Human Nature
Human Evolutionary Biology 1280
Fall 2018

Lectures: MW 10:30am-11:45am; Jefferson 250, 17 Oxford St.
Sections: Tuesday 1:30-2:30pm; Thursday 3:00-4:00pm
Final Examination Date: December 20th, 9:00am

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Course Description

In addressing the question, what makes us human, this course will examine the origins, evolutionary foundations and psychological underpinnings of human behavior by synthesizing research from across the social, psychological and biological sciences. Rather than opposing 'biological' and 'cultural' explanations, this course will layout a framework that illuminates learning and culture within a broad evolutionary framework that will permit us to explore kinship, parental love, sibling rivalry, food preferences (sugar, salt, etc.), incest, altruism, sex differences, social status, homicide, warfare technology, language, and religion. Using a comparative approach, we will contextualize human behavior by examining both studies of non-human primates, especially chimpanzees, as well as the full breadth of human diversity, including both ethnographic and experimental data from hunter-gatherers, herders and agriculturalists and—the most unusual of all—people from industrialized societies. We also consider how cultural evolution has shaped our genetic evolution, both over our species evolutionary history and in more recent millennia.

This course is most relevant for freshman and sophomores who have not yet declared a concentration in Human Evolutionary Biology, for HEB concentrators who have not yet taken courses in the evolution of behavior, or for other concentrators looking for an introduction to evolutionary theories of human behavior.

Organizing Questions for this Course

This course covers topics spanning the range of human behavior and diversity. Key questions include:

1) How can evolutionary theory assist us in understanding human behavior, motivation, learning, digestion and psychology?
2) In what ways are humans like other species, including our fellow great apes? Do other species strategize, solve problems and help others? Do they have "cultures"?
3) Why do parents love their children? Why do they love some children more than others? What's the truth about Cinderella and other step children?
4) How can evolutionary theory inform our understanding of cultural evolution? How do individuals learn culture? What is learned, how is it learned, and from whom?
5) How has cultural evolution influenced our species genetic evolution?
6) If natural selection always favors selfish genes, how is it that humans can be so altruistic and cooperative? How can we account for the striking cooperativeness of humans compared to other species and the variation among human societies?
7) Are humans the only species that engages in war? How can an evolutionary approach illuminate the origins of war? Why is it that young men are so often involved in murder and violence compared to women and older men?
8) If sex evolved for procreation, how can we account for homosexuality?
9) Why do people believe in gods, spirits, demons, ghosts and supernatural beings? How did beliefs in such beings ever get tied up with ethics, morality and sexual abstinence? Why are rituals found in all human societies?
10) What are the implications of an evolutionary understanding of parenting, cultural learning, incest, marriage laws, violence, ethnicity and cooking?

This course will cover several controversial topics and students may feel uncomfortable as they learn about aspects of the world that challenge their pre-existing beliefs, religious faith or political commitments. Topics include human mating preferences, unfamiliar cultural practices, adoption, sex differences, genetic variation, incest, war and murder, just to name a few. Any students who feel uncomfortable are invited and encouraged to discuss their reactions and concerns with the professors and/or the teaching fellows.

Course Materials and Resources

This course aims to integrate multimedia class lectures, films and class discussions with readings from scientific journals and broadly-accessible popular writings.

Readings: All assigned articles are available on the course's Canvas site. We will also be reading 14 chapters from *The Secret of Our Success* (PUP) by Joseph Henrich. This book is available from the bookstore. It can also be obtained as an e-book (e.g., Kindle) or as an audiobook. All readings are fair game for the examinations.

Films: In addition to video clips used during lectures, four films have been assigned. The films should be viewed prior to the class when they will be discussed. Students will receive "Guiding Questions" for each film, which should be reviewed prior to watching the film. The questions will help focus your attention while viewing the film and should be answered prior to class. The films can be discussed in section as well as in class. Examinations will include questions about the films.

Course requirements and grading

The course grading has three major components: (1) examinations (2 mid-terms and a final); (2) participation in sections and class; (3) a short paper. The contributions of each of these components is in shown in the table.

Mid-term Examinations: We will have two in-class mid-terms designed to test students' mastery of the material. These examinations will not only test students' understanding of the material but will ask them to extend their understanding to deal with novel questions and puzzles. The examinations will be 'closed book'.

- Midterm 1: Monday Oct 15 (covering classes 1-10, including lectures, readings, and films)
- Midterm 2: Wed Nov 14 (covering classes 11-19, including lectures, readings, and films)

Grading Instrument	Percentage contribution
Mid-term 1	15%
Mid-term 2	20%
Short Paper	15%
Final Exam	35%
Participation	15%

Final Exam: The final is cumulative over the entire semester, but will otherwise resemble the mid-terms. Like the mid-terms, it will be 'closed book' and draw on all the readings, films and lectures.

Participation: Students are expected to attend lectures and sections, and to actively participate by engaging the material with questions, comments and observations.

Final Paper

- Initial outline (5%) due Wed Nov 14th at 8PM submitted via Canvas.
- Final paper (10%) due December 9th at 8PM submitted via Canvas.

The final paper will involve a selection of one of several pre-determined empirical articles on topics related to human behavior and evolution. You will use the QALMRI method (first reviewing this method in section) to critique an empirical article, and then also comment on a piece of population scientific journalism about that article. You will first submit a one-page outline indicating the basics of your argument. The final paper will be 5-7 pages double-spaced. You must submit the paper with 1-inch margins in 12 point Times New Roman font. Each day your paper is late, it will be docked one grade (e.g., A- to a B+).

Review session: There will be a review session for the Final Exam in class on Friday December 2.

Collaboration policy: We expect all students to abide by the Honor Code and to work on this class with full awareness of what academic integrity means. You are encouraged to form discussion groups and study together. The phrase 'closed book' means that you can't use any materials (e.g., phones, papers, etc.), other than your brain, during the test. With regard to the short paper, you may consult each other in planning and researching, but the writing must be entirely your own. All direct quotations must be in quotation marks and cited appropriately.

Devices Policy: Our course will adopt a *no-devices during class policy*. This means that once class starts, laptops must be closed or put away and phones turned off (or silenced, but no sneaking looks. Notes on class lectures should be taken by hand. We adopt this policy for purely pedagogical reasons, since the best available research suggests that devices detract from learning, and note-taking on laptops reduces understanding and retention. In special circumstances, dispensations for laptop use can be granted, but this requires an official university letter.

Schedule

Class #	Day and Date	Topics and Assignments
Class 1	Sept 5 Joe	**Introduction:** Plan for the course, expectations, and outline. **The big questions: What's special about humans?** What's the secret of our species' immense ecological success? Reading: • Henrich (2015) *The Secret of Our Success.* Chapters 1, 2 and 3
Class 2	Sept 10 Richard	**Meet the Cousins: Non-Human Primates:** What can primates tell us about human psychology and behavior? How similar are human to non-human primates? Why are primates interesting for understanding human nature? Reading: • Wrangham & Pilbeam (2001). African apes as time machines. In: Galdikas BMF et al (eds). *All apes great and small. Volume 1: chimpanzees, bonobos, and gorillas*. New York: Kluwer Academic / Plenum. p 5-18. • Wrangham & Peterson (1996) *Demonic Males* Chapters 1-3 • Boyd & Silk "How humans evolved" chapter 5: Primate diversity and ecology Film: • *The people of the forest: the chimps of Gombe* (https://tinyurl.com/ya779zqu)
Class 3	Sept 12 Richard	**Hunter-Gatherers and other Small-Scale Societies:** Central to understanding how natural selection may have shaped human behavior and psychology is assessing the ancient environment that our ancestors lived and died in. What kinds of environments did humans evolve in? How important was foraging and hunting? Was there a division of labor between males and females? How big were the groups? Where did they live? On what did survival depend? Were there infectious diseases? Are we designed to eat meat? Reading: • Selected readings from Shostak M. 1981. *Nisa: the life and words of a !Kung woman.* • Wiessner (2014) Embers of society: firelight talk among the Ju/'hoansi Bushmen. *PNAS,* 111:14027-14035. • Kaplan et al. (2009) The evolutionary and ecological roots of human social organization. *Philosophical Transactions of the Royal Society B,* 364: 3289-3299 *Optional background reading:* • Marlowe (2005) Hunter-gatherers and human evolution. *Evolutionary Anthropology,* 14:54–67

		Film and Discussion**:** • *Baka: The People of the Forest* (required) *(*https://www.youtube.com/watch?v=QhU_3Dz9Z9g&t=) • *Baka: A Cry from the Rainforest* (recommended) *(*https://tinyurl.com/yb3q4fhv)
Week 3	Section	**Topics:** What's unusual about humans compared to other species? How is research from non-human primates useful in understanding human nature, psychology and behavior? Why study hunter-gatherers and other small-scale societies? What are the scientific problems and challenges of using data from these contemporary and historically known populations? Review and discuss the key insights from the films.
Class 4	Sept 17 Isaac	**Natural Selection and the Broad Sweep of Human Evolutionary History:** How does evolution and natural selection work? What's the evidence for evolution and how it works? Can natural selection really create complex structures like the eye, or the emotion of jealously, via small random changes? Is there evidence that humans are affected by natural selection? What is the difference between an ultimate and proximate causes of a behavior? Reading**:** • Krebs and Davies (2012) An Introduction to Behavioral Ecology, Chapter 1 Honor Council Visit
Class 5	Sept 19 Joe	**The roots of human culture:** Do animals have culture, and if so how (or is it) different from cultural behaviors in humans? What cognitive abilities do other primates use when learning from others? What can the earliest evidence of human culture tell us about the behavior of the hominins who made them? Reading: • Henrich (2015) *The Secret of Our Success.* Chapters 4 and 5
Week 4	Section	**Topics:** How doesn't natural selection work? What are common pitfalls in applying the logic of natural selection? What's the role phylogeny and evolutionary history in theorizing? What are the main differences between the cognitive abilities of human toddlers and apes (based on the readings and evidence presented in class)?
Class 6	Sept 24 Joe	**The evolution of culture and cultural evolution:** How can evolutionary theory be used to construct a theory of cultural evolution? Are "cultural" and "evolutionary" explanations really opposed? What is prestige? How did it evolve? Why do people pay deference to high skilled, knowledgeable or prestigious people? What is the difference between dominance and prestige?

		Do non-human primates have prestige? Why do people care what celebrities think and pay so much attention to their lives? How can conformism be adaptive? Reading: • Henrich (2015) *The Secret of Our Success.* Chapters 7 and 8. • Csibra (2007). Teachers in the wild. *Trends in Cognitive Sciences,* 11: 95-96.
Class 7	Sept 26 Joe	**Cultural Adaptations and Maladaptations**: Evolved mechanism of cultural transmission can give rise to true adaptations. Are kayaks an adaptation? Why are spices cultural adaptations? How are Fijian food taboos an adaptation? Can adaptive cultural transmission mechanisms produce maladaptive behavioral patterns and beliefs? What is the demographic transition, and how could evolutionary theory ever explain this? Reading: • Richerson & Boyd (2005) *Not by genes alone.* Chapter 5
Week 5	Section	**Topics:** What is culture from the point of view of this course? What does Henrich mean when he says our species is "addicted to culture"? How and why to cultural adaptations emerge? In what ways has natural selection shaped our psychology to make us better cultural learners? What culture-gene coevolution?
Class 8	Oct 1 Richard	**Human and primate social systems:** What underlies the variation in social systems in primates? How is social organization different from mating systems? Do males and females differ in terms of what drives their social relationships? How do humans fit into the broader patterns seen across primate species? Reading: • Kappeler & van Schaik (2001) Evolution of primate social systems. *International Journal of Primatology*, 23: 707-740
Class 9	Oct 3 Joe	**Human cooperation:** How can altruism evolve? Is blood thicker than water? How does understanding kinship help explain murder patterns? Do people really kill their relatives more frequently than non-relatives? Why do maternal grandparents invest more in their grandchildren than paternal grandparents? Reading: • Henrich & Henrich (2007) *Why Humans Cooperate: A Cultural and Evolutionary Explanation*. Chapters 3, 5 and 6 Optional Reading: • Hames, R. (2016). Kin Selection. In D. Buss (Ed.), *The Handbook of Evolutionary Psychology* (Vol. 1).
Week 6	Section	**Topics:** What is cooperation and altruism? What's the prisoner's dilemma and playing the public goods game? How does kinship and reciprocity facilitate the evolution of cooperation? Do we see altruism in other species? Solving some

		practice problems.
--	Oct 8	**University Holiday**
Class 10	Oct 10 Richard	**Why do we share food, and why don't chimpanzees (mostly)?** Across diverse societies, humans are willing to share food with both kin and non-kin group members—a prototypical form of human cooperation. Yet such food sharing is much less frequent in other apes. Why do some species routinely share food and others do not? Reading: • Jaeggi & Gurven (2013). Natural cooperators: food sharing in humans and other primates. *Evolutionary Anthropology,* 22:186-195
Week 7	Section	**Topics:** How ancient and widespread is food sharing within the human lineage? What does food sharing look like in other apes? Review for the exam including practice questions.
Class 11	Oct 15 EXAM	**Examination 1**
Class 12	Oct 17 Joe	**Social norms, reputation and group selection:** What are social norms from an evolutionary perspective, and how do they relate to human cooperation? Where do reputations come from? What's the group selection debate, and how does it relate to social norms and cultural evolution? Reading: • Henrich (2015) *The Secret of Our Success,* Chapters 9, 10 and 11
Week 8	Section	**Topics.** Questions about the examination? Review key questions. What are social norms from this perspective? How does the notion of reputation relate to social norms? What are some examples of social norms that aren't about cooperation? Can one get a bad reputation for breaking non-cooperative or even arbitrary social norms? What's the difference between genetic group selection and cultural group selection?
Class 13	Oct 22 Richard	**Cooking, diet and society:** The human diet is unique amongst all other animals in that it incorporates cooked foods. When and how did this shift to cooked foods occur? What are the biological and social consequences of this change? Reading: • Selected readings from Wrangham (2009) *Catching Fire*
Class 14	Oct 24 Joe	**The evolution of technology and language:** Human language seems quite different from primate vocal communication. What features distinguish language from communication systems in nonhumans? How do primate vocal communication systems convey information to others, and does such communication follow rules like human language? What about nonhuman gestural communication? Do language and nonhuman communication share similar social functions?

		Reading: • Henrich (2015) *The Secret of Our Success,* Chapters 12 and 13
Week 9	Section	**Topics:** What's the role of cooking in human evolution?
Class 15	Oct 29 Richard	**Sexual selection and sex differences:** What is it about the fundamentals of sexual reproduction that leads to such differences between males and females? Why are there sexes at all? Is sperm competition an important aspect of male mating? Does the existence of sex generate any psychological or behavioral differences? Reading: • Andersson (1994) *Sexual Section* Chapter 1: The Theory of Sexual Selection • Puts (2010). Beauty and the beast: mechanisms of sexual selection. *Evolution and Human Behavior* 31, 157-175 Film: • *Why sex?* (https://www.youtube.com/watch?v=BWCrEapU2lU)
Class 16	Oct 31 Joe	**Mating Psychology:** How does an evolutionary approach illuminate the mating strategies and preferences of males and females? Why is sex fun? Why is mating among close family members so rare? Can an evolutionary approach illuminate differences among men and women in their mating patterns and preferences? Reading: Lieberman & Antfolk. (2015). Human Sexuality and Inbreeding Avoidance. In *The Handbook of Evolutionary Psychology*, D. M. Buss (Ed.) Film: • *Why sex really matters (*https://tinyurl.com/pmo42st)
Week 10	Section	**Sexual selection and mating**
Class 17	Nov 5 RICHARD	**The Evolution of Homosexuality:** How could evolution explain homosexuality? Is homosexuality a cultural aberration in our society, or is it common in many societies and throughout the animal kingdom? Are there societies in which most men have sex with same-sex others? Can animals be gay? Reading: • Herdt G. (1987). *The Sambia: Ritual and Gender in New Guinea*. Fort Worth, TX: Harcourt Brace Jovanovich. Pp 21-35 (War), 55-58 (Men's Secret Society), 94-104 (Flute Ceremony)
Class 18	Nov 7 JOE	**Marriage Systems:** Are humans naturally monogamous? Do all societies have marriage? Are there any societies in which the women can seek out extra sex partners? Are there societies in which two men share one wife? If societies lacked marriage (pair-bonding), who might we predict would take on the

		"fatherly role"? Reading: • Henrich, J., Boyd, R., & Richerson, P. J. (2012). The puzzle of monogamous marriage. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 367: 657-669
Week 11	Section	**Marriage and Homosexuality:** Preparation for Exam II.
Class 19	Nov 12 RICHARD	**Parental investment theory:** Why do parents care about their children? Why do they sometimes not care about their children? Can cultural beliefs about how babies are made influence parental investment? Reading: • Cabeza De Baca, Figueredo, & Ellis (2012). An evolutionary analysis of variation in parental effort: Determinants and assessment. *Parenting*, *12*, 94-104
Class 20	Nov 14	**Examination II**
Week 12	Section	**Exam II Debrief and parental investment**
Class 21	Nov 19 RICHARD	**War:** Is war unique to humans? Is it a product of natural selection? How could war evolve? If it pays, why isn't war found commonly in animals? Are hunter-gatherers peaceful? What is the nature of war among hunter-gatherers? How does war differ in modern nations? Reading: • Gat A. 2015. Proving communal warfare among hunter-gatherers: the Quasi-Rousseauan Error. *Evolutionary Anthropology*, 24:111–126. • Koski SE. 2016. Behavior: Warriors Shaking Hands. *Current Biology* 26(16):2208-2212.
Week 13	Section	**War and Violence**
Class 22	Nov 26 RICHARD	**Violence and aggression within societies:** What are the major types of aggression and how do they differ in their evolution? Are men more aggressive than women? How does age affect the likelihood of violence? How do men and women express their aggression? Is violence more likely within families or with strangers? How is violence affected by inequality? Why do non-humans and humans kill infants? What is the truth about Cinderella? Are step-mothers really wicked? Reading: • Daly (2016). Interpersonal Conflict and Violence. In D. Buss (Ed.), The Handbook of Evolutionary Psychology (Vol. 1, pp. 669-683).

		• Ruby, Jay (1991). An anthropological critique of the films of Robert Gardner. *J Film and Video* 43.4, 1-8. (https://astro.temple.edu/~ruby/ruby/gardner.html) Film: • *Dead Birds* (https://www.youtube.com/watch?v=0BzqwOBneC4)
Class 23	Nov 28 JOE	**Evolution of Religion:** Why do people believe in gods, devils, demons and aliens? Why do people in nearly all societies participate in religious rituals? How can we explain religion from an evolutionary perspective? Reading: • Norenzayan, A., Shariff, A. F., Gervais, W. M., Willard, A. K., McNamara, R. A., Slingerland, E., & Henrich, J. (2016). The cultural evolution of prosocial religions. *Behavioral and Brain Sciences*, 39. 1-19 [*Commentaries optional*] • Purzycki, B. G., Apicella, C., Atkinson, Q. D., Cohen, E., McNamara, R. A., Willard, A. K., . . . Henrich, J. (2016). Moralistic gods, supernatural punishment and the expansion of human sociality. *Nature*, 530: 327-330.
Week 14	Section	**Evolution of religion**
Class 24	Dec 3	**Genetic differences among populations.** Guest Speaker Reading: • Reich, David (2018) Who we are and how we got here. Chapter 12. • Reich, David How Genetic Is Changing Our Understanding of 'Race' NYTimes Op-Ed: https://www.nytimes.com/2018/03/23/opinion/sunday/genetics-race.html • Henrich, Joseph. *The Secret of our Success*, Chapter 6
Class 25	Dec 5 All hands on deck	**Course review and discussion of controversies** Viewing human behavior through the lens of evolution has long generated controversy amongst both scientists and the public at large. Can an improved understanding of the origins and evolution of human behavior and psychology inform policy and the creation of institutions in productive ways? Reading: • Henrich (2015) *The Secret of Our Success*, Chapters 14 and 17
Week	Section	**Review for final and controversies**

15		
December: Final Examination, date TBA		