

Physical Anthropology for Archaeologists (116.570)  
The Archaeology of Human Evolution  
Syllabus—Fall 2013

Room 07-111A  
Wednesdays 10:00-13:00

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Appointments welcome

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This course will offer you a critical introduction to the archaeology of human evolution. The emphasis of this class will be to understand what defines humanity from the time of early stone tool producers through the domestication of plants and animals 10,000 years ago. We will look at the biological and cultural evidence for our evolution and discuss the specific places in which that evidence is found. The class is oriented toward encouraging student participation, and will be run as a seminar.

There is one compulsory book for the class, which is available in the SNU library and also can be purchased easily from online booksellers:

Klein, Richard and Blake Edgar  
2001 *The Dawn of Human Culture*. New York: John Wiley and Sons.

There will also be articles assigned for weeks in which we cover topics that Klein and Edgar (2001) do not address. I will assist you in getting the reading material you need for this class. I reserve the option to assign supplemental readings for each week as necessary, however your primary task of this class will be to research discussion topics assigned in the previous week of class. Therefore, each student will be responsible for finding articles that pertain to each week's class discussion and share their knowledge with the other students in the class.

**Grading:** Weekly discussion points (50%); Final paper (50%)

*Weekly Discussion Points:* You are expected to give a brief presentation every week in class regarding what you learned from researching your discussion point. Every week, we will go around the room and divide the discussion point topics amongst the students present. If you are absent from class, I will email you your discussion topic for the following week, and you will receive a grade of 0 on the discussion point for the week that you miss. I will allow you to make up a total of **two** discussion points for an absence. The makeup assignment is a 3-4 page paper that thoroughly covers the topic you were supposed to address in that week's discussion.

The discussion points will be spread across the class so that all geographic regions we are reading about will be covered by someone, and everyone will benefit from the input of the class. Therefore, your attendance is important so that everyone can benefit from hearing what you have to say. I also require students to participate in the class discussions and will call on you in class frequently to ensure on participation.

There are 13 discussion points we will cover. I will take notes on your discussion point, and give you a grade on how well you did on a scale of 0 to 25. Each discussion point is worth 3.85% of your final grade.

*Final paper:* You will be required to write a final paper for this class (15 – 20 pages). The paper is due 10:00 am, December 11 (late papers are marked 10% each day; i.e. 10:01 Dec 11 = -10%, 10:01 Dec 12 = -20%, etc.). We will discuss the topic of the final paper together, but basically I want you to compare two aspects of the archaeology of human evolution discussed in this class. So, for example, you could discuss how the origins of the Later Stone Age is rooted in cultural developments that took place in the Middle Stone Age of Africa. Or, you could discuss how genetic bottlenecks contributed to the evolution of species such as *Homo floresiensis*. The point is that you should pick a broad topic to discuss.

### **Class outline:**

#### Week 1 (Sept 4): Introduction

- Robert Sapolsky movie
- Introduction to evolutionary forces
- Read Foley and Lahr (2003)

#### Week 2 (Sept 11): What is “culture”?

- Discussion point: What are the broad patterns of human cultural evolution over the last 3,000,000 years? Choose one of the following transitions of technological evolution: Mode 1>Mode 2, Mode 2>Mode 3, Mode 3>Mode 4, Mode 4>Mode 5. How do Foley and Lahr (2003) summarize Grahame Clark’s (1988) evolutionary model of tool production? Explain what hominin species are associated with these modes of tool production. Where are the gaps in knowledge regarding the connections between biological and technological evolution?
- Read Klein and Edgar (2001) Chapter 1

#### Week 3 (Sept 18): Dawn of the Human Mind

- Discussion point: Choose one of the following hallmarks of human evolution: language, tool use, symbolic communication, cooking/control of fire. Find one scholarly article to read that connects to Klein and Edgar (2001) Chapter 1 and summarize it to the class.
- Read: Klein and Edgar (2001) Chapter 2

#### Week 4 (Sept 25): Bipedal Apes

- Discussion point: Choose one of the hominids from Klein and Edgar (2001) Chapter 2 to discuss in class. What are the similarities and differences between your hominin and Miocene or living populations of apes? What are the cultural characteristics that this hominin shares with modern humans?
- Read: Klein and Edgar (2001) Chapter 3

Week 5 (Oct 2): Colloquium “By Land, By Sea, and By Air: How the Environment Shapes Human Settlement.” The colloquium will be hosted from 2 – 5 pm and attendance and participation is mandatory. Your level of engagement and participation in the colloquium will be graded.

#### Week 6 (Oct 9): Early Stone Age cultures

- Discussion point: Choose from one of the following archaeological sites discussed in Klein and Edgar (2001) Chapter 3: Gona, Hadar, Sterkfontein/Swartkrans, Koobi Fora, Olduvai Gorge, and Lokakalei. What is the nature of the evidence of how hominins obtained food and protected themselves against predators at this site? What type of a hominin is thought

to have made the stone tools from your site? What are the similarities and differences between your site and the other sites discussed in Klein and Edgar (2001) Chapter 3?

- Read Klein and Edgar (2001) Chapters 4 and 5

Week 7 (Oct 16): Early Humans

- Discussion point: Choose two of the following archaeological sites—one from Africa and one from outside of Africa, discussed in Klein and Edgar (2001) Chapters 4 and 5: [Kalambo Falls, Olorgesailie, Koobi Fora, Nariokotome, Sterkfontein/Swartkrans/Elandsfontein, and Peninj] AND [Dmanisi, Zhoukoudian/Chinese sites, 'Ubeidiya, Java, and Mauer/W. European sites]. What are the known and presumed dates that your site was occupied? What kinds of tools were hominids using and how were they surviving in their respective environments? What are the markers of proto-human behavior in the archaeological record? What apparent similarities and differences are there between Early and Middle Stone Age (Lower and Middle Paleolithic) behaviors and subsistence strategies?
- Read Klein and Edgar (2001) Chapter 6

Week 8 (Oct 23): Neandertals, Denisovans, and the arrival of the Upper Paleolithic

- Discussion point: Choose archaeological sites from one of the following regions: E. Europe, W. Europe (France, Spain), Shandihar (Levant), Denisovans of Siberia. What are Neandertal/Denisovan biological characteristics that distinguish them from anatomically modern humans? What are the behavioral/cultural differences inferred from the archaeological record that separate Neandertals (Middle Paleolithic) and *Homo sapiens sapiens* (Upper Paleolithic) cultures? What are the similarities (especially in regards to symbolic behavior)? What is the evidence for replacement of Neandertals vs. interbreeding of Neandertals and modern human populations in your study area?
- Read Klein and Edgar (2001) Chapter 7

Week 9 (Oct 30): What makes us “human”?

- Discussion point: Choose from one of the following archaeological sites: Levant sites (Skhul/Qafzeh), Omo-Kibish, Katanda, Enkapune ya Muto, South African sites (Klasies River Mouth, Blombos, Nelson Bay, Elands Bay, Elandsfontein, Kasteelberg), Australian sites. Explain the nature of the archaeological evidence showing that hominins in your study area were behaving modernly or had archaic thought processes? Are there connections between biological changes and cultural changes associated with the transition from the MSA to the LSA? If you are working with the Australian sites, what does the early colonization of Australia suggest about hominin evolutionary trajectories prior to 50,000 years ago?
- Read Shea (2003)

Week 10 (Nov 6—We might need to reschedule this class due to the department field trip to China): Of competition, cooperation and conquest

- Discussion point: Did resource competition define human evolution? From your archaeological site from last week, what is the timeframe and context of human replacement of Neandertals? What resources were present in your study area between 50,000 and 30,000 years ago and how did Upper Paleolithic people out-compete the Middle Paleolithic cultures? To what extent was the nature of cooperation different between humans and

Neandertals, and what is the significance of this in terms of evolutionary fitness?

- Read Beyin (2011)

Week 11 (Nov 13): Bottlenecks

- Discussion point: What is the significance of population bottlenecks in human evolution? The class will divide into three factions reflecting the competing models for human population of Eurasia: Strong Garden of Eden, Weak Garden of Eden, Multiregional Hypothesis. Present the class with the evidence for your side of the debate (I will give you references to help you, but you should also do research in Google). What are the proposed routes for the dispersion of humans from Africa? What effects on human population dispersal have been proposed based on climatic, cultural or volcanic events during the Pleistocene?
- Read "Introduction," Chapter 12, and one article selected in class of *Thinking Small: Global Perspectives on Microlithization* (provided by instructor).

Week 12 (Nov 20): Making small things

- Discussion point: Each student will choose a chapter from *Thinking Small: Global Perspectives on Microlithization* (one person must take Ambrose; no one can take the Introduction or Chapter 12) and present a summary of the paper to the class. What is the adaptive advantage to producing and using microliths? What are the presumed external stimuli that may have prompted people to adopt microliths (things like climate change, warfare, resource pressure, competition)? What are the effects of "regionalization" of stone tool traditions in the eventual complete colonization of the planet?
- Read Aiello (2010) and <http://www.guardian.co.uk/science/2010/feb/21/hobbit-rewriting-history-human-race>

Week 13 (Nov 27): Hobbits

- Discussion point: What is the significance of the presence of *Homo floresiensis* on the Island of Flores in the Indonesian Archipelago? Choose one of the following aspects of the discoveries from this location to discuss with the class: dating of the site, stratigraphy and taphonomy of the site, fauna present on Flores (sizes of the animals), tools, and "island dwarfism" vs. "microcephaly" theories.
- Read: Klein and Edgar (2001) Chapter 8 and Diamond (2002)

Week 14 (Dec 4): Evolution and domestication

- Discussion point: What is the connection between human evolution and the domestication of plants and animals? How do Klein and Edgar (2001) and Diamond (2002) explain the "dawn" of the human mind in biological terms as it relates to the emergence of cultural traits such as language, microlith production, and refined artistic traditions? In what ways did domestication change us and how did we change the species we domesticated? Choose one locus of domestication in the Old World (SW Asia, East Asia, Ethiopia, West Africa, Highland New Guinea) and present how the domestication process occurred (timing and species involved) and at what point did domestication become irrevocable?

Week 15 (Dec 11, 10:00 am): FINAL PAPER DUE