Alcock Ch. 1 - "Introduction" Study Guide/Questions
Ethology and Behavioral Ecology

This assignment should take 1 to 2 hours depending on your background.

1. Proximate-ultimate causation. Pp 4-11. The prairie vole monogamy example nicely illustrates the differences between proximate and ultimate causation studies in behavior. Also, please think about the role of the *avpr1a* gene (btw – what does this gene code for?). Do you think this gene is the cause of monogamous behavior? We will soon talk about the relationship between genes and behavior; keep this in mind. Also take the time to look over the notion of constructing a behavior's evolutionary history (phylogeny). We discussed this briefly in the first class.

2. The review on natural selection should be useful; hopefully you already know the material there. But be sure you understand how to test both proximate and ultimate hypotheses (and see the next question). What is the only real difference between human-directed (artificial) and natural selection?
Note: Alcock is a strong selectionist. What does this mean? What is the alternative view of the evolution of traits?

3. Contrast the social pathology and "quicker reproduction" hypotheses to explain infanticide in a number of species, for instance langurs, lions and wattled jacanas. How does the notion of group selection enter into the former as a possible adaptation? What is group selection and what does Alcock say is the problem with it? (We will discuss this in more detail a bit later in the course.)

4. When hypotheses (explanations) are constructed and not tested Gould and others refer to producing "just so stories." Alcock makes the point that the best science is done when alternative hypotheses are tested (and ideally, I would add, alternatives that produce multiple predictions). A so-called strong test of a hypothesis occurs when many alternative and alternatives are tested. What does all of this have to do with the notion of certainty in science? Be ready to discuss this in class.

Be sure to consider and be able to answer all the discussion questions within he chapter.