

CS184 * Modeling the Evolution of Cognition * Spring 2019

TTh 5:00-6:20 **WLH 2004** (Note room change!)

Class Website: pages.ucsd.edu/~johnson/COGS184/

Prof: **Christine M. Johnson** c8johnson@ucsd.edu Ofc Hrs: Tues 3:30-4:30 CSB 250
 Reader: **Xinmeng Hermione Xu** xix124@ucsd.edu Ofc Hrs: Mon 2-2:50 Pepper Canyon 2nd Floor

Course Requirements: (Further *Guidelines* will be available on Class Website)

- Two **Midterms** (on material from Lectures, Readings, & Field Trip) 125 points each = 250 pts
 - Weekly **Reading Commentary** (1-2 pages, typed) and **Participation in Discussion** 25 points each = 175 pts
 - Commentary: 1) Question 2) Criticism 3) Praise 4) Learned 5) Relation to other class info
 - Plus list Authors, Titles & a brief Synopsis of two “*Peer Commentaries*” you are prepared to argue in class
 - Participation: *Active* engagement in each week’s discussion (Commentary will help prepare you for this)
 - Discussions during class time on Thursdays, except Weeks 1 (lecture) & 5 (no meeting)
 - **Site Visit** to Bio-Anthropology, Tuesday April 30 **Worksheet** to be completed on site. 50 pts
 - **Final Paper** Propose & support an evolutionary scenario for developments in human cognition since 5 MYA.
 - Pre-Timeline & Bibliography, Due Week 10 Paper, Due at Final Paper & Timeline = 125 pts
 - **Final Exam** Oral & collaborative; Come prepared to discuss Timeline 75 pts
- Total possible points 625 pts

<u>Week</u>	<u>Date</u>	<u>Topic</u>	<u>Readings</u> All available on class website
1	Tu – Apr 2 Th – Apr 4	Orientation LEC: <u>Evolutionary Theory: The Basics</u>	<u>Shreeve, 2010</u> (NOTE: No discussion/commentary required on this paper <i>only</i>)
2	Tu – Apr 9 Th – Apr 11	LEC: <u>Hominid Prehistory: Bones & Stones</u> Discussion, Commentary Due	<u>Suddendorf & Corballis 2007</u>
3	Tu – Apr 16 Th – Apr 18	LEC: <u>The Cooperative Primate</u> Discussion, Commentary Due	<u>Dunbar, 1993</u>
4	Tu – Apr 23 Th – Apr 25	LEC: <u>Comparative Neuroanatomy</u> Discussion, Commentary Due	<u>Arbib, 2005</u>
5	Tu – Apr 30 Th – May 2	<i>Site Visit – Bio-Anthropology</i> Midterm 1	Worksheet on Site Visit due in class (No reading/discussion this week)
6	Tu – May 7 Th – May 9	LEC: <u>Mimesis</u> Discussion, Commentary Due	<u>Donald, 1993</u>
7	Tu – May 14 Th – May 16	LEC: <u>Emergence of Speech</u> <i>NO CLASS</i>	(No reading/discussion this week)
8	Tu – May 21 Th – May 23	LEC: <u>Ontogeny and Phylogeny</u> Discussion, Commentary Due	<u>Falk, 2004</u>
9	Tu – May 28 Th – May 30	LEC: <u>Collaboration & Social Cognition</u> Discussion, Commentary Due	<u>Laland, Odling-Smee, Feldman, 2000</u>
10	Tu – June 4 Th – June 6	Midterm 2 How to generate evolutionary scenarios	<i>Pre-Timeline & Bibliography</i> <u>Due in class, June 6</u> Feedback provided on early submissions only
FINAL	June 13 Thursday 7-10 pm	Place:TBA Oral/Group Final Exam	<u>Timeline & Final Paper Due</u>

NOTE: If you have been assigned to the Friday (vs. Thursday) Discussion Group, you will NOT come to class on Thursday of Week 2, 3, 4, 6, 8, & 9. Instead, on those weeks, you will meet on **Friday, 3-4:20 in CSB 272**

Required Readings – Included on Class Website

- Shreeve, J. (2010) The Evolutionary Road. *National Geographic*, 218: 34-67.
- Suddendorf, T & Corballis, M.C. (2007). The evolution of foresight: What is mental time travel, and is it unique to humans?. *Behavioral and Brain Sciences (BBS)*, 30:299-351.
- Dunbar, R. I. M. (1993). Co-evolution of neocortical size, group size, and language in humans. *BBS*, 16:681-735.
- Arbib, M. (2005). From monkey-like action recognition to human language: An evolutionary framework for neurolinguistics. *BBS*, 28:105-167.
- Donald, M. (1993). *Precis* of “Origins of the modern mind: Three stages in the evolution of culture & cognition”. *BBS*, 16:737-791.
- Falk, D. (2004). Prelinguistic evolution in early hominins: Whence motherese? *BBS*, 27:491-541.
- Laland, K. N., Odling-Smee, J. & Feldman, M. W. (2000). Niche construction, biological evolution, and cultural change. *BBS*, 23:131-175.

Recommended Readings – For background, alternative views, and/or use in final paper

- Boyd, R. & Richerson, P. J. (2006). Culture and the evolution of the human social instincts. In S. Levinson & N. Enfield (Eds.) *Roots of Human Sociality*. Oxford University Press.
- Calvin, W. (1993). The unitary hypothesis: A common neural circuitry for novel manipulations, language, plan-ahead, and throwing? In K. R. Gibson & T. Ingold (Eds.) *Tools, Language & Cognition in Human Evolution*, pp. 230-250, Cambridge
- Corballis, M. C. (2003). From mouth to hand: Gesture, speech and the evolution of right-handedness. *BBS*, 26:199-260.
- Cosmides, L., & Tooby, J. (1992). Cognitive adaptations for social exchange. In J. Barkow, L. Cosmides, & J. Tooby (Eds.). *The Adapted Mind*. NY: Oxford University Press.
- Deacon, T.W. (1992) Brain-language co-evolution. In J.A. Hawkins & M. Gell-Mann (Eds.) *The Evolution of Human Language*. Reading, MA: Addison-Wesley.
- Fitch, W.T. (2006) A biology and evolution of music: A comparative perspective. *Cognition*, 100: 175-215.
- Greenfield, P.M. (2006) Implications of mirror neurons for the ontogeny and phylogeny of cultural processes. In M.A. Arbib (Ed.) *Action to Language via the Mirror Neuron System*, pp. 501-533. Cambridge: Cambridge University Press.
- Hutchins, E. & Johnson, C.M. (2009) Modeling the emergence of language as an embodied collective cognitive activity. *Topics in Cognitive Science*, 1: 523-546.
- MacNeilage, P.F. (1998). The frame/content theory of speech production. *BBS*, 21:499-546.
- Malafouris, Lambros. 2013. How things shape the mind: a theory of material engagement. Cambridge, MA: MIT Press. 321
- Parker, S. T. & Gibson, K. R. (1979). A developmental model for the evolution of language and intelligence in early hominids. *BBS*, 2:367-408.
- Potts, R. (2012). Evolution and environmental change in early human prehistory. *Annu. Rev. Anthropol.* 41: 151-167
- Suddendorf, T. & Corballis, M. C. (2007). The evolution of foresight: What is mental time travel and is it unique to humans? *BBS*, 30: 299-351.
- Tomasello, M., Carpenter, M., Call, J. Behne, T. & Moll, H. (2005). Understanding and sharing intentions: The origins of cultural cognition. *BBS*, 28:675-735.
- Vauclair, J. (1984) Phylogenetic approach to object manipulation in human and ape infants. *Human Devel.* 27:321—328
- Von Hippel, W. & Trivers, R. (2011) The evolution and psychology of self-deception. *BBS*, 34:1-56.