# Cultural Evolution

Human Evolutionary Biology 2390

Fall 2019

**Time:** Wednesdays 10:30am - 11:45am

**\*\*Students must also attend HEB 1290**, Mondays and Wednesdays 9:00am - 10:15 am

**Location:** MCZ 529 (Museum of Comparative Zoology)

**Instructor:** Joseph Henrich

henrich@fas.harvard.edu

**Office hours:** 1-2 Tues

# Course Description

Humans are a cultural species. Unlike other species, we are heavily reliant on learning from others to acquire many important aspects of our behavior, and this capacity for cultural transmission has given rise to a second system of inheritance that not only explains much of our contemporary behavior but has driven our species’ genetic evolution over hundreds of thousands or even millions of years. Humans are products of culture-gene coevolution. In addition to having shaped our species’ anatomy and physiology, cultural evolution has important implications for understanding human nature, and for tackling basic problems and questions in psychology, economics and anthropology. The first half of this course will develop the basic principles and lines of empirical inquiry in the field of cultural evolution, while the remainder will apply, hone and refine them by examining the origins of global inequality, the emergence of modern institutions, and the nature of psychological differences among populations.

This course is run in conjunction with HEB 1290. Students must regularly attend all HEB 1290 lectures and then the seminar component of this course on Wednesday from 10:30am until 11:45am. Students must do ALL of the reading for HEB 1290 as well as the additional reading assigned for the seminar. Each seminar will cover all of the material since the last seminar class.

# Course Materials and Resources

This course aims to integrate online resources, novel teaching technologies, broadly accessible texts, state-of-the-art research papers, multimedia class lectures, films, and contemporary popular media on relevant issues.

Note, you are a graduate student so please read the endnotes in these books.

Course texts

Henrich, Joseph (2015) *The Secret of Our Success: How Culture Is Driving Human Evolution, Domesticating Our Species, and Making Us Smarter*. Princeton: Princeton University Press

You should purchase this text. A limited number of copies will be places on reserve in Lamont.

Henrich, Joseph (forthcoming) *The WEIRDest People in the World: How Westerners became psychologically peculiar and particularly prosperous*. New York: Farrar, Straus and Giroux

 This will be available in PDF on the course website.

Articles used in this course

Dean, L. G., R. L. Kendal, S. J. Schapiro, B. Thierry, and K. N. Laland. 2012. “Identification of the Social and Cognitive Processes Underlying Human Cumulative Culture.” *Science (New York, N.Y.)* 335 (6072): 1114–18. https://doi.org/10.1126/science.1213969.

Dean, Lewis G., Gill L. Vale, Kevin N. Laland, Emma Flynn, and Rachel L. Kendal. 2014. “Human Cumulative Culture: A Comparative Perspective.” *Biological Reviews* 89 (2): 284–301. https://doi.org/10.1111/brv.12053.

Derex, Maxime, Jean-françois Bonnefon, Robert Boyd, and Alex Mesoudi. n.d. “Causal Understanding Is Not Necessary for the Improvement of Culturally Evolving Technology,” 1–20.

Enke, Benjamin. 2019. “Kinship, Cooperation, and the Evolution of Moral Systems\*.” *The Quarterly Journal of Economics* 134 (2): 953–1019. https://doi.org/10.1093/qje/qjz001.

Francois, Patrick, Thomas Fujiwara, and Tanguy van Ypersele. 2018. “The Origins of Human Prosociality: Cultural Group Selection in the Workplace and the Laboratory.” *Science Advances* 4 (9): eaat2201. https://doi.org/10.1126/sciadv.aat2201.

Galway‐Witham, Julia, James Cole, and Chris Stringer. 2019. “Aspects of Human Physical and Behavioural Evolution during the Last 1 Million Years.” *Journal of Quaternary Science*, August. https://doi.org/10.1002/jqs.3137.

Henrich, J, R Boyd, M Derex, M A Kline, A Mesoudi, M Muthukrishna, A Powell, S Shennan, and M G Thomas. 2016. “Appendix to Understanding Cumulative Cultural Evolution: A Reply to Vaesen, Collard, et. Al.,” https://ssrn.com/abstract=2798257. http://dx.doi.org/10.2139/ssrn.2798257.

Henrich, Joseph, and Francisco J. Gil-White. 2001. “The Evolution of Prestige: Freely Conferred Deference as a Mechanism for Enhancing the Benefits of Cultural Transmission.” *Evolution and Human Behavior* 22 (3): 165–96. https://doi.org/10.1016/S1090-5138(00)00071-4.

Herculano‐Houzel, Suzana. 2019. “Longevity and Sexual Maturity Vary across Species with Number of Cortical Neurons, and Humans Are No Exception.” *Journal of Comparative Neurology* 527 (10): 1689–1705. https://doi.org/10.1002/cne.24564.

Herrmann, Esther, Josep Call, Maráa Victoria Hernàndez-Lloreda, Brian Hare, and Michael Tomasello. 2007. “Humans Have Evolved Specialized Skills of Social Cognition: The Cultural Intelligence Hypothesis.” *Science (New York, N.Y.)* 317 (5843): 1360–66. https://doi.org/10.1126/science.1146282.

House, Bailey R., and Michael Tomasello. 2018. “Modeling Social Norms Increasingly Influences Costly Sharing in Middle Childhood.” *Journal of Experimental Child Psychology* 171 (July): 84–98. https://doi.org/10.1016/j.jecp.2017.12.014.

Jiménez, Ángel V., and Alex Mesoudi. 2019. “Prestige-Biased Social Learning: Current Evidence and Outstanding Questions.” *Palgrave Communications* 5 (1): 20. https://doi.org/10.1057/s41599-019-0228-7.

Kolodny, Oren, Nicole Creanza, Marcus W. Feldman, HC Lehman, L Darmstaedter, R Du Bois-Reymond, GL Isaac, et al. 2016. “Game-Changing Innovations: How Culture Can Change the Parameters of Its Own Evolution and Induce Abrupt Cultural Shifts.” *PLOS Computational Biology* 12 (12): e1005302. https://doi.org/10.1371/JOURNAL.PCBI.1005302.

Koos, C, and C Neupert-Wentz. n.d. “Polygynous Neighbors, Excess Men, and Intergroup Conflict in Rural Africa.” *Journal of Conflict Resolution*.

Laland, K N, J Odling-Smee, and S Myles. 2010. “How Culture Shaped the Human Genome: Bringing Genetics and the Human Sciences Together.” *Nature Reviews Genetics* 11 (2): 137–48.

Norenzayan, Ara, Azim F. Shariff, Will M. Gervais, Aiyana K. Willard, Rita A. McNamara, Edward Slingerland, and Joseph Henrich. 2016. “The Cultural Evolution of Prosocial Religions.” *Behavioral and Brain Sciences* 39: 1–86. https://doi.org/10.1017/S0140525X14001356.

Powell, A, S Shennan, and M G Thomas. 2009. “Late Pleistocene Demography and the Appearance of Modern Human Behavior.” *Science* 324 (5932): 1298–1301.

Purzycki, Benjamin Grant, Coren L Apicella, Quentin D. Atkinson, Emma Cohen, Rita Anne McNamara, Aiyana K. Willard, Dimitris Xygalatas, Ara Norenzayan, and Joseph Henrich. 2016. “Moralistic Gods, Supernatural Punishment and the Expansion of Human Sociality.” *Nature* 530 (7590): 327–30. https://doi.org/10.1038/nature16980.

Raviv, Limor, Antje Meyer, and Shiri Lev-Ari. 2019. “Larger Communities Create More Systematic Languages.” *Proceedings of the Royal Society B: Biological Sciences* 286 (1907): 20191262. https://doi.org/10.1098/rspb.2019.1262.

Richerson, Peter J, Ryan Baldini, Adrian Bell, Kathryn Demps, Karl Frost, Vicken Hillis, Sarah Mathew, et al. 2016. “Cultural Group Selection Plays an Essential Role in Explaining Human Cooperation: A Sketch of the Evidence.” *Behavioral and Brain Sciences* 39: 1–46. https://doi.org/10.1017/S0140525X1400106X.

Salali, Gul Deniz, Nikhil Chaudhary, Jairo Bouer, James Thompson, Lucio Vinicius, and Andrea Bamberg Migliano. 2019. “Development of Social Learning and Play in BaYaka Hunter-Gatherers of Congo.” *Scientific Reports* 9 (1): 11080. https://doi.org/10.1038/s41598-019-47515-8.

Talhelm, Thomas, Xuemin Zhang, and Shigehiro Oishi. 2018. “Moving Chairs in Starbucks: Observational Studies Find Rice-Wheat Cultural Differences in Daily Life in China.” *Science Advances* 4 (4): eaap8469. https://doi.org/10.1126/sciadv.aap8469.

Thibodeau, Paul H., Rose K. Hendricks, and Lera Boroditsky. 2017. “How Linguistic Metaphor Scaffolds Reasoning.” *Trends in Cognitive Sciences* 21 (11): 852–63. https://doi.org/10.1016/j.tics.2017.07.001.

Vaesen, K, Mark Collard, Richard Cosgrove, and Wil Roebroeks. 2016. “Population Size Does Not Explain Past Changes in Cultural Complexity.” *Proceedings of the National Academy of Sciences* 113 (16): E2241–47. https://doi.org/10.1073/pnas.1520288113.

Wrangham, R, and R Carmody. 2010. “Human Adaptation to the Control of Fire.” *Evolutionary Anthropology* 19 (5): 187–99.

# Course requirements and grading

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| Table 1: Grading Instruments | Percentage contribution |
| 1 | Seminar Participation | 25% |
| 2 | Seminar Leading | 15% |
| 3 | Final Paper | 50% |

Your course grade will be based on six different components. The relative weighting in grading breaks down in Table 1.

*1. Seminar Participation:* Students will be graded based on their class participation, which will include both the quantity and quality of their engagement in the lectures and class discussions.

*2. Seminar Leading:* Students will individually or in small groups take turns leading the seminar discussion of various readings.

3. *Final Paper:* In consultation with the instructor, students will write a 10-15 page paper on a topic in cultural evolution. This will be due during the final examination period.

# Schedule

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| **Class #** | **Day and Date** | **Topics and Assignments** |
| Class 1 | Wednesday 9/4 | **Introduction:** Review of Syllabus and major topics. Discussion of grading and requirements.  |
| GRAD 1 | Wednesday 9/4 | **Introduction: What is cultural evolution?** |
| Class 2 | Monday 9/9 |  **The puzzle of our species***Reading*: *The Secret of Our Success* (SoS) Chapters 1, 2 and 3. Film: The Human Spark: <http://www.pbs.org/wnet/humanspark/category/episodes/>Watch *Brain Matters* and *So Human, So Chimp*FAS journal reading (optional extension): Herrmann et al. (2007) |
| Class 3 | Wednesday9/11 | **Making a cultural species and why we have big brains***Reading*: SoS Chapters 4-5FAS journal reading (optional extension): Wrangham and Carmody (2010) |
| GRAD 2 | Wednesday9/11 | **Readings*** Herculano Housel (2019)
* Salali et. al. (2019)
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| Class 4 | Monday 9/16 | **Culture-driven genetic evolution***Reading*: SoS Chapter 6FAS journal reading (optional extension): Laland et al. (2010) |
| Class 5 | Wednesday9/18 | **The origins of faith***Reading*: SoS Chapter 7 **Extension: Assignment 1 assigned, due on 9/25** |
| GRAD 3 | Wednesday9/18 | **Readings*** Dean et. al. (2012)
* Dean et. al. (2014)
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| FASLAB 2 | TBD | Discuss Laland et al.Practice Test Questions |
| Class 6 | Monday 9/23 | **Prestige, dominance and menopause***Reading*: SoS Chapter 8 FAS journal reading (optional extension): Henrich and Gil-White (2001) |
| Class 7 | Wednesday9/25 | **Social norms** *Reading*: SoS Chapter 9 Extension Essay 1 DUE |
| GRAD 4 | Wednesday9/25 | **Reading*** Jimenez and Mesoudi (2019)
* House and Tomasello (2018)
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| Class 8 | Monday 9/30 | **Intergroup competition** *Reading:* SoS Chapters 10 |
| Class 9 | Wed10/2 | **Self-domestication** *Reading:* SoS Chapter 11Class led by Tommy Flint (instructor is away) |
| **GRAD 5** | Wed10/2 | **NO CLASS, but will try to re-schedule it for earlier in the week****Reading*** Richerson et. al. (2016)
* The False Allure of Group Selection (read key commentaries): <https://www.edge.org/conversation/steven_pinker-the-false-allure-of-group-selection>
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| Class 10 | Monday 10/7 | **HEB 1290 Test, in class** **Extension: Assignment 2 assigned. Due on 10/14**Exam administered by TF Tommy Flint |
| Class 11 | Wednesday 10/9 | **Institutions and Cognition****Guest Lecturer**Reading: Questions about Test 1: led by TF Flint |
| **GRAD 6** | Wednesday 10/9 | Students should come to discuss with each other their preliminary thoughts on their final paper for this course. The instructor will not be present, but a class leader will be assigned. |
| Class 12 | Monday10/14 | **No class, University Holiday****Extension Essay 2 DUE** |
| Class 13 | Wednesday 10/16 | **Collective Brains** *Reading*: SoS Chapters 12FAS journal reading (optional extension): Derex et. al. (Derex et al., n.d.) |
| **GRAD 7** | **Wednesday 10/16** | **Reading*** Powell et. al. (Powell, Shennan, and Thomas 2009)
* Kolodny et. al. (Kolodny et al. 2016)
* Vaesen et. al. (Vaesen et al. 2016)
* Henrich et. al. (J Henrich et al. 2016)
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| Class 14 | Monday10/21 | **Language and Enculturated Brains and Evolutionary History***Readings: SoS Chapters 13-14*FAS journal reading (optional extension): Raviv et. al. (2019) |
| Class 15 | Wednesday10/23 | **Human Evolutionary History***Readings: SoS Chapters 15-17* |
| **GRAD 8** | **Wednesday****10/23** | **Reading*** Galway-Witham et. al.(2019)
* Thibodeau et. al. (2017)
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| Class 16 | Monday 10/28 | **The WEIRDest People in the World***Reading*: WEIRD People Chapter 1 |
| Class 17 | Wednesday 10/30 | **Making Societies Big is NOT easy***Reading*: WEIRD People Chapter 3  |
| **GRAD 9** | **Wednesday 10/30** | **Reading*** Norenzayan (2016)
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| Class 18 | Monday11/4 | **The Origins of Religion and BIG GODs***Reading*: WEIRD People Chapter 4 FAS journal reading (extension optional): Purzycki et. al. (2016) |
| Class 19 | Wednesday 11/6 | **Kinship, the Church, and the Origins of WEIRD Psychology***Reading*: WEIRD People Chapters 5-7 |
| **GRAD 10** | **Wednesday 11/6** | **Reading:*** Enke (2019)
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| Class 20 | Monday11/11 | **WEIRD Monogamous Marriage***Reading*: WEIRD People, Chapter 8 |
| Class 21 | Wednesday 11/13 |  **Markets and impersonal prosociality**Reading: WEIRD People, Chapter 9 |
| **GRAD 11** | **Wednesday 11/13** | **Reading*** Koos and Neupert-Wentz (n.d.)
* Talhelm et. al. (2018)
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| Class 22 | Monday11/18 | **Domesticating Intergroup Competition***Reading: WEIRD People Chapter 10**FAS journal reading: Francois* (2018) |
| Class 23 | Wednesday11/20 | **Market Mentalities***Reading*: WEIRD People Chapter 11 |
| **GRAD 12** | **Wednesday****11/20** | **Reading**WEIRD People Chapters 12-14. |
| Class 24 | Monday11/25 | **Law, Democracy, Religion and Innovation***Reading*: WEIRD People Chapter 12-13 |
| Note | Wednesday11/27 | Thanksgiving Holiday |
| Class 25 | Monday12/2 | **Review and discussion***Reading*: WEIRD People Chapter 14 |

# Buckle Up

The goal of this course is to apply a broad evolutionary framework to understanding human behavior, psychology and diversity both across history and into the modern world. This investigation will take us through topics and themes related to human nature, genetic evolution, genetic differences among populations, war, religion, psychological diversity, sex differences, economic outcomes and much more. An exploration of these topics may make some students uncomfortable. Any students that choose to take this course should be prepared to engage scientifically on potentially controversial topics. If you do feel uncomfortable, you are invited to discuss any concerns with Professor Henrich.

# Academic Dishonesty

Academic integrity is central to the University’s mission. All students will be expected to conduct themselves in accordance with the Honor Code. All work, whether involving tests, examinations or writing, must be the student’s own work. In testing situations (unless otherwise specified), all answers must come from your own head, and not from smart phones, cheat sheets, neighbors, friends or other sources. In writing, copying any portion someone’s else writing or oral material without appropriate attribution, including the use of quotation marks or other indicators, is plagiarism. Claiming to have accidentally incorporated copied materials from notes or study materials is not an excuse or mitigating factor. You must take the necessary step to prevent such accidental plagiarism.