

Philosophy 6395: Animal Cognition

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Tentative Syllabus

Summary:

When philosophers have attempted to define human nature, it is often by reference to or contrast with that of animals. And yet the most natural way to understand the thought processes of animals is by comparing their abilities to (what we think we know about) our own. Our thinking about animal minds thus seems trapped between two biases: viewing animals as wordless, furry versions of ourselves (anthropomorphism), and holding that animal thought is only rational, interesting, or otherwise valuable insofar as it resembles human cognition (anthropocentrism). These doubts can leave us wondering whether a rigorous empirical study of animal cognition is even possible.

In the first half of this course, we will review the study of animal thought from the Ancients to the current explosion of empirical work on animal cognition. We will begin with the debates about human nature in Plato, Aristotle, and the Stoics, continue to survey the notion of the wordless “brute” caught in the debate between the rationalists and empiricists, review the dramatic way that Darwin’s theory of evolution changed the terms of the debate, explore the foundations of comparative psychology in Morgan and Romanes, consider the arguments of the radical behaviorists, and finally assess the cognitive revolution against the behaviorist’s epistemological strictures.

In the second half, we will explore particular debates in current animal cognition research. The empirical study of animal cognition today is a highly interdisciplinary field—with crucial contributions by psychologists, ethologists, philosophers, and biologists—that aspires to use well-designed experiments to overcome the biases of anthropomorphism and anthropocentrism. However, there remain a variety of philosophical challenges facing the field, such as whether folk psychology (appealing to contentful mental states like beliefs and desires) provides a viable framework for the empirical study of animal psychology, whether animals have consciousness, whether animal cognition can be studied in the lab or only in the wild, and whether neuroscience might provide additional purchase on these issues. We will conclude the course by reviewing the ways in which these issues arise in several debates over particular animal cognitive capacities, such as tool use, episodic memory, theory of mind, transitive inference, and metacognition.

Required texts: *The Cognitive Animal*, Allen, Bekoff, and Burghardt

Recommended texts: *Animal Minds and Human Morals*, Sorabji, *The Origin of Species*, *The Descent of Man*, Darwin, *Introduction to Comparative Psychology 1903*, C. Lloyd Morgan,

Grading:

30% Weekly online commentaries & participation

20% Paper 1 – Due week 12

10% Reviews – Due week 14 midnight

40% Final Paper – Due May 8th

Commentaries: Each class period, two students will be assigned to write a critical commentary on the day’s readings. The students will briefly summarize the arguments of the readings and offer some substantive critical remarks (roughly 3-5 pages). The commentary will be posted online, and all other students in the class will be expected to respond to their commentary. The goal is to bootstrap in-class discussion by outlining major issues and disagreements before coming to the classroom. Depending on

the course size, students will be expected to do two such commentaries and respond to the commentaries of others at least once a week. The students assigned to write commentaries that week should bring a handout to class and lead the class discussion on the relevant topics.

Papers and reviews: Students will submit one complete shorter paper (10-12 pages) by Week 12. They will then receive peer reviews from and perform peer reviews for two other students (as well as comments from me) and revise their papers in light of their comments. A final paper taking into account these comments (15-20 pages) will then be due at the end of the course.

Reading list (“TCA” means the reading is in *The Cognitive Animal*; other readings on Blackboard):

Part I: History

Week 1 – Jan 14

Animal rationality: Aristotle, Porphyry, and the Stoics

- Richard Sorabji—*Animal Minds and Human Morals* (excerpts posted)
- Porphyry—*On Abstinence from Animal Food*, Book 3

Week 2 – Jan 21

The “brute” caught between rationalism and empiricism

- Hume—*Treatise of Human Nature*, Book I, Section 16
- Descartes—*Meditations* 2, 6
- Huxley 1897—On the hypothesis that animals are automata, and its history
(<http://aleph0.clarku.edu/huxley/CE1/AnAuto.html>)
- Harrison 1992—Descartes on animals

Week 3 – Jan 28

Darwin: The evolutionary turn

- Darwin—*Origin*, Ch 8, *Descent*, Chs 3 and 4
- Romanes—*Animal Intelligence* excerpts
<http://www.pigeon.psy.tufts.edu/psych26/history.htm#romanes>

Week 4 – Feb 4

Behaviorism, radical and cognitive

- Watson 1907— Studying the minds of animals
- Skinner 1948— ‘Superstition’ in the pigeon
- Tolman 1948—Cognitive maps in rats and men
- Sober 2005—Morgan’s canon and cladistic parsimony

Week 5 – Feb 11

Meanwhile in Europe...

- Lorenz 1937—The companion in the bird’s world

- Lehrman 1953—A critique of Konrad Lorenz's theory of instinctive behavior
- Tinbergen 1963—On the aims and methods of ethology
- Ristau 1991—Aspects of the cognitive ethology of an injury-feigning bird, the piping plover

Week 6 – Feb 18

The cognitive revolution

- Greenwood 1999—Understanding the “cognitive revolution” in psychology
- Dennett 1983—Intentional systems in cognitive ethology
- Gould & Lewontin 1979—The spandrels of San Marco
- Shettleworth 2011—*Cognition Evolution and Behavior* Ch1

Part II: Capacities and Debates

Week 7 – Feb 25

Transitive inference

- McGonigle & Chalmers 1978—Are monkeys logical?
- Von Fersen et al. 1991—Transitive inference formation in pigeon
- Bond, Kamil, and Balda 2002—Social complexity and transitive inference in corvids
- Allen 2004—Transitive Inference: reasoning or conditioned associations?

Week 8 – Mar 4

Episodic memory

- Clayton et al. 2001—Elements of episodic-like memory in animals
- Tulving 2002—Episodic memory: From mind to brain
- Suddendorf and Corballis 2007—The evolution of foresight
- Clayton, Russell, and Dickinson 2009—Are animals stuck in time or are they chronesthetic creatures?

****SPRING BREAK Mar 10-15****

Week 9 – Mar 18

Concepts

- Chater and Heyes. 1994—Animal concepts-content and discontent.
- Newen & Bartels 2007—Animal minds and the possession of concepts
- Cook, TCA—Same/different learning in pigeons
- Watanabe 2007—The neural basis of cognitive flexibility in pigeons
- Pepperberg TCA—Cognitive and communicative abilities of African grey parrots

Week 10 – Mar 25

Communication and language

- Seyfarth & Cheney 1988—Detection of unreliable signalers in vervet monkeys
- Slobodchikoff TCA—Cognition and communication in prairie dogs

- Rendall & Owren, TCA—Animal vocal communication: say what?
- Herman, TCA—The cognitive world of the bottlenosed dolphin

Week 11 – Apr 1

Tool use

- Matsuzawa, TCA—Chimpanzee Ai and her son Ayumu: An episode of education by master-apprenticeship
- Santos, Hauser, and Spelke, TCA—Domain-specific knowledge in Human children and nonhuman primates: artifacts and foods
- Visalberghi, TCA—Insight from capuchin monkey studies
- Chappel & Kacelnik 2002—Tool selectivity in new Caledonian crows
- Penn, Holyoak, and Povinelli 2008—Darwin's Mistake: Explaining the discontinuity between human and nonhuman minds

Week 12 – Apr 8

Theory of mind

- Hare et al. 2000—Chimpanzees know what others do and do not see
- Whiten 1998—When does smart behavior reading become mind reading?
- Penn and Povinelli 2007—On the lack of evidence that non-human animals possess anything remotely resembling a 'theory of mind'
- Lurz 2009—If chimpanzees were mindreaders, could behavioral science tell?
- Buckner 2013—The semantic problem(s) with research on animal mindreading

Week 13 – Apr 15

Metacognition

- Smith et al. 2003—The comparative psychology of uncertainty monitoring and metacognition
- Carruthers 2009—Metacognition in animals: A skeptical look
- Foote & Crystal, 2007—Metacognition in the rat
- Call 2010—Do apes know they could be wrong?

Week 14 – Apr 22

Altruism & morality

- Gruen TCA—The morals of animal minds
- De Waal 2009—Putting the altruism back into altruism: The evolution of empathy
- Korsgaard 2005—Kantian ethics and our duties to animals
- Rowlands 2010—Can animals be moral?

Week 15 – Apr 29

Bias, bias, bias

- Wynne 2007—What are animals? Why anthropomorphism is still not a scientific approach to behavior

- Fisher 1990—The myth of anthropomorphism
- Buckner 2013—Morgan's canon, meet Hume's dictum: Avoiding anthropofabulation in cross-species comparisons
- De Waal 2003—Silent invasion: Imanishi's primatology and cultural bias in science

Final papers due: Thu May 8

Guide to replies:

In each class we'll have some members of the class contribute a short reading response paper. I will rotate the schedule of reading response papers, so that every class two students (typically) will submit a paper. These papers will usually involve setting out and evaluating one of the arguments in the reading for that class day. You will post this paper to the class bulletin board. [NOTE: I set a deadline time so that everybody knows when the papers will be up.] Everybody will be responsible for reading the reading response papers before the class meeting and posting a reply to one of the papers, or even a reply to one of the replies.

Finally, Cameron's tips for improving grad student writing:

1. Thou shalt not engage in philosophical autobiography; tell us not what you think, feel, or believe, but rather what you can prove.
2. Thou shalt not add any discursions that are not directly relevant to your core argument.
3. Thou shalt rigorously avoid use/mention confusions.
4. Thou shalt not introduce more than one core idea per paragraph.
5. Thou shalt not engage in the practice of argument by italics, which is loathsome and displeasing to reason.
6. Thou shalt be as charitable to thy target as possible, and shall not put words in thy target's mouths without textual or argumentative support.
7. Thou shalt not have thy argument turn on unexplicated appeals to "in virtue of". (I realize that this rules out large swaths of metaphysics, but it's my class and I insist on it nevertheless.)