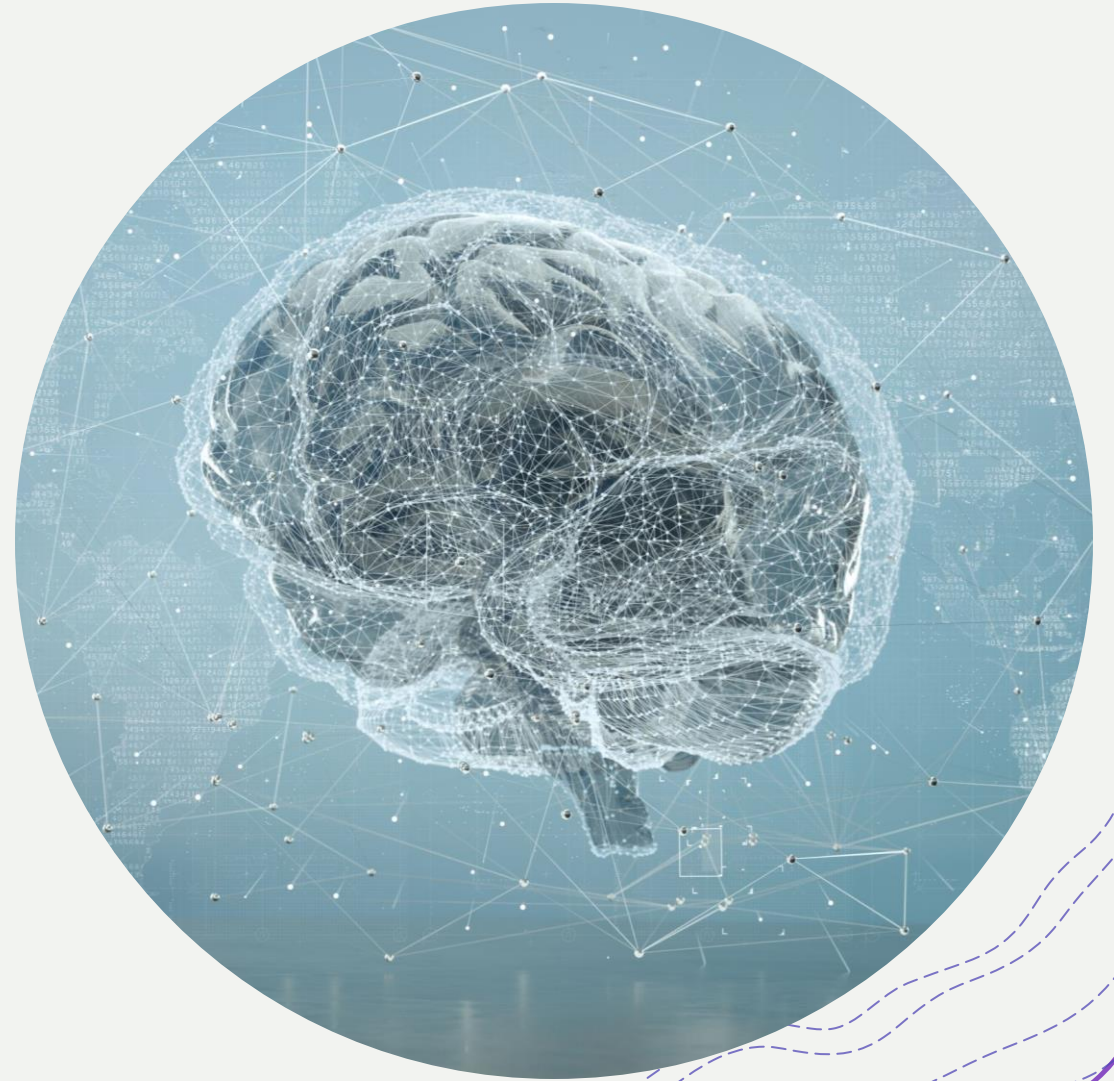


# Intelligent Minds and Machines

PSYC 3043

Week 14: Culture



# Bowdoin and Univ. of St. Andrews

A special collaboration

Bowdoin has a unique connection to the  
School of Psychology and Neuroscience and School of Biology  
at the University of St. Andrews in Scotland:  
Dr. Stefan Pulver!

**Register on Campus Groups** to join us for **lunch**.

**Friday, December 6, from noon to 1:00 p.m. in Druck 110**

learn about

Studying Abroad \* Graduate Study \* Fulbright Grants!

Dr. Pulver, a Senior Lecturer in Neuroscience and Biology at the University of St. Andrews, graduated from Colby in 1999 but did his senior honors project research at Bowdoin in Professor Patsy Dickinson's lab and later served as a guest lecturer in her lab course.



**Bowdoin**



University of  
St Andrews | FOUNDED  
1413



<https://disi.org>



Exploring the origins, nature, and future of intelligences

What is DISI?

I'm here to apply

I'm attending the institute

Meet our alumni

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# schedule



# logistics

- + “current totals” up
- + first draft feedback sent, **everyone** set up a meeting time with me to chat
- + office hours are by appointment only going forward
- + Week 14 assignments
  - + annotations
  - + reflection + peer review due this Sunday
  - + November class survey open now
  - + last week to submit memes!
- + Week 15/16
  - + annotation (1 reading)
  - + memes survey
  - + last class: BCQs + extra credit winners + project presentations
  - + final project

today

+ culture!



Christine Legare  
Professor of Psychology  
University of Texas at Austin



Associate Professor  
Economic Psychology  
London School of Economics

# terminology

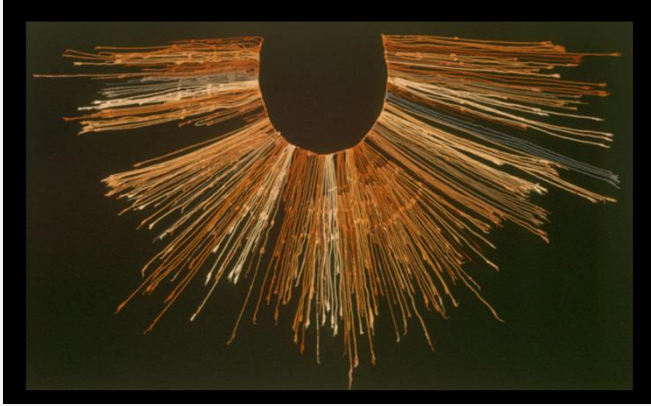
- +culture
- +cumulative culture
- +cumulative cultural transmission
- +cultural ratchet effect
- +social vs. asocial learning

# terminology

- + **culture**: “group-typical behaviors shared by members of a community that rely on socially learned and transmitted information” (Laland & Hoppitt 2003, p. 151),
- + **cumulative culture**: “the processes by which social and technological innovations are incorporated into a cultural repertoire to create more complex bodies of socially heritable knowledge are called cumulative culture” (Boyd et al. 2011, Kurzban & Barrett 2012, Pagel 2012, Pradhan et al. 2012, Whiten & Erdal 2012)
- + “**cumulative cultural transmission** entails retaining some existing practices and techniques, discarding others, and adding innovation incrementally through a process of recombination (Muthukrishna & Henrich 2019)”
- + “the **cultural ratchet effect** (Tomasello et al. 1993) is the process by which learners accumulate, modify, and improve upon information from others”
- + **social learning**: “influenced by observation of, or interaction with, another animal (typically a conspecific) or its products” (Heyes 1994, p. 207)”



# foresight and culture



Quipu knots



bags



fire



stone tools

# cognitive explanations

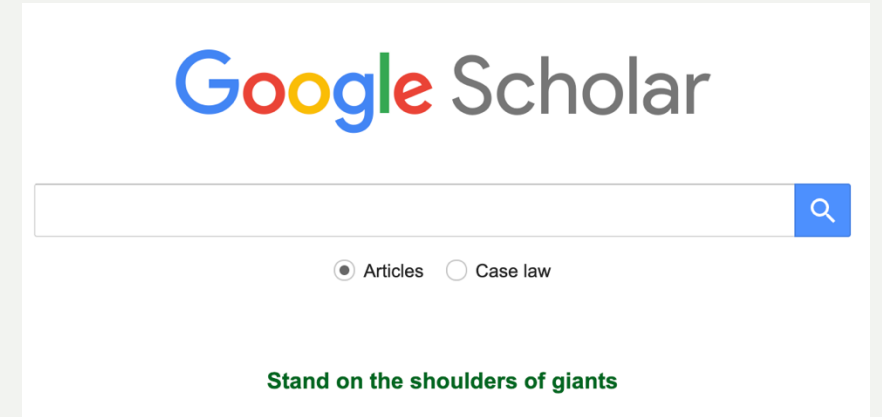
- + using the paper and podcast, discuss evidence for/against each possible explanation
- + brain size
- + population density and size
- + social learning / sociality
- + behavioral flexibility
- + theory of mind

two ads



# culture, innovation, and diversity

- + how might creativity be connected to culture and innovation?
- + what is Dr. Muthukrishna's central thesis about how innovation is connected to sociality? what examples does he provide?
- + what did you think about his views on diversity?
- + think back to eugenics and this modern view on diversity: how can we reconcile the benefits vs. costs of diversity?



# discussion themes

- + mechanisms of cultural learning (exploration, observation, participation, imitation, instruction)
- + social vs. asocial learning and explore-exploit tradeoffs
- + interconnectivity and the internet/VR/AR
- + IQ and the Flynn effect
- + specialization and intelligence
- + claims about human uniqueness
- + cultivating culture in AI?



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next time

+ culture in machines!