

Anthropology 502: Proseminar in Evolutionary Anthropology (16:070:502:01)

Term: Fall 2014

Time: Tuesday 5.35-8.35 pm

Place: Ruth Adams Building, Room 305

Course web site: Available through sakai.rutgers.edu.

Reserves: Mabel Smith Douglass Library

Instructor: Professor Carmel Schrire

Office: Room 201, Ruth Adams Building, Douglass Campus

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Office hours: Tuesday 11am to 1pm and by appointment.

Course description: This course is an introduction both to human evolutionary science as a discipline and to the particular research interests of Rutgers' faculty, most of whom belong to the section of Evolutionary Anthropology (EA).

During the first class we will discuss the organisation and administration of the course and the backgrounds of the faculty and students that are involved here. In the last class we will discuss what has been learned and how that might affect our future research. The rest of the semester will feature a series of faculty presentations, where they will discuss their broad research fields and focus on their particular interests. The visiting faculty member will assign readings, give a presentation, and lead a discussion. After the class, the students will be required to summarise the main findings and present this to the Instructor.

Readings: Basic texts for the semester includes Ernst Mayr's *What Evolution Is*. In addition, students will be required to familiarise themselves with Darwin's *On the Origin of Species by Means of Natural Selection* and *The Descent of Man, and Selection in Relation to Sex*. Inexpensive copies of these are easily available. In *Origin* you should focus on the first four chapters and the final one and in *Descent*, on Chapters 1-8 and 19-21.

There is a very fine web site written by **John Hawks (Wisconsin)** which covers a plethora of topics on Evolutionary Anthropology with numerous links to references. Students are advised to follow this to discover the wide range of topics and opinions in the field.

Key texts are on Reserve at Douglass Library. All cited references for the talks will be posted on the Sakai site.

Assignments:

1. Class Assignments:

Students are required to present a report of each class presentation that summarises the gist of the presentation and its contribution to the broader field of human evolution. A hard copy of the report should be handed in to the instructor on the following Monday. It

should be double-spaced and about 2-4 pages long. Failure to present these assignments on time will affect your final grade.

2. Term paper:

Students are required to write a research paper of about 20 double-spaced pages, that will be due on the last day of class, namely **Tuesday, December 11**. It needs to be a hard copy, double spaced document, about 20 pages long. The term paper should focus on **one** of the aspects of human evolutionary science presented in the class. It should preferably be different from your own area of interest and that of your advisor. In other words, if you are focusing on the fossil record, you might discuss historical archaeology, and if you are studying primatology, consider focusing on the archaeology of lithics. The exact topic should be discussed with the Instructor so that its focus is well understood before the final version is handed in. The paper should include a conventional bibliography and footnotes.

3. Class Participation:

Your contributions to classroom discussions are the key to making this class a success. Everyone should make an effort to prepare for the class by reading the recommended texts in order to make insightful and constructive contributions to our discussions. If anyone feels uncomfortable about participation they should discuss this privately with the Instructor as soon as possible.

Evaluation:

The final grade will be based on the categories outlined above, with 40% allotted to Assignments, 40% to the Term Paper, and 20% to Class Participation. Course grades will not be curved.

Schedule and Readings

Further information will be added as it becomes available

Sept 4: Introduction (Carmel Schrire)

Readings (on Reserve)

1. Darwin, Charles. *The origin of species by means of natural selection*. 1st ed. QH366.D2590
2. Darwin, Charles. *The descent of man and selection in relation to sex*. 2nd ed. QH365. D2.2004
3. Mayr, Ernst. *What evolution is*. QH366.2 M3933. 2001
4. Barker, P. *The ghost road*. PR 6052 A6488 G48
5. Slobokin, Richard. *W.H. R. Rivers*. GN21 R53557

Sept 9: Human Evolution: Past, Present, and Future (Susan Cachel)

Readings (on Sakai)

- Callaway, E. 2014. "The Neanderthal in the Family". *Nature*, 507: 414-416.
- Gibbons, A. 2014. "Oldest *Homo sapiens* genome pinpoints Neandertal input". *Science* 343: 1417.
- Ousley, S. et al. 2009. "Understanding race and human variation: Why forensic anthropologists are good at identifying race". *A.J.P. A.* 139: 68-76.
- Talhelm, T. et al. 2014. "Large-scale psychological differences within China explained by rice versus wheat agriculture". *Science* 344, 603.

Sept 16: Human Evolution in Context (Craig Feibel)

Readings (on Sakai)

Feibel, C. 1999. 'Basin evolution, sedimentary dynamics, and hominid habitats in East Africa. An ecosystem approach', in Bromage, T and Schrenk, F. (eds), *African Biogeography, Climate Change and Human Evolution*, pp. 276-281. Oxford: Oxford University Press.

Joordans, J, et al. 2013. "Improved age control on early *Homo* fossils from the upper Burgi Member at Koobi Fora, Kenya". *Jour.Hum.Evol.* 65: 731-45.

Shultz, S, and Maslin, M. 2013. "Early human speciation, brain expansion and dispersal influenced by climate pulses". *PLOS One*, 8, 10: 1-7.

Sept 23: Human generosity project (Lee Cronk)

Readings (on Sakai)

Cronk, L. 2007. 'The influence of cultural framing on play in the trust game: a Maasai example'. *Evolution and human behavior*, 28: 352-58.

Gurven, M. 2004. 'To give and to give not: The behavioral ecology of human food transfers'. *Behavioral and Brain Sciences*, 27: 543-83.

Price, J.A. 1975. "Sharing: the integration of intimate economies". *Anthropologica*, ns, 17, 1: 3-27.

Sept 30: Sexual conflict and sexually antagonistic selection (Ryne Palombit)

Readings (on Sakai)

Palombit, R. 2014. "Sexual conflict in nonhuman primates". *Advances in the Study of Behavior*, 46: 191-280.

Palombit, R. 2005. "Sexual conflict in nature", in Arnquist and Rowe, *Sexual Conflict* (Princeton), pp. 1-13.

Palombit, R.A. in press. Infanticide as sexual conflict: Coevolution of male strategies and female counterstrategies. *Cold Spring Harbor Perspectives in Biology*, (William R. Rice & Sergey Gavrillets, editors), doi: 10.1101/cshperspect.a017640

Oct. 7: On the interpretation of $^{87}\text{Sr}/^{86}\text{Sr}$ data from tooth enamel (Hylke de Jong)

Readings (on Sakai)

Bentley, A. 2006. Strontium isotopes from the earth to the archaeological skeleton: A review. *J. Arch. Method and Theory*, 13: 135-86.

Copeland, S. et al. 2011. Strontium isotope evidence for landscape use by early hominins, *Nature*, 474: 76-79

Maurer, A.F. et al 2012. Bioavailable $^{87}\text{Sr}/^{86}\text{Sr}$ in different environmental samples. *Sc. Total Environment*, 433: 216-29.

Oct. 14: Consanguinity, fertility and evolution (Robin Fox)

Readings (to be placed on Sakai)

Please note: ABSOLUTELY No quotation without permission

Robin Fox, 2015 (in press) "Marry In or Die Out: Optimal Inbreeding and the meaning of Mediogamy." In Jonathan Turner, Richard Machalek, Alexandra Maryanski, eds. *Handbook of Evolutionary Analysis in the Social Sciences*, Paradigm Press.

Macfarlan SJ, RS Walker, MV Flinn, & NA Chagnon. "Lethal Coalitionary Aggression and Long-Term Alliance Formation among Yanomamo Men." *PNAS* forthcoming.

Oct. 21: Time Spent Foraging, Feeding and Chewing (Rob Scott)

Readings (on Sakai)

Coiner-Collier et al. Primate dietary ecology in the context of food mechanical properties

Organ C. et al 2009 Phylogenetic rate shifts in feeding time during the evolution of *Homo*. *PNAS* 108, 35:14555-59.

Ross, C.F et al 2009. Ecological consequences of scaling chew cycle duration and daily feeding time in Primates. *Jour. Hum. Evol.* 56: 570-85.

Oct. 28: Orangutan nutrition and health: navigating a challenging environment (Erin Vogel)

Readings (on Sakai)

Thompson, M.E. and Knott, C.D. 2008. "Urinary C-peptide of insulin as a non-invasive marker of energy balance in wild orangutans". *Hormones and Behavior*, 53: 526-35.

Vogel, E. et al. 2011. "Bornean orangutans on the brink of protein bankruptcy. *Biol. Lett.* (online)

Nov. 4: The evolutionary logic of self-deception (Robert Trivers)

Readings (on Reserve)

Trivers, R. 2011. *The folly of fools: the logic of deceit and self-deception in human life.* (Basic Books)

Readings (on Sakai)

Kalokerinas, E.K. et al. 2014. The aging positivity effect and immune function: Positivity in recall predicts higher CD4 counts and lower CD4 activation. *Psychology and Aging*, pp. 1-6

Lamba, S. and Nityananda, V. 2014. "Self-deceived individuals are better at deceiving others", *PLOS One* 9/8: 1-6.

Nov. 11: Where is the evolution in stone tools? (D. Rezek)

Holdaway, S. and Douglass, M. 2011. A twenty first century archaeology of stone artefacts. *Jour. Archaeol. Method and Theory* (online 2011)

Lin, S.C., Rezek, Z., D. Braun and H. Dibble. 2013. On the utility and economization of unretouched flakes: the effects of exterior platform angle and platform depth. *American Antiquity*, 78(4): 724-45.

Parreault, C., P.J. Brantingham, S. Kuhn, S. Wurz and Xing Gao. 2013. Measuring the complexity of lithic technology. *Current Anthropol.* 54, 8.

Shea, J. 2014. 'Sink the Mousterian? Named stone tool industries (NASTIES) as obstacles to investigating hominin evolutionary relationships in the later Middle Palaeolithic Levant. *Quat. International* -- : 1-11.

Nov. 18: Genetic evidence for human high-altitude adaptation (Jinchuan Xing)

Readings

Jeong, C. and A. Di Rienzo (2014). "Adaptations to local environments in modern human populations." *Curr Opin Genet Dev* 29C: 1-8.

Scheinfeldt LB and Tishkoff SA (2013). "Recent human adaptation: genomic approaches, interpretation and insights", *Nat Rev Genet.* 14(10):692-702.

Jeong, C., G. Alkorta-Aranburu, et al. (2014). "Admixture facilitates genetic adaptations to high altitude in Tibet." *Nat Commun* 5: 3281.

Simonson, T. S., Y. Yang, et al. (2010). "Genetic evidence for high-altitude adaptation in Tibet." *Science* 329(5987): 72-75.

Nov. 25: Thanksgiving

Dec 2: Historical Archaeology in South Africa (C. Schrire)

Dec 9: Review