



ANTH 761: Current Topics in Physical Anthropology: Evolution and Human Reproduction

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Class Time: Mon 2:30 – 5:20

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Seminar Description

This seminar will focus on human reproduction from an evolutionary perspective. We will consider the various ways in which human reproductive anatomy, physiology, and behavior have been shaped by evolutionary processes. Throughout the course, we will attend to evolutionary and life history theory, comparative primate evidence, hominin evolution, cross-cultural data, neuroendocrine findings, and central aspects of sexuality and parenting. To do this, we first consider foundational evolutionary concepts concerning sex differences and sexual selection. We then address various facets of human reproduction, from mate competition to pair-bonding, pregnancy to cooperative breeding.

Goals/Objectives

Upon the successful completion of this seminar you will have:

- (1) gained an understanding of the theoretical foundations informing an evolutionary understanding of human reproductive anatomy, physiology, and behavior;
- (2) gained a strong grounding in contemporary data and debates concerning evolution and human reproduction;
- (3) developed your own topical interests under the umbrella of evolution and human reproduction, as reflected in regular discussions and in a term paper.

The Graduate Seminar

A seminar is not a competition among the seminar participants, but an opportunity for cooperation, sharing knowledge and developing new questions. Take positions and defend them vigorously with reason, facts, and some polite consideration for your colleagues' own desire to learn and participate. Begin to hone your professional skills by learning when to speak up and

when to yield the floor to one of your colleagues. Remain critical of the readings and of all other ideas presented, including your own. When others disagree with you, don't take offense. Find their error or learn from their reasoning.

Grading

Grading will be based 30% on participation and 70% on a term paper. "Participation" will include attendance, contribution to discussions, and submission of two discussion questions/points for each week's seminar topic. Discussion questions/points should be 3-4 sentences in length, drawing attention to a novel synergy, unanswered question, methodological challenge, or some other salient scholarly issue. The point of asking you to submit these for each seminar is to integrate your critical thought for that week's reading before we meet, also favoring richer seminar discussions.

The term paper should be at minimum 20 pages of double-spaced text. The paper should employ a title page, sections marked by sub-heading titles, and references listed using APA format or some other professional anthropology or biology standard. The topic of the term paper should fall within the broad scope of the seminar. Most importantly, however, the choice of a term paper topic should synergize with your scholarly interests. You might write a term paper that serves as a draft prospectus; as the background and methods to a side research project on which you are about to engage; as a review of a subject that helps advance your grasp of concepts and material relevant to your graduate research; or as a draft of a manuscript you are preparing to submit for publication.

Required book purchases:

- Gray, PB and Anderson, KG. 2010. *Fatherhood: Evolution and Human Paternal Behavior*. Cambridge: Harvard University Press.
- Martin, R. 2013. *How We Do It: The Evolution and Future of Human Reproduction*. New York: Basic Books.
- Trevathan, W. 2010 *Ancient Bodies, Modern Lives: How Evolution has Shaped Women's Health*. New York: Oxford University Press.

Reserve readings:

All required articles will be on e-reserve in Lied Library (under ANTH 761 or GRAY).

Weekly Schedule and Readings

AUG 26 – Evolutionary theory and human reproduction, Part I.

Darwin C. 1871. *Descent of Man, and Selection in Relation to Sex*. London: John Murray. Read pp. 253-320 on sexual selection from this freely available online first edition: http://darwin-online.org.uk/converted/pdf/1871_Descent_F939.1.pdf

Clutton-Brock T. 2009. Sexual selection in females. *Animal Behaviour* 77: 3-11.

Puts DA. 2010. Beauty and the beast: mechanisms of sexual selection in humans. *Evolution and Human Behavior* 31: 157-175.

Short RV. 1976. The evolution of human reproduction. *Proceedings of the Royal Society of London B* 195: 3-24.

SEP 9 –Evolutionary theory and human reproduction, Part II.

Aloise King E, Banks PB, Brooks RC. 2013. Sexual conflict in mammals: consequences for mating systems and life history. *Mammal Review* 43: 47-58.

Bird R. 1999. Cooperation and conflict: the behavioral ecology of the sexual division of labor. *Evolutionary Anthropology* 8: 65-75.

Dixson A. 2009. Darwin, sexual selection, and human evolution. *New Zealand Science Review* 66: 112-117.

Hewlett BL, Hewlett BS. 2010. Sex and searching for children among Aka foragers and Ngandu farmers of Central Africa. *African Study Monographs* 31: 107-125.

Jones JH. 2011. Primates and the evolution of long-slow life histories. *Current Biology* 21: R708-R717.

Plavcan JM. 2012. Sexual size dimorphism, canine dimorphism, and male-male competition in primates: Where do humans fit in? *Human Nature* 23: 45-67.

SEP 16 – Mating competition.

Flinn M, Ponzi D, Muehlenbein MP. 2012. Hormonal mechanisms for regulation of aggression in human coalitions. *Human Nature* 23: 68-88.

Liddle JR, Shackelford TK, Weeks-Shackelford VA. 2012. Why can't we all just get along? Evolutionary perspectives on violence, homicide, and war. *Review of General Psychology* 16: 24-36.

Rosvall KA. 2011. Intrasexual competition among females: evidence for sexual selection? *Behavioral Ecology* 22: 1131-1140.

Rucas SL et al. 2012. Social aggression and resource conflict across the female life-course in the Bolivian Amazon. *Aggressive Behavior* 38: 194-207.

SEP 23 – Mate choice.

Alvergne A, Lummaa V. 2010. Does the contraceptive pill alter mate choice in humans? *Trends in Ecology and Evolution* 25: 171-179.

Gueguen N. 2011. Effects of solicitor sex and attractiveness on receptivity to sexual offers: a field study. *Archives of Sexual Behavior* 40: 915-919.

Gallup Jr. GG, Frederick DA. 2010. The science of sex appeal: an evolutionary perspective. *Review of General Psychology* 14: 240-250.

Kappeler PM. 2012. Mate choice. In *The Evolution of Primate Societies*, Mitani JC et al., pp. 367-387.

SEP 30 – Long-term human sociosexual relationships.

Apostolou M. 2007. Sexual selection under parental choice: the role of parents in the evolution of human mating. *Evolution and Human Behavior* 28: 403-409.

Quinlan RJ. 2008. Human pair-bonds: evolutionary functions, ecological variation, and adaptive development. *Evolutionary Anthropology* 17: 227-238.

Lovejoy CO et al. 2009. Reexamining human origins in light of *Ardipithecus ramidus*. *Science* 326: 74e1-8.

Walker RS, Hill KR, Flinn MV, Ellsworth RM. 2011. Evolutionary history of hunter-gatherer marital practices. *PLoS ONE* 6:e19066.

Jankowiak WR, Fischer EF. 1995. A cross-cultural perspective on romantic love. *Ethnology* 31: 149-155.

OCT 7 – Same-sex sexual behavior.

Balthazart J. 2011. Minireview: hormones and human sexual orientation. *Endocrinology* 152: 2937-2947.

Diamond LM. 2007. A dynamical systems approach to the development and expression of female same-sex sexuality. *Perspectives on Psychological Science* 2: 142-161.

Kirkpatrick RC. 2000. The evolution of human homosexual behavior. *Current Anthropology* 41: 385-413.

Vasey PV. 2007. Function and phylogeny: The evolution of same-sex sexual behavior in primates. *Journal of Psychology and Human Sexuality* 18:215-244.

OCT 14 – Female reproductive function

Martin R. 2013. *How We Do It*, pp. 1-88.

Salonia A et al. 2010. Physiology of women's sexual function: basic knowledge and new findings. *Journal of Sexual Medicine* 7: 2637-2660.

Trevathan W. 2010. *Ancient Bodies, Modern Lives*, pp. 1-61, 156-196.

OCT 21 – Male reproductive function

Bribiescas RG. 2010. An evolutionary and life history perspective on human male reproductive senescence. *Annals of the New York Academy of Sciences* 1204: 54-64.

Escasa M, Casey J, Gray PB. 2011. Salivary testosterone levels in men at a U.S. sex club. *Archives of Sexual Behavior* 40: 921-926.

Gray PB, Anderson KG. 2010. *Fatherhood: Evolution and Human Paternal Behavior*, pp. 55-119, 178-198.

OCT 28 – Pregnancy

Drake AJ, Liu L. 2010. Intergenerational transmission of programmed effects: public health consequences. *Trends in Ecology and Evolution* 21:206-213.

Hahn-Holbrook J, Holbrook C, Haselton MG. 2011. Parental precaution: neurobiological means and adaptive ends. *Neuroscience and Biobehavioral Reviews* 35: 1052-1066.

Martin R. 2013. *How We Do It*, pp. 89-120.

Trevathan W. 2010. *Ancient Bodies, Modern Lives*, pp. 62-89.

NOV 4 - Birth

Dunsworth HM et al. 2012. Metabolic hypothesis for human altriciality. *Proceedings of the National Academy of Sciences* 109: 15212-15216.

Trevathan W. 2010. *Ancient Bodies, Modern Lives*, pp. 90-121.

Martin R. 2013. *How We Do It*, pp. 121-146.

NOV 18 – Maternal care

Martin R. 2013. *How We Do It*, pp. 147-232.

Trevathan W. 2010. *Ancient Bodies, Modern Lives*, pp. 122-155.

Rilling JK. 2013. The neural and hormonal bases of human parental care. *Neuropsychologia* 51: 731-747.

NOV 25 – Fatherhood

Gray PB, Anderson KG. 2010. *Fatherhood: Evolution and Human Paternal Behavior*, pp. 1-54, 120-177, 199-255.

DEC 2 – Cooperative breeding

Coall DA, Hertwig R. 2010. Grandparental investment: Past, present, and future. *Behavioral and Brain Sciences* 33: 1-59.

Kramer KL. 2010. Cooperative breeding and its significance to the demographic success of humans. *Annual Review of Anthropology* 39: 417-436.

Strassman BI. 2012. Cooperation and competition in a cliff-dwelling people. *Proceedings of the National Academy of Sciences* 108, S2: 10894-10901.

Research paper is due December 2.

Academic Misconduct – Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility and professionalism. By choosing to join the UNLV community, students accept the expectations of the Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path. Students enrolling in UNLV assume the obligation to conduct themselves in a manner compatible with UNLV's function as an educational institution.

An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another, from the Internet or any source, without proper citation of the sources. See the *Student Academic Misconduct Policy* (approved December 9, 2005) located at: <http://studentconduct.unlv.edu/misconduct/policy.html>.

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Disability Resource Center (DRC) – The Disability Resource Center (DRC) determines accommodations that are “reasonable” in promoting the equal access of a student reporting a disability to

the general UNLV learning experience. In so doing, the DRC also balances instructor and departmental interests in maintaining curricular standards so as to best achieve a fair evaluation standard amongst students being assisted. In order for the DRC to be effective it must be considered in the dialog between the faculty and the student who is requesting accommodations. For this reason faculty should only provide students course adjustment after having received an “Academic Accommodation Plan.” If faculty members have any questions regarding the DRC, they should call a DRC counselor.

UNLV complies with the provisions set forth in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. The DRC is located in the Student Services Complex (SSC-A), Room 143, phone (702) 895-0866, fax (702) 895-0651. For additional information, please visit: <http://drc.unlv.edu/>.

Religious Holidays Policy – Any student missing class quizzes, examinations, or any other class or lab work because of observance of religious holidays shall be given an opportunity during that semester to make up missed work. The make-up will apply to the religious holiday absence only. It shall be the responsibility of the student to notify the instructor no later than the end of the first two weeks of classes of his or her intention to participate in religious holidays which do not fall on state holidays or periods of class recess. This policy shall not apply in the event that administering the test or examination at an alternate time would impose an undue hardship on the instructor or the university that could not reasonably be avoided. For additional information, please visit: <http://catalog.unlv.edu/content.php?catoid=4&navoid=164>.

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