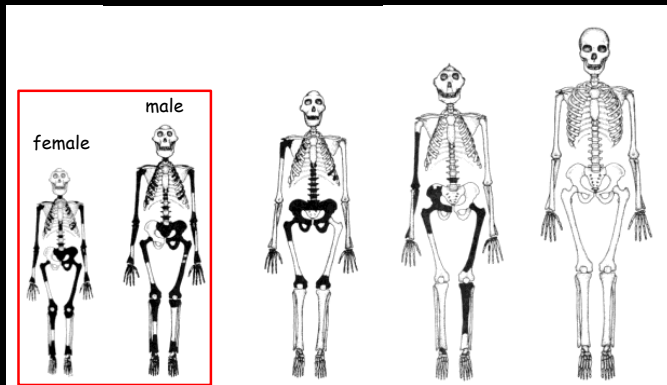


## HUMAN ORIGINS (ANTH 05a)

Comparison of early and contemporary hominid skeletons



Australopithecus  
*afarensis*

Australopithecus  
*africanus*

Australopithecus  
*robustus*

Homo  
*sapiens*

Summer 2018

M, T, and Th  
11- 1:20 pm  
TBA

Professor Javier Urcid  
Office: Brown 203

Office hours  
W 2-3:30 pm (and by  
appointment)

Extension: 62223  
email: [urcid@brandeis.edu](mailto:urcid@brandeis.edu)

### *Course objectives*

This course covers the development of human physical and cultural endowments through a span of some 5 million years, from a hominoid stage and a foraging economy to the origins of agricultural practices and the rise of urban life. A consideration of humans' place in nature as well as a review of evolutionary principles leads to discuss the archaeological findings of hominids in a diachronic framework. Further consideration is placed on the selective processes that led to the domestication of biomasses symbiotic with humans, and of the social causes and consequences of settled life. The journey through the bio-cultural transformations of humanity highlights the transition to bipedal locomotion, the acquisition of language, changes in subsistence economies, and an increase in societal complexity.

### *Learning goals*

The aim of the course is for the student to have a basic and general understanding of the evolutionary paradigm as it applies to the biological and cultural makeup of humans. The major contributions from naturalists (Darwin and Wallace) as well as contributions from molecular biology help contextualize major biological transformations of the human clade and to understand the polytypic nature of contemporary human populations. Applied to the cultural domain, a critical evaluation of the evolutionary paradigm stresses the need to decouple the notion of "progress" from that of learned symbolic adaptations, and to construe the evolutionary process as non-teleological and multidirectional. Students will have the opportunity to develop their critical thinking and their writing skills by engaging in class discussions and submitting short documentary reviews.

*Course outline*

<b>Sessions</b>	<b>Topics</b>	<b>Readings</b>
Jul M 9	Introduction to the Course and to Latte	None
Jul T 10	Framing Paradigms: Science and Anthropology <b>Documentary: Judgment Day</b>	Cartmill 2000; Scott 2014; Marks 2002; Lewis et al. 2011
Jul Th 12	Inorganic Dynamics of the Blue Planet: Plate Tectonics and Pangaea History of Evolutionary Thought <b>Documentary: What Darwin Never Knew</b>	Hallam 1976; Kurtén 1976; Lamarck 1809; Allen 2014
Jul M 16	From Molecules to Human Genomics The Synthetic Theory of Evolution <b>Documentary: Why Sex</b> <b><u>Review of What Darwin Never Knew due</u></b>	Whitlock 2014; Stearns 2014; Baer 2014
Jul T 17	The Place of Humans in Nature Primates and Human Evolution <b>Documentary: Your Inner Monkey</b>	Ayala 2010; Rodman 1999; Strier 2003
Jul Th 19	Ethology of Apes Paleoanthropology, Time Scales and Chronology <b>Documentary: The Gorilla King</b> <b>Midterm Posted</b>	Wundram 1979; Wilson et al. 2014; Sarich-Wilson 1967; Johanson and Edey 1981
Jul M 23	The evolution of Primates Basal Hominids <b><u>Midterm due</u></b>	Delson-Tattersall 2002; Benefit-McCrossin 1995; White et al. 2009
Jul T 24	Australopithecines <b>Documentary: The Story of Lucy</b> <b>Documentary: Surviving Africa</b>	Berger et al. 2010; Gurche 2013a; Shipman 1986
Jul Th 26	Trade-offs of Bipedal Locomotion From Quadruped to Biped: How? <b><u>Review of Documentary Surviving Africa due</u></b>	Krogman 1959; Lovejoy 1981; Falk 1997
Jul M 30	Habilines and Ancestral Homo Homo floresiensis? <b>Documentary: The Birth of Humanity</b> <b>Documentary: Alien from Earth</b>	Berger et al 2015; Gurche 2013b and 2013c; Brown et al. 2004; Jacob et al. 2006
July T 31	Archaic Homo sapiens and Neanderthals <b>Documentary: Decoding Neanderthals</b>	Wood 2011; Gurche 2013d Tattersall 2012; Gurche 2013e

Aug Th 2	Anatomically Modern Humans Origins of Language / other Symbolic Adaptations <b>Documentary: First Peoples-Africa</b> <b>Documentary: The Mind's Big Bang</b>	Willoughby 2007; Lewin 1987; Templeton 2002; Burling 1993; White 1992
Aug M 6	Ancient Human Dispersals <b>Documentary: First Peoples-The Americas</b>  <b><u>Review of Doc. First Peoples-The Americas due</u></b>	Grayson-Meltzer 2004; Fiedel-Haynes 2004; Waters-Wier 2013; Fagan 2001
Aug T 7	The Iconography of Human Evolution The Future of Human Evolution <b>Take-home final exam posted</b> <b><u>(due on Friday August 10, no later than 5pm)</u></b>	Moser 1996; Connif-Giller 2014; Marks 2015; Templeton 2014

Note: All documentaries are available on Latte

### ***Students with extra challenges***

If you are a student with a documented disability at Brandeis University and if you wish to request a reasonable accommodation for this class, please see me immediately. Keep in mind that reasonable accommodations are not provided retroactively.

### ***Four-Credit Course (with three hours of class-time per week)***

Success in this 4 credit hour course is based on the expectation that students will spend a minimum of 9 hours of study time per week in preparation for class (readings, response to questions, preparation for discussions, writing of papers, preparation for exams, etc.).

### ***Reading assignments***

Reading assignments should be completed by the dates indicated above. Reading of these materials is essential for your participation in class (15% of the total grade). Throughout the summer session, you will reflect critically on the readings and generate a brief synthesis of the core idea or argument in each reading, as well as at least one thoughtful question about the material. You should prepare and type the synthesis from each assigned reading to both reflect your comprehension of the readings and highlight salient points that you think will contribute to the discussion of the readings. Participation is graded based on the submissions and the assessment of your typed and printed synthesis. Attendance to class is obligatory. Absence from classes will only be accepted in cases of medical or extreme emergencies, and should be notified in person or by email PRIOR to the intended missed class.

### ***Writing assignments***

There are three written reviews of the videos **What Darwin Never Knew**, **Surviving Africa** and **First Peoples-The Americas**. Each should have a maximum of three double-spaced typed and numbered pages. The reviews need to address three points: 1) A synthetic summary of the core ideas (half a page), a critical evaluation of the main points (two pages), and a general assessment of the effectiveness of the video (half page). If you cite

from any source, you should include an extra page listing your bibliography. The first review counts 5% of the final grade and the second and third 10%.

### ***Exams***

There will be two exams (each 30%). Each examination will include an essay. The essays are intended to foster critical thinking by comparing and contrasting assumptions, statements, or theoretical positions from different authors. The tests are not accumulative; that is, the final exam will cover only topics discussed after the midterm.

### ***Summary of grading***

Class participation	15%
Midterm exam	30%
Final exam	30%
First video review	5%
Second video review	10%
Third video review	10%

### ***Use of laptops and tablets***

Students are welcome to use a laptop computer or a tablet in class provided it is used for note taking or for web searches specifically related to the topic being discussed. If a student is found using the laptop for other purposes, his/her right to use it will be immediately suspended for the rest of the summer session. The use of phones is not permitted.

### ***Academic Integrity***

Academic integrity is central to the mission of educational excellence at Brandeis University. Each student is expected to be familiar with, and to follow, the University's policies on academic integrity. Please consult Brandeis University ***Rights and Responsibilities*** (<http://www.brandeis.edu/studentaffairs/srcs/rr/>) for all policies and procedures. All policies related to academic integrity apply to in-class and take home projects, assignments, exams, and quizzes. Students may only collaborate on assignments with express permission. Allegations of alleged academic dishonesty will be forwarded to the Director of Academic Integrity. Sanctions for academic dishonesty can include failing grades and/or suspension from the university.

### ***Readings (on LATTE)***

Allen, Garland, E.

2014 The History of Evolutionary Thought. In *The Princeton Guide to Evolution*, edited by Jonathan B. Losos et al., pp. 10-27. Princeton University Press, New Jersey.

Ayala, Francisco J.

2010 The difference of being human: Morality. *Papers of the National Academy of Science*, vol. 107, suppl. 2: 9015-9022.

- Baer, Charles F.  
 2014 Mutation. In *The Princeton Guide to Evolution*, edited by Jonathan B. Losos et al., pp. 315-320. Princeton University Press, New Jersey.
- Benefit, Brenda R., and Monte L. McCrossin  
 1995 Miocene Hominoids and Hominid Origins. *Annual Review of Anthropology* 24: 237-256.
- Berger, Lee, R. et al.  
 2010 Australopithecus sediba: a New Species of Homo-like Australopith from South Africa. *Science*, vol. 328: 195-204.
- Berger, Lee R. et al.  
 2015 Homo naledi, a new species of the genus Homo from the Dinaledi Chamber, South Africa. *eLife Research article* DOI: 10.7554/eLife.09560
- Brown, P. et al.  
 2004 A new small-bodied hominin from the Late Pleistocene of Flores, Indonesia. *Nature*, Vol. 431: 1055-1061.
- Burling, Robbins  
 1993 Primate Calls, Human Language, and Nonverbal Communication. *Current Anthropology*, Vol. 34, No. 1., pp. 25-53.
- Cartmill, Matt  
 2000 Oppressed by Evolution. In *Contemporary Readings in Physical Anthropology*, edited by Alan J. Almquist, pp. 4-11. Prentice Hall, New Jersey.
- Conniff, Richard and Geoffrey Giller  
 2014 Iconic. Almost by accident. *Yale Alumni Magazine*, Nov/Dec 2014. Pp. 48-53.
- Delson, Eric, and Ian Tattersall  
 2002 *Fossil Primates*. The McGraw-Hill Encyclopedia of Science and Technology, 9<sup>th</sup> Edition, pp. 1-7. The McGraw-Hill Companies, Inc.
- Fagan, Brian  
 2001 How did the Polynesians Find Their Homeland? In *The Seventy Great Mysteries of the Ancient World*, edited by Brian M. Fagan, pp. 208-210. Thames and Hudson, London.
- Falk, Dean  
 1997 Brain Evolution in Females: an answer to Mr. Lovejoy. In *Women in Human Evolution*, edited by Lori D. Hager, pp. 114-136. Routledge, London.

- Fiedel, Stuart, and Gary Haynes  
 2004 A premature burial: comments on Grayson and Meltzer's "Requiem for overkill." *Journal of Archaeological Science* 31: 121-131.
- Grayson, Donald K., and David J. Meltzer  
 2004 North American overkill continued? *Journal of Archaeological Science*, Volume 31 (5): 135-136
- Gurche, John  
 2013a Walkers and Climbers: Australopithecus afarensis. In *Shaping Humanity: How Science, Art, and Imagination Help Us Understand Our Origins*, pp. 30-66. Yale University Press, New Haven.
- 2013b Transitional Hominins and the Origin of Homo. In *Shaping Humanity: How Science, Art, and Imagination Help Us Understand Our Origins*, pp. 114-144. Yale University Press, New Haven.
- 2013c The Traveler: Homo erectus. In *Shaping Humanity: How Science, Art, and Imagination Help Us Understand Our Origins*, pp. 145-190. Yale University Press, New Haven.
- 2013d A Symbolic Animal: Homo heidelbergensis. In *Shaping Humanity: How Science, Art, and Imagination Help Us Understand Our Origins*, pp. 192-217. Yale University Press, New Haven.
- 2013e The Other: Homo neanderthalensis. In *Shaping Humanity: How Science, Art, and Imagination Help Us Understand Our Origins*, pp. 145-190. Yale University Press, New Haven.
- Hallam, A.  
 1976 Alfred Wegener and the Hypothesis of Continental Drift. In *Continents Adrift and Continents Aground*, pp. 9-17. Freeman and Company, San Francisco.
- Jacob, T. et al.  
 2006 Pygmoid Australomelanesian Homo sapiens Skeletal Remains from Liang Bua, Flores: Population Affinities and Pathological Abnormalities. *Proceedings of the National Academy of Sciences*, Vol. 103 (36): 13421-13426.
- Johanson, Donald, and Maitland A. Edey  
 1981 How Old is Lucy? In *Lucy, The Beginnings of Humankind*. Simon and Schuster, New York, pp. 187-207.

- Krogman, Wilton, M.  
 1959 The Scars of Human Evolution. In *Human Evolution: Readings in Physical Anthropology*, edited by Noel Korn and Harry Reece Smith, pp. 185-191. Henry Holt and Co., New York.
- Kurtén, Björn  
 1976 Continental Drift and Evolution. In *Continents Adrift and Continents Aground*, pp. 176-186. Freeman and Company, San Francisco.
- Lamarck, Jean  
 1809 *Philosophie Zoologique*. Librairie F. Savy, Paris.
- Lewin, Roger  
 1987 The Unmasking of Mitochondrial Eve. *Science*, Vol. 238 (4823): 24-26
- Lewis, Jason E., et al.  
 2011 The Mismeasure of Science: Stephen Jay Gould versus Samuel George Morton on Skulls and Bias. *Plos Biology*, vol. 9 (6): 1-6.
- Lovejoy, C. Owen  
 1981 The Origin of Man. *Science* 211: 341-50.
- Marks, Jonathan  
 2002 Science, Religion and Worldview. In *What It Means to Be 98% Chimpanzee: Apes, People, and Their Genes*, pp. 266-288. University of California Press, Berkeley.
- 2015 How to think about Evolution non-reductively. In *Tales of the Ex-Apes*, pp. 80-106. University of California Press.
- Moser, Stephanie  
 1996 Depicting the Missing-Link in Human Origins. In *Picturing Knowledge*, edited by Brian S. Baigrie, pp. 184-214. University of Toronto Press.
- Rodman, P. S.  
 1999 Whither Primatology? The Place of Primates in Contemporary Anthropology. *Annual Review of Anthropology*, Vol. 28: 311-339.
- Sarich, Vincent, M., and Allan C. Wilson  
 1967 Immunological Time Scale for Hominid Evolution. *Science*, vol. 158 (3805): 1200-1203.
- Scott, Eugenie, C.  
 2014 Creationism and Intelligent Design. In *The Princeton Guide to Evolution*, edited by Jonathan B. Losos et al., pp. 825-831. Princeton University Press, New Jersey.

Shipman, Pat

- 1986 Scavenging or Hunting in Early Hominids: Theoretical Framework and Tests. *American Anthropologist*, New Series, Vol. 88, No. 1. (Mar., 1986), pp. 27-43.

Stearns, Stephen C.

- 2014 Natural Selection, Adaptation, and Fitness: Overview. In *The Princeton Guide to Evolution*, edited by Jonathan B. Losos et al., pp. 193-199. Princeton University Press, New Jersey.

Strier, Karen B.

- 2003 Primate Behavioral Ecology: From Ethnography to Ethology and Back. *American Anthropologist*, Vol. 105 (1): 16-27

Tattersall, Ian

- 2012 Who were the Neanderthals? In *Masters of the Planet: in search for our human origins*, pp. 159-177. Palgrave, MacMillan, New York

Templeton, Alan R.

- 2002 Out of Africa again and again. *Nature*, vol. 416: 45-51.
- 2014 The Future of Human Evolution. In *The Princeton Guide to Evolution*, edited by Jonathan B. Losos et al, pp. 809-816. Princeton University Press, Princeton.

Waters, Michael R., and Thomas Wier Stafford, Jr.

- 2013 The First Americans: A Review of the Evidence for the Late-Pleistocene Peopling of the Americas. In *Paleoamerican Odyssey*, edited by Kelly Graf, Caroline Ketron and Michael Waters, pp. 541-560. Texas A&M University Press.

White, Randall

- 1992 Beyond Art: Toward an understanding of the origins of Material representation in Europe. *Annual Review of Anthropology* 21: 537-564.

White, Tim, et al.

- 2009 *Ardipithecus ramidus* and the Paleobiology of Early Hominids. *Science*, vol. 326 (5949): 75-86.

Whitlock, Michael, C.

- 2014 From DNA to Phenotypes. In *The Princeton Guide to Evolution*, edited by Jonathan B. Losos et al., pp. 40-46. Princeton University Press, New Jersey.



Willoughby, Pamela R.

2007 Modern Human Origins: A People without History. In *The Evolution of Modern Humans in Africa*, pp. 1-28. Altamira Press, Lanham.

Wilson, Michael, L., et al.

2014 Lethal aggression in Pan is better explained by adaptive strategies than human impacts. *Nature*, vol. 513: 414-417.

Wood, Bernard

2011 Did early Homo migrate “out of” or “in to” Africa? *Proceedings of the National Academy of Sciences of the United States of America*, vol. 108 (26): 10375-10376.

Wundram, Ina Jane

1979 Nonreproductive Sexual Behavior: Ethological and Cultural Considerations. *American Anthropologist*, New Series, Vol. 81, No. 1, pp. 99-103.