

Piedmont Project III: May, 2003

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Probably the best metaphor I can apply to express my experience with the Piedmont Project is “cross-fertilization.” Most of the environmental concepts covered in the workshop were at least familiar to me, and many I had actually taught in some of my classes. However, the myriad of perspectives and reactions to these same concepts conveyed by colleagues from other disciplines illuminated them in a way that made them seem fresh and new. In particular, those from the humanities were the most instructive; to gain ideas and feedback from scholars in English, theater, art history, and music was a rare opportunity to learn about the interplay of environmental issues with their studies. Moreover, the inclusion of field botany as an important component of the workshop confirmed my suspicion that this facet of environmental studies provides an appropriate springboard for all people interested in environmental studies. Indeed, I felt that learning about fertilization in the literal sense initiated a fruition of more curiosity about how the world works from an environmental perspective.

As a result, I have changed my course (ENVS/NBB 190, How to Interpret Behavior You Did Not See) so that it includes the following two revisions: (1) a botanical component taught early in the semester that emphasizes native and non-native plants in the surrounding landscape and how they affect animal behavior; and (2) weekly readings from both fiction and non-fiction that feature animal behavior (with some connection to tracking, of course), but with attention paid to the ecological context described by the various authors. With regard to the former, I will have students sketching, describing, and interpreting plants in the field early in the semester, and later use this knowledge to apply when viewing places where animals live. As a supplement to the latter revision, I also plan to incorporate short video clips in class from documentary films (“The Great Dance,” which is about the San trackers of the Kalahari) and popular films (such as last year’s “Rabbit-Proof Fence”) to show how tracking is depicted in different settings and cultures. A brief review of how aboriginal art in Australia has been influenced by the recognition and study of animal tracks will be done near the beginning so that students will better appreciate the seminal influence of tracking in many nomadic indigenous cultures. In other words, while studying the interactions between plants and animals in the local landscape, we will learn how others have studied these same interactions in other landscapes. From this, the students will be able to draw their own conclusions about commonalities in the long history of tracking animals as a human experience and how these reflect human connections with their environments. The Piedmont Project was invaluable in helping me to better hear the different voices that lend to reaching such a goal, and for that I am very grateful and enthusiastic about sharing these voices with the students.

ENVIRONMENTAL STUDIES 190
NEUROSCIENCE AND BEHAVIORAL BIOLOGY 190

How to Interpret Behavior You Did Not See

Meeting Times: Wednesday, 2:30-5:30 p.m. We may have one optional weekend field trip to Sapelo Island, Georgia at a date to be announced later in the semester.

Meeting Place: Geoscience Building, Room 109 for in-class meetings, but we will often meet in Lullwater Estate. Punctuality and attendance are essential for maintaining educational quality in the class. Attendance is part of the participation grade for the class, thus missing a class will result in a penalty to this part of the grade.

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Textbooks: (1) Rezendes, P. 1992. Tracking and the Art of Seeing: How to Read Animal Tracks and Sign. Charolette, VT, Camden House Publishing, 320 p. (2) Nyala, H. 1997. Point Last Seen. New York, NY, Penguin Books, 168 p.

Course Description: The purpose of this class is to examine how behavior can be interpreted reliably without actually witnessing it, which tests (and sometimes falsifies) the conventional wisdom of "seeing is believing." Inference will be used as a scientific methodology where students describe the products of behavior in order to interpret the processes of behavior. In some cases, the products of behavior provide much more detail about an organism's behavior than if the behavior had been observed. Primary emphasis will be on how to track animals (including humans) in both natural and human-made settings, but will also include problem-based learning in paleontology and forensic methods. Fiction and its depiction of inferential reasoning used to interpret behavior (such as portrayed by Sherlock Holmes) will provide examples of the long history of this form of science in the popular imagination. Environmental factors and how they influence behavior of both plants and animals is a key part of interpreting unwitnessed behavior; accordingly, the vast majority of classes will be conducted outdoors.

Basis of Grade: Assignments = 30%; Participation = 30% (15% in class, 15% on LearnLink); Quizzes = 40%.

Course Outline:

Sept. 5 – Introduction to inference and observation methods. Exercise on observation methods and interpretations of behavior from inference. For next class read: Rezendes, p. 13-30; Brown, p. 15-33 (handout).

Sept. 12 – Discussion of readings; Overview of ichnology (the study of modern and fossil

traces). Exercise with describing features of trace fossils in slides, drawing trace fossil specimens. For next class read: Bromley, p. 1-21 (handout).

Sept. 19 – Discussion of readings; tracking methods, Part I: substrates, compression shapes, locomotion patterns (gait analysis). Exercise on finding tracks in Lullwater Estate. For next class read: Rezendes, p. 31-57 (“small rodents”); Brown, p. 33-49 (handout).

Sept. 26 – Quiz on tracks and sign of “small rodents”; discussion of readings; tracking methods, Part II: deformational features associated with tracks (“pressure releases”) and their behavioral significance. Exercise on describing tracks in sand. For next class read: Rezendes, p. 58-96 (“big rodents”); Young (Cybertracker manual).

Oct. 3 – No class scheduled but I may have a guest lecturer (expect details later) – I will be attending the Society of Vertebrate Paleontology (SVP) meeting in Bozeman, Montana that week.

Oct. 10 - Quiz on tracks and sign of “big rodents”; report to class about SVP meeting; discussion of readings; tracking methods, Part III; ecological factors and their influences on track preservation and behavior. Exercise on animal signs in Lullwater Estate. For next class read: Rezendes, p. 97-152 (lagomorphs and mustelids).

Oct. 17 – Quiz on tracks and sign of lagomorphs and mustelids; discussion of readings. Exercise on mapping animal trails in Lullwater Estate. For next class read: Rezendes, p. 153-216 (didelphids, procyonids, canids).

Oct. 24 - Quiz on tracks and sign of didelphids, procyonids, and canids; discussion of readings. Exercise on mapping animal trails in Lullwater Estate. For next class read: Rezendes, p. 217-260 (felids, ursids).

Oct. 31 - Quiz on tracks and sign of felines and ursids; discussion of readings. Exercise on mapping animal trails in Lullwater Estate. For next week read: Rezendes, p. 261-301 (ungulates); begin reading Nyala.

Nov. 7 – No class scheduled but I may have a guest lecturer (expect details later) – I will be attending the Geological Society of America (GSA) meeting in Boston, Massachusetts, but a quiz on tracks and sign of ungulates will be given by a proctor at the beginning of the regularly scheduled classtime. For next week read: Nyala (finish).

Nov. 14 – Report to class about GSA meeting; discussion of readings; basic methods of search and rescue (SAR) tracking. Exercise on finding a “lost” person in Lullwater Estate. For next week read: Brown, p. 21-26; Sir Arthur Conan Doyle - Sherlock Holmes: The Adventure of the Golden Pince-Nez.

Nov. 28 – Discussion of reading; forensic science and use of ichnologic and forensic methods in criminology. Exercise on solving a “crime.”

Dec. 5 – LAST CLASS and final practical exercise on behavioral interpretation through observations and inference.