

Primate Social Learning and Culture (seminar course)
Psychology 4850 NA
Spring 2011

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Office Hours: Tuesday from 1:00 – 3:00 pm or by appointment

Class Time: Thursdays from 6:00 – 8:50 pm

Classroom: C620

Seminar Description:

What is culture? When did it emerge? Who has it? How do we recognize social learning and behavioral traditions (or culture) in non-human primates and other animals? What is the source of the controversy over animal culture, and how (at least some of) these controversial issues could be resolved? Why are these questions of any interest in our understanding of hominin evolution in general, and the emergence of human culture in particular?

The overall goal of this seminar is to answer these provocative but central questions about what is often considered a hallmark of being "human". Furthermore, because this course is offered by the Department of Psychology, our readings and discussions will allow you to become familiar with the different psychological mechanisms and cognitive processes that may underlie the expression of various types of behavioral traditions documented in a wide range of non-human primate and other animal taxa. You will also learn how the combination of comparative methods, longitudinal approaches, and non-invasive experiments has allowed researchers from different disciplines to address the question of animal culture from an evolutionary perspective. Finally, from the current breadth of opinions about animal culture, you will get a sense of the important implications of this research area and the rich set of issues at stake.

In contrast to lecture-based courses, seminar classes emphasize discussion and active participation among students. As you will come to realize through our readings, the existence of and evidence for animal culture are hotly debated among scientists. I would like our discussion to reflect this debate. As the instructor, I will provide you with the basic information necessary to understand the major concepts and methods related to the questions under study, and I will guide the discussion so that you can gain a broader understanding of the subject. But ultimately, the more effort and critical thinking you put in, the more you will learn from this course. Therefore, it is very important that you come to class prepared. Adequate preparation implies that you are not only capable of summarizing, further explaining, and discussing the content of the readings, but that you are also willing to think critically and creatively beyond the concepts under study, and consider their broader implications.

To help you focus during your readings, and as a way to anticipate further discussion, I have provided "Food for Thought" types of questions related to each week's

readings. It is my expectation that you reflect on these questions in such way that I can call upon you to share your thoughts during class. Please be aware that there might not be a single "right" answer to most of these questions. As pointed out by the editors of the book we will read, I encourage you to focus on the questions asked researchers, the detailed methods they use, and the interpretations of their findings, and to make up your own mind about animal culture. My main objective is that you come to class after having given yourself time to think deeply about such issues, and willing to participate in the discussion with any insight you might be able to provide or even further questions you might come up with.

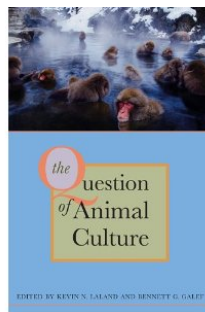
Seminar Organization and Required Readings:

Seminars are held weekly on Thursday (6:00 – 8:50pm), from January 13 to April 7, 2010 (except February 24). A register of attendance at seminars will be kept. It is expected that you attend. Please note that in addition to weekly short quizzes, a written end-of-term test is scheduled on April 14, 2010.

The full list of readings is presented in the seminar schedule (please see below). The schedule highlights the readings that will be focused on each week as well as the “Food for Thought” questions that will form the basis of each seminar class.

For each seminar class, we will read at least one chapter (occasionally two) of an edited volume that encapsulates many fundamental aspects of the evolution of culture, and provides one of the most thoughtful and comprehensive assessment to date concerning the question of animal culture, while simultaneously engaging the reader. Because basic weekly readings are drawn from this book, it is a strongly recommended purchase. This book is available at the campus bookstore. The full citation of the book is:

Laland, K.N. & Galef, B.G. (2009). *The Question of Animal Culture*. Cambridge, Massachusetts: Harvard University Press. ISBN: 978-0-674-03126-5



In addition to this main book, the required readings for this seminar also include a series of carefully chosen academic journal articles, each of which provides a complementary view on a particular question about animal/human culture raised by each book chapter (for further details on these articles, please see seminar schedule below). In general, the readings are more conceptual, as opposed to empirical and data-rich, in scope. The additional required readings (i.e., journal articles) are made available on the

university Courseware (WebCT) seminar page, which can be accessed by logging in with your uleth webmail username and password here:

<https://courseware.uleth.ca/webct/logonDisplay.dowebct>

Grading:

The following ranges will be employed in assigning grades in this course:

A+: >89.5	C+: 66.5 – 69.4
A: 84.5 – 89.4	C: 63.5 – 66.4
A-: 79.5 – 84.4	C-: 59.5 – 63.4
B+: 76.5 – 79.4	D+: 56.5 – 59.4
B: 73.5 – 76.4	D: 50 – 56.4
B-: 69.5 – 73.4	F: <49.9

In accordance with the University of Lethbridge Calendar,

- A = Excellent
- B = Good
- C = Satisfactory
- D = Poor
- F = Fail

Evaluation:

Quizzes (40%):

Quizzes will take place each week at the beginning of class to assess comprehension of the reading material. The format of the quizzes will be multiple choice, matching, and/or short answer. In all, there will be ten quizzes. I will use your eight best marks out of the total ten quizzes to calculate this portion of your grade.

Oral Responses to “Food for Thought” Questions (20%):

To go along with each week's readings, I have provided a list of “Food for Thought” questions (please see seminar schedule below). Each week, I will select students at random to provide oral responses to these questions. Quality responses are those that contribute insightful and well-reasoned perspectives, that are well-articulated and foster discussion. Students can expect to be selected approximately once out of every two weeks. However, please note that being selected one week does not necessarily mean that you will not be selected again the following week. Again, I would like to emphasize that I include this assessment as part of the overall evaluation to encourage you to think deeply about the course material as well as develop effective communication skills.

The basic structure for this part of your grade will be: 20% = always provide a quality response; 15% – 19% = almost always provide a quality response; 10% - 14% = often provide a quality response; 5% - 9% = often provide a poor-quality response; 0% – 4% = almost always provide a poor-quality response.

Participation in Classroom and Courseware/WebCT Discussions (20%):

Students can earn 20% of their grade simply by participating. If you say something

relevant to the discussion in each class (including raising an insightful question, regardless of whether you know the answer), you will receive participation marks. Participation in Courseware (WebCT) directed discussions will also count toward participation marks. Both the in-class and Courseware (WebCT) discussions will be “directed” by the “Food for Thought” questions. These questions will, therefore, serve as a starting point for discussion, but I encourage students to think (and discuss) broadly about the issues under investigation. I will follow the discussion and step in if it runs off-board. Students who relate seminar material to other readings that they have made the effort to search out will be viewed very favorably.

If you do not participate in discussions inside and outside of the seminar via the University Courseware (WebCT) system, your final grade will suffer. Students who do not participate in the seminar discussions should not be surprised to get zero for this portion of their grade. Please note that no grades will be assigned for attendance.

The basic structure for this part of your grade will be: 20% = always participated; 15% – 19% = almost always participated; 10% - 14% = often participated; 5% - 9% = participated sometimes, but not often; 0% – 4% = little to no participation.

End-of-Term Test (20%):

The end-of-term test is worth 20% of your grade. The test will be written-format. Two weeks prior to the test (March 31), I will provide a handout containing a number of questions. Some, but not all, of these questions will be based on previous readings and readings that I will also provide you with on March 31. I will choose a subset of the questions from this handout to put on the end-of-term test, which will take place on Thursday April 14, 2010.

Bonus:

Short presentations (2%):

After your final grade has been calculated, you can have an additional 2% added onto your final grade if you give oral presentations. Every week, students (a maximum of two students/week) who are willing to do so will have the opportunity to give a short (approximately 5 minute) presentation. For these presentations, you should examine a candidate case of cultural/traditional behavior in the animal kingdom (you must choose a non-human animal). You should describe the behavior to the class, and briefly explain why this behavior may or may not be considered cultural/traditional. This behavior may be drawn from the seminar material or other readings that you have made the effort to search out.

In preparing your presentation, please provide a visual (acetate overhead or powerpoint slide) of the animal engaging in the potential cultural/traditional behavior as well as one or two brief points in support of your argumentation. In addition to earn additional marks, the objectives of this exercise are to (1) foster discussion about animal culture, and (2) give you an opportunity to practice speaking before an audience. Those students who wish to do short presentations should identify themselves during the first class and a schedule will be drawn up. Please note that if you choose to use powerpoint, you should come to class early to set up the presentation.

Other information about the seminar:

- (1) If you are disrespectful to other members of the class, you will be asked to leave.
- (2) Additional work will not be assigned for those who wish to improve their grades.
- (3) Please turn off your cell phones during the seminar (this falls under being disrespectful).
- (4) Students can write missed tests if they provide appropriate documentation from a doctor stating that they were ill and that their test performance would have been seriously affected on the day of their illness. The documentation must have the doctor's name, address, and phone number. Non-medical reasons for missed exams (e.g., a death in the family) must also be supported with appropriate documentation.

Seminar schedule:

(¹: Reading Assignments are in bold font; pdf journal articles are labeled according to their corresponding session # and their respective order in the required readings)

Date and Reading Assignments ¹	Food for Thought Questions
<p><u>Jan. 13 (Session #1)</u></p> <p>Introduction to the Course</p>	
<p><u>Jan. 20 (Session #2)</u></p> <p><i>The Question of Animal Culture:</i></p> <ul style="list-style-type: none"> - Chapter 1: Introduction (Laland, K.N. & Galef, B.G.). <p>Additional articles:</p> <ul style="list-style-type: none"> - 2.1: Fragaszy, D. (2003). Making space for traditions. <i>Evolutionary Anthropology</i>, 12, 61-70. 	<ol style="list-style-type: none"> 1. Which research disciplines do address the question of culture/behavioral traditions in humans and other animals? What is the direct consequence for the debate over culture? 2. Cite two historical examples of diffusion of foraging innovations in free-ranging animal populations. Why are they still debated? 3. What is the behavioral pattern observed in chimpanzees and reported by McGrew & Tutin (1978), and what difference did it make in the culture debate? 4. Provide examples of behavioral types that were labeled "traditional" or "cultural" in various animal taxa. 5. What are the two main criticisms that fueled the debate over animal culture? In the search for a solution, explain one of the main methodological constraints. 6. Describe a broader use of the term "culture". Is it relevant? 7. Define a behavioral tradition. What is required and what is not? 8. Define "niche construction", provide examples, and explain how it is related to the biological significance of traditions.

<ul style="list-style-type: none"> - 2.2: a series of definitions of various social learning processes from three different articles - 2.3: Perry, S. & Manson, J.H. (2003). Traditions in monkeys. <i>Evolutionary Anthropology</i>, 12, 71-81. 	<ol style="list-style-type: none"> 9. Define "social learning". What would be a more accurate term and why? What are the various settings for social learning? What is the difficulty in distinguishing "social" from "asocial" learning? 10. Describe the "process model" of tradition. In this view, why is the "group-comparison model" problematic? 11. Why a longitudinal approach can be relevant? 12. Cite theoretical reasons for investigating and expecting behavioral traditions in monkeys. 13. Provide evidence for traditions in monkeys. 14. What, if anything, can we learn about learning mechanisms by studying the speed and patterns of propagation of novel behaviors within a group? 15. Explain why the history of cultural primatology may reflect the cultural background of primatologists?
<p><u>Jan. 27 (Session #3)</u></p> <p><i>The Question of Animal Culture:</i></p> <ul style="list-style-type: none"> - Chapter 2: In Tune with Others: The Social Side of Primate Culture (de Waal, F.B.M. & Bonnie, K.E.). <p>Additional articles:</p> <ul style="list-style-type: none"> - 3.1: Coussi-Korbel, S. & Fragaszy, D.M. (1995). On the relation between social dynamics and social learning. <i>Animal Behaviour</i>, 50, 1441-1453. - 3.2: Lonsdorf, E.V. & Bonnie, K.E. (2010). Opportunities and constraints when studying social learning: Developmental approaches and social factors. <i>Learning & Behavior</i>, 38, 195-205. 	<ol style="list-style-type: none"> 1. What is Imanishi's (1952) definition of "culture"? 2. What is de Waal's (2001) definition of "culture"? 3. What are the differences between the three theories about the role of reward in social learning? 4. Describe the "BIOL model" and how it can be tested. 5. Define "social culture", provide examples, and explain how they fit the BIOL model of social learning. 6. Distinguish three types of stimuli conveying information from an individual's behavior to a potential learner. 7. What is the authors' view on behavioral coordination and how can it be a predictor of social learning? 8. What is the difference between non-specific and directed social learning, particularly for the diffusion of information or behavioral innovations within a social group? 9. What are the predictions generated from the model of the relation between social dynamics and social learning? To which levels of comparison can they be applied? 10. Why is social learning difficult to study in wild animals? 11. Describe the three main approaches to studying social learning, including their contributions and weaknesses. 12. Provide examples about the relations between development and social learning across various animal taxa. 13. Provide examples about the relations between social factors and social learning across various animal taxa. 14. Define "conformity to cultural norms"; provide examples. 15. Describe three major constraints (and their interactions) on the transmission and maintenance of cultural variants.

<p><u>Feb. 3 (Session #4)</u></p> <p><i>The Question of Animal Culture:</i></p> <ul style="list-style-type: none"> - Chapter 3: Ten Dispatches from the Chimpanzee Culture Wars, plus Postscript – Revisiting the Battlefronts (McGrew, W.C.). <p>Additional articles:</p> <ul style="list-style-type: none"> - 4.1: Perry, S.E. (2006). What cultural primatology can tell anthropologists about the evolution of culture. <i>Annual Review of Anthropology</i>, 35, 171-190. - 4.2: Whiten, A., Horner, V., & Marshall-Pescini, S. (2003). Cultural panthropology. <i>Evolutionary Anthropology</i>, 12, 92-105. 	<ol style="list-style-type: none"> 1. What are the views of various disciplines on cultural primatology in general, and chimpanzee culture in particular? 2. Why is culture not equal to behavioral diversity? 3. Why social learning and/or tradition may be necessary but not sufficient conditions for culture? 4. Why communicative language may be a sufficient but not necessary condition for culture? 5. What may be the minimal combination of necessary and sufficient conditions for attributing culture to an organism? 6. What were the main two anthropomorphic assumptions about the cognitive mechanisms underlying cultural transmission? To what extent did they turn out to be false? 7. What is the main challenge for psychologists working on social learning processes? 8. Describe theoretical orientations of cultural primatology. 9. What is the socioecology of animal social learning? 10. How cultural primatologists and cultural anthropologists may influence each other? 11. Describe the model used by most cultural primatologists to account for the emergence of cultural traits. 12. Cite and describe three major aspects of culture. 13. Among these aspects, what are the main contrasts between humans, chimpanzees, and other animal taxa? 14. What is "cumulative cultural evolution"? Cite examples. 15. Define "teaching" and "imitation". How do they differ across species? Can these differences affect cultural gaps?
<p><u>Feb. 10 (Session #5)</u></p> <p><i>The Question of Animal Culture:</i></p> <ul style="list-style-type: none"> - Chapter 4: Geographic Variation in the Behavior of Wild Great Apes: Is it Really Cultural? (van Schaik, C.P.). <p>Additional articles:</p> <ul style="list-style-type: none"> - 5.1: Laland, K.N. & Janik, V.M. (2006). The animal cultures debate. <i>Trend in Ecology and Evolution</i>, 21, 542-547. 	<ol style="list-style-type: none"> 1. What are the main conceptual and methodological reasons that account for the controversy over animal culture? 2. What are the different labels of the technique consisting of studying culture through geographic variation in behavior? 3. What is the basic logic of this technique? 4. What are the main criticisms of this technique? 5. Provide possible solutions to solve these issues. 6. Explain how an anthropocentric perspective may act as a barrier to understanding the evolutionary roots of culture. 7. Cite examples of vocal cultures. Why have they not been fully integrated into discussions of animal culture to date? 8. How may animal culture affect evolutionary processes?

<p>- 5.2: Lycett, S.J. (2010). The importance of history in definitions of <i>culture</i>: Implications from phylogenetic approaches to the study of social learning in chimpanzees. <i>Learning & Behavior</i>, 38, 252-264.</p>	<p>9. List current findings consistent with a chimpanzee culture. 10. What are the main objections to this view? 11. Define cladistic methods and summarize their principles. 12. How do phylogenetic analyses of behavior support the existence of culture among wild chimpanzees? 13. How do they emphasize the importance of history in defining culture?</p>
<p><u>Feb. 17 (Session #6)</u></p> <p><i>The Question of Animal Culture:</i> - Chapter 5: The Identification and Differentiation of Culture in Chimpanzees and Other Animals: From Natural History to Diffusion Experiments (Whiten, A.).</p> <p>Additional article: - 6.1: Whiten, A. (2005). The second inheritance system of chimpanzees and humans. <i>Nature</i>, 437, 52-55.</p>	<p>1. Why is culture as rare or as common as it is defined to be? 2. What are Whiten's definitions of "tradition" and "culture"? 3. Describe the "two-cultures experiment". 4. How can we assess genetic/environmental explanations for geographic variation in chimpanzee behavior? 5. How "conformity" may be defined in two different ways? 6. How the methodology typically used in ethology may provide a comprehensive assessment of animal culture? 7. What is the evolutionary hypothesis drawn from comparative studies of chimpanzee and human cultural traits? 8. Explain the "animal traditions/human cultures" dichotomy. 9. Distinguish "selective copying" and "blind imitation". 10. What are the two "inheritance systems", and how research on one may complement research on the other?</p>
<p><u>Feb. 24</u> Reading week: No Class</p>	
<p><u>Mar. 3 (Session #7)</u></p> <p><i>The Question of Animal Culture:</i> - Chapter 6: How Might We Study Culture? A Perspective from the Ocean (Whitehead, H.).</p> <p>- Chapter 7: From Social Learning to Culture: Intrapopulation Variation in Bottlenose Dolphins (Sargeant, B.L. & Mann, J.).</p>	<p>1. Provide examples of cultural traits in two whale species. 2. What is Whitehead's definition of "culture"? 3. List the questions that can be addressed through the study of culture in wild animals. 4. List the quantitative techniques to answer some of them. 5. Explain how culture may affect other areas of biology. 6. What is Sargeant & Mann's definition of "culture"? 7. Describe their model of "opportunities for social learning and shared function". 8. What is the evidence for socially learned behaviors in bottlenose dolphins? When is it "culture"? 9. Explain how social learning and individual specialization may be linked in multiple, and potentially reinforcing, ways.</p>

<p>Additional article: - 7.1: Holzhaider, J.C., Hunt, G.R., & Gray, R.D. (2010). Social learning in New Caledonian crows. <i>Learning & Behavior</i>, 38, 206-219.</p>	<p>10. What is the evidence for social learning in the acquisition of tool skills in New Caledonian (NC) crows? Is it "culture"? 11. Explain how the social organization of NC crows is suitable for enabling cumulative technological evolution. 12. Has cumulative technological change actually taken place in NC crows?</p>
<p><u>Mar. 10 (Session #8)</u></p> <p><i>The Question of Animal Culture:</i> - Chapter 8: Animal Culture: Problems and Solutions (Laland, K.N., Kendal, J.R., & Kendal, R.L.).</p> <p>Additional articles: - 8.1: Reader, S.M. & Biro, D. (2010). Experimental identification of social learning in wild animals. <i>Learning & Behavior</i>, 38, 265-283.</p> <p>- 8.2: Leca, J.-B., Gunst, N., & Huffman, M.A. (In press). Thirty years of stone handling tradition in Arashiyama macaques: Implications for cumulative culture and tool use in non-human primates. In <i>The Monkeys of Stormy Mountain: 60 Years of Primatological Research on the Japanese Macaques of Arashiyama</i>. JB Leca, MA Huffman & PL Vasey (eds) Cambridge University Press.</p>	<p>1. Why study social learning/culture in nonhuman animals? 2. What is Laland et al.'s definition of "culture"? 3. Why is there a controversy over animal culture? 4. How experimental and statistical methods may resolve some of these controversial issues?</p> <p>5. What are field experiments? 6. Why are they useful? 7. Provide examples of experimental approaches, species studied, and behavioral contexts investigated.</p> <p>8. According to psychologists, cite four major differences between "animal traditions" and "human culture". 9. Provide examples of possible accumulated cultural changes over generations in nonhuman species. 10. Is this evidence for cumulative cultural evolution? 11. Explain how the study of the stone handling tradition in Japanese macaques has benefited from different approaches. 12. Can the accumulation of stone-related behavioral diversity and complexity in this species be considered a "cumulative stone handling culture"? Why (not)? 13. Explain why the study of stone handling may be relevant to the animal culture debate from an evolutionary perspective.</p>
<p><u>Mar. 17 (Session #9)</u></p> <p><i>The Question of Animal Culture:</i> - Chapter 9: The Question of Chimpanzee Culture, plus Postscript – Chimpanzee Culture, 2009 (Tomasello, M.).</p>	<p>1. What is Tomasello's definition of "chimpanzee culture"? 2. What can be said about the social learning processes employed by chimpanzees during the acquisition of tool use and gestural communication behaviors? Is this debated? 3. Cite six characteristics seemingly restricted to or at least</p>

<p>Additional article:</p> <ul style="list-style-type: none"> - 9.1: Tennie, C., Call, J., & Tomasello, M. (2009). Ratcheting up the ratchet: on the evolution of cumulative culture. <i>Philosophical Transactions of the Royal Society B</i>, 364, 2405-2415. 	<p>pervasive in "human cultural traditions". Are they found in "chimpanzee behavioral traditions"? Why (not)?</p> <ol style="list-style-type: none"> 4. What can be inferred about the evolution of human culture? 5. Explain how the systematic study of chimpanzee behaviors may undermine, to some degree, their cultural status. 6. Cite four major elements providing a plausible alternative explanation for some chimpanzees' cultural traditions. 7. Define and provide evidence for the "ratchet effect" in human culture. Does this process underlie chimpanzee behavioral traditions? Why (not)? 8. How do chimpanzees and humans differ in their social learning processes, social cognition, and social motivations? 9. Can these differences explain why human culture is an evolutionarily unique phenomenon?
<p><u>Mar. 24 (Session #10)</u></p> <p><i>The Question of Animal Culture:</i></p> <ul style="list-style-type: none"> - Chapter 10: Culture in Animals? (Galef, B.G.). <p>Additional articles:</p> <ul style="list-style-type: none"> - 10.1: Laland, K.N. & Hoppitt, W. (2003). Do animals have culture? <i>Evolutionary Anthropology</i>, 12, 150-159. - 10.2: Kendal, R.L., Galef, B.G., & van Schaik, C.P. (2010). Social learning research outside the laboratory: How and why? <i>Learning & Behavior</i>, 38, 187-194. 	<ol style="list-style-type: none"> 1. How can we demonstrate that social learning contributes to maintain inter-population variation in behavior? 2. Should we accept the hypothesis that animal traditions are the evolutionary precursors of human culture? Why (not)? 3. Why is culture rare in animals? Or is it? 4. What may be unique about primate culture? 5. What (if anything) is unique about human culture? 6. Cite two limitations of laboratory studies of social learning. 7. What are the three major types of methods for capturing social learning in natural contexts? 8. Why is the utility of documenting geographic variation in behavioral repertoires still debated? 9. Explain how the different methods for identifying social learning can be placed on a continuum.
<p><u>Mar. 31 (Session #11)</u> <u>(Handout for end-of-term test)</u></p> <p><i>The Question of Animal Culture:</i></p> <ul style="list-style-type: none"> - Chapter 11: Are Nonhuman Primates Likely to Exhibit Cultural Capacities like Those of Humans? (Perry, S.). 	<ol style="list-style-type: none"> 1. What sorts of evidence can be used to detect culture or traditions in the wild? 2. Is there more to human culture than just social learning? 3. Can we find examples of non-human animal behavioral traditions that currently satisfy the criteria of human culture?

<p>Additional article: - 11.1: Boesch, C. (2003). Is culture a golden barrier between human and chimpanzee? <i>Evolutionary Anthropology</i>, 12, 82-91.</p>	<p>4. What is Boesch's definition of "culture"? 5. What are the general attributes that chimpanzee culture may share with human culture? 6. How and to what extent do they differ? 7. What are the evolutionary implications of this comparison?</p>
<p><u>Apr. 7 (Session #12)</u></p> <p><i>The Question of Animal Culture:</i> - Chapter 12: Animal "Culture"? (Hill, K.).</p> <p>- Chapter 13: Peacekeeping in the Culture Wars (Sterelny, K.).</p>	<p>1. What are the three universal components of the human culture "complex", as defined by anthropologists? 2. Are these components present in non-human animals? 3. Provide examples of human-specific psychological mechanisms of culture. Are they present in other animals? 4. According to Hill, what are the main differences between animal behavioral traditions and human culture? 5. What do the archaeological records tell us about the evolution of culture in hominins?</p> <p>6. What is Sterelny's view on animal behavioral traditions? 7. What is Sterelny's definition of (human) culture? 8. How does niche construction play a major role in culture? How may this view affect our conception of social learning? 9. What can/do animal behavioral traditions really tell us about evolution of human culture?</p>
<p><u>Apr. 14 (Session #13)</u></p> <p>End-of-term test</p>	