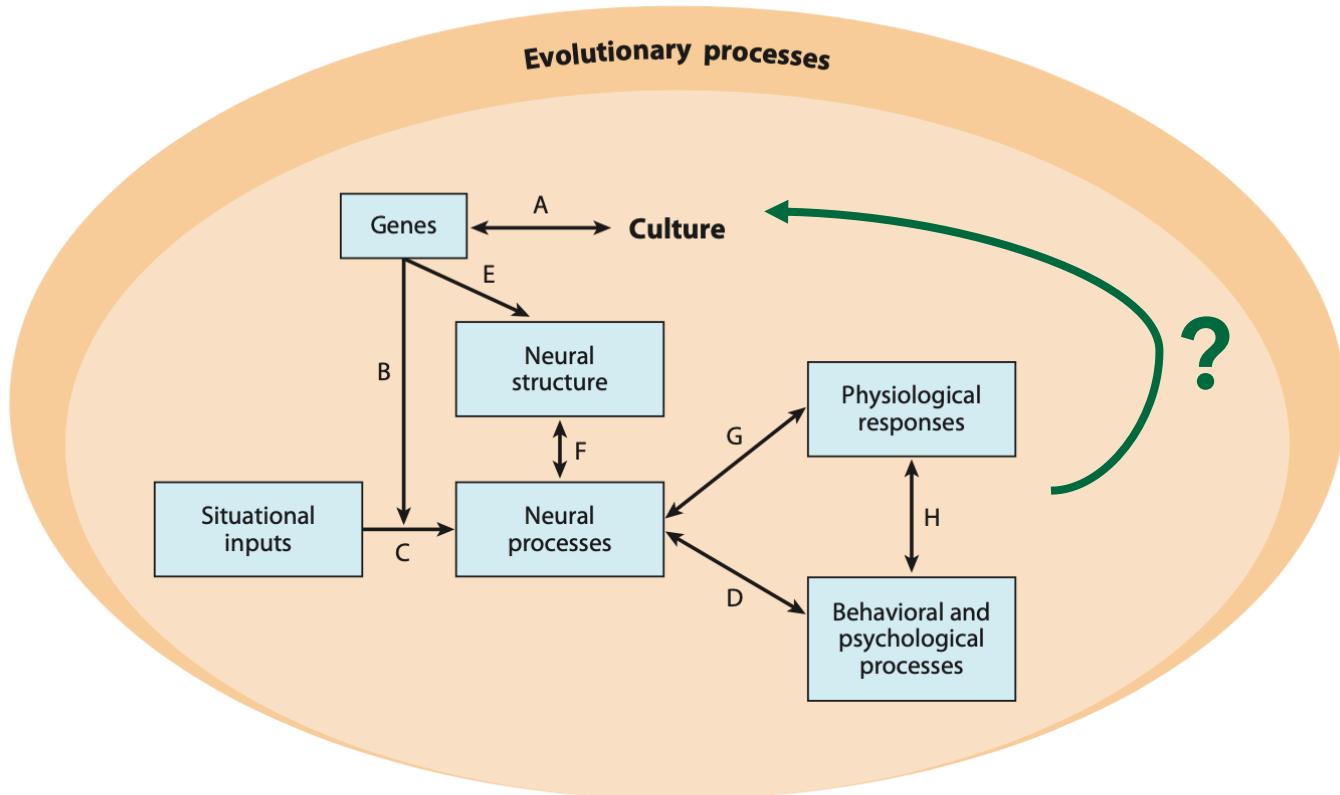
EDWARD V. EVARTS AND JUN TANJI

Brain Research, 71 (1974) 479–494



8/6/73

A disconnect between social psychology and neuroscience



Cultural Neuroscience:
Biology of the Mind in
Cultural Contexts

Figure 1

Framework of cultural neuroscience.

Heejung S. Kim¹ and Joni Y. Sasaki²

Annu. Rev. Psychol. 2014. 65:487–514

Social behavior as merely a manifestation of cultural and biological traits

$$\mathbf{M} \times (\mathbf{D} \times (\mathbf{1} + \mathbf{B}_{\text{self}}) + \mathbf{K} \times \mathbf{B}_{\text{recipient}} - \mathbf{C}_{\text{inaction}}) > \mathbf{C}_{\text{action}}$$

In our framework, **M** is what we call the social momentum for acting prosocially.

The Sociocultural Appraisals,
Values, and Emotions (SAVE)
Framework of Prosociality:
Core Processes from Gene
to Meme

Dacher Keltner,¹ Aleksandr Kogan,² Paul K. Piff,³
and Sarina R. Saturn⁴

Annu. Rev. Psychol. 2014. 65:425–60

Social behavior as merely a manifestation of cultural and biological traits

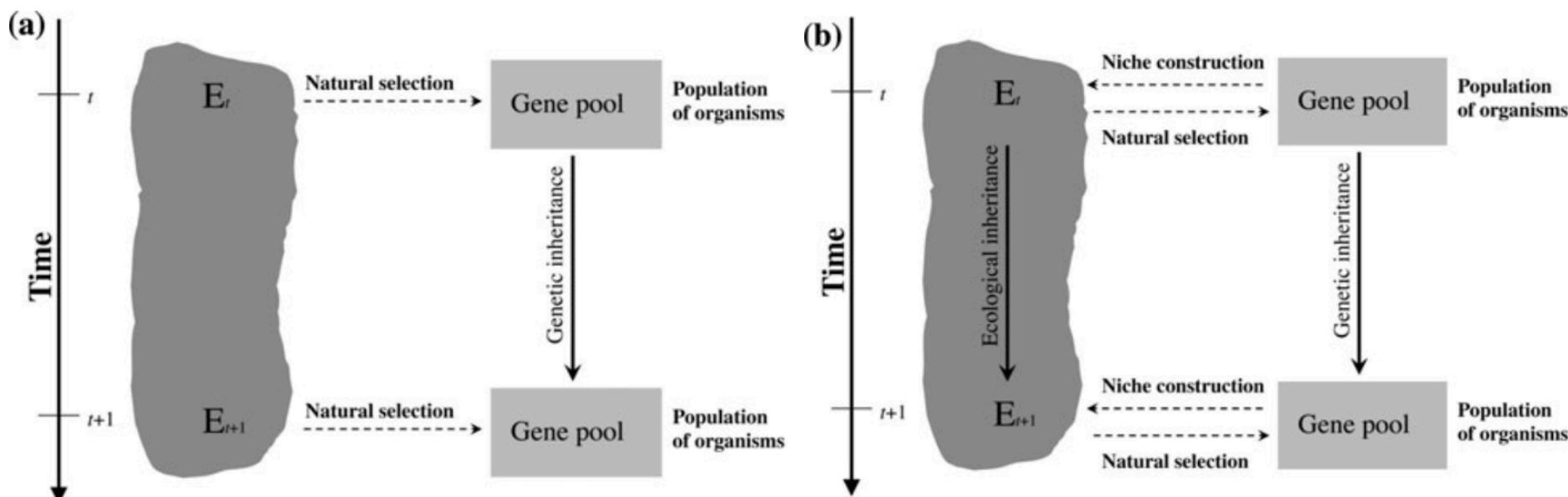


Fig. 1 Two views of evolution. Under the conventional perspective (a), niche construction is recognized as a product of natural selection but not as an evolutionary process. Inheritance is primarily genetic. Under the niche-construction perspective (b), niche construction is recognized as an evolutionary process. Here, ecological inheritance plays a parallel role to genetic inheritance

CULTURAL NICHE CONSTRUCTION

Cultural Niche Construction: An Introduction

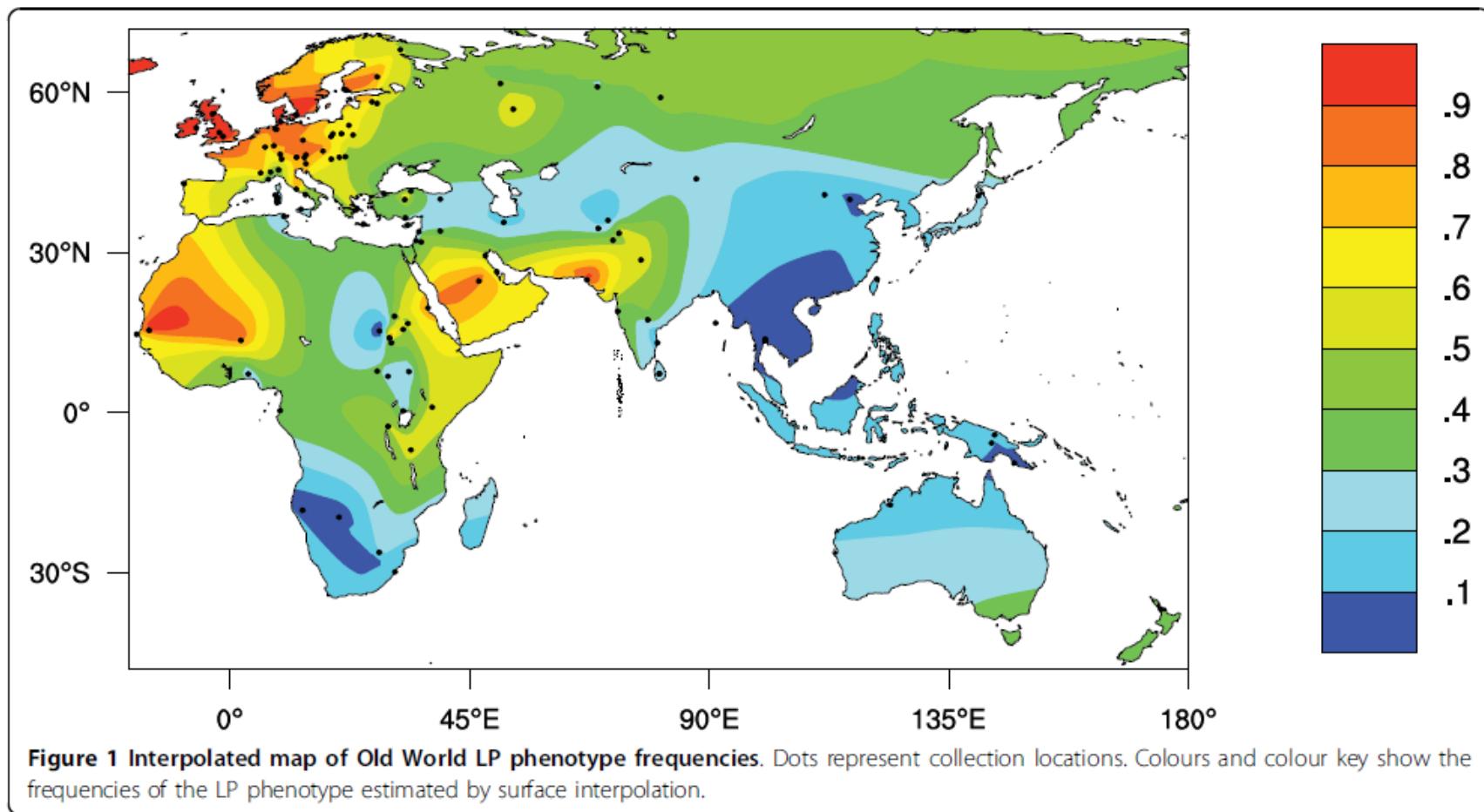
Kevin N. Laland · Michael J. O'Brien

Nice construction: the neglected process in evolution



Absence of the lactase-persistence-associated allele in early Neolithic Europeans

J. Burger^{†‡}, M. Kirchner[†], B. Bramanti[†], W. Haak[†], and M. G. Thomas[§]

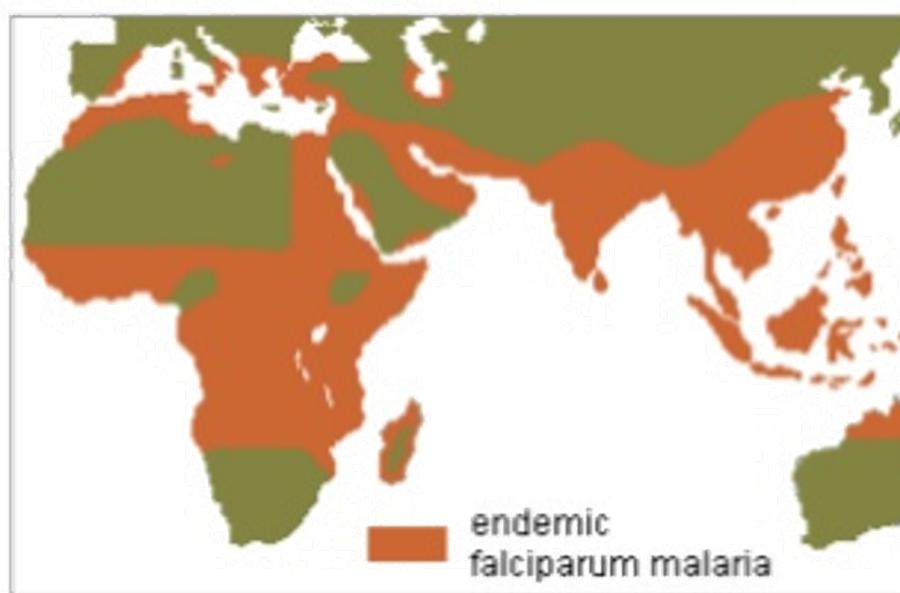
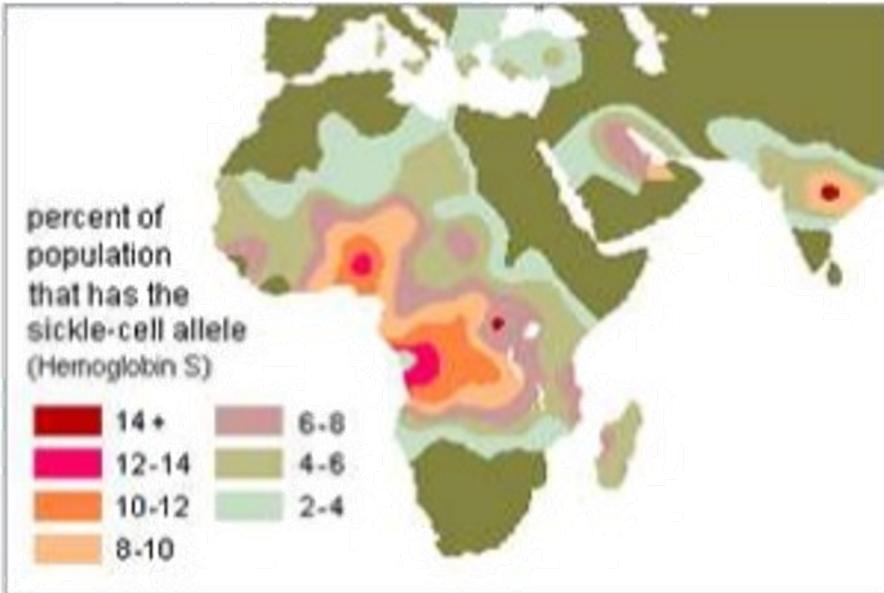


Nice construction: the neglected process in evolution



Motivation

DARTMOUTH



Nice construction: the neglected process in evolution



A second line of evidence comes from the loss of beneficial technologies in small, isolated populations. For instance, the Tasmanian tool kit gradually lost complexity after isolation from mainland Australia at the end of the Holocene (26). Other Pacific island groups have apparently lost useful technologies, such as canoes, pottery, and the bow and arrow (27). The best documented example comes from the isolated Polar Inuit of northwest Greenland. Explorers Elisha Kane and Isaac Hayes wintered with the Polar Inuit in 1853 and 1861, respectively, and reported that the Polar Inuit lacked kayaks, leisters, and bows and arrows and that their snow houses did not have the long heat-saving entryways that were seen among other Inuit populations. They could not hunt caribou, could only hunt seals during part of the year, and were unable to harvest arctic char efficiently, although char were plentiful in local streams (28). Apparently the population was struck by an epidemic in the 1820s that carried away the older, knowledgeable members of the group, and according to custom, their possessions had to be buried with them (29). The Polar Inuit lived without these tools until about 1862, when they were visited by a group of Inuit who migrated to Greenland from Baffin Island (28, 29). There is

The cultural niche: Why social learning is essential for human adaptation

Robert Boyd^{a,1}, Peter J. Richerson^{b,1}, and Joseph Henrich^{c,1}

PNAS | June 28, 2011 | vol. 108 |

Nice construction: the neglected process in evolution

Thus social primates are required by the very nature of the system they create and maintain to be calculating beings; they must be able to calculate the consequences of their own behaviour, to calculate the likely behaviour of others, to calculate the balance of advantage and loss – and all this in a context where the evidence on which their calculations are based is ephemeral, ambiguous and liable to change, not least as a consequence of their own actions.

(Nicholas Humphrey – The social function of intellect –
in: *Growing points in Ethology*, CUP, 1976)



- An organism influences its own evolution, by being both the *object* of natural selection and the *creator* of the conditions of that selection
- How humans construct rapidly developing cultural niches, and how this capability evolved from other animals, remains a mystery

- The Social Brain