

BIO 45 - DISCUSSION #5 - WHAT IS COMMUNICATION? – 15-17 OCTOBER 2002

I. PURPOSE:

It is time to focus on a core topic for animal behavior -- communication. Think about the questions below and be prepared to share your ideas with others in section. We will start with a video that will give you lots to think and talk about. You have also observed a lot of communication behavior for your journals. Sit back and let your ideas flow. Help each other with the questions below. Use what you have learned so far to explore new ground.

II. READINGS:

1. Your journal entries, lecture notes and Alcock Chs. 8 (pp.219-228) and 10.

III. Questions you want to think of answers for:

How should communication be designed by selection?

How can we tell when two animals are communicating?

How should communication systems be designed by evolution? What issues emerge as you think about how such systems ought to work for the benefit of the animals communicating? When we say that A does something in order to get B to do something in response, how might selection act on A and B and their interaction? Should it favor information content of the message, or its efficiency, or what?

Share your ideas with the section.

You have been recording interactions within species and identify ways to tell when communication has occurred. Look through your journal for behaviors (displays, vocalizations, postural changes) that you think signal or predict an interaction and the behavior involved. **Can you explain how you figured it out or how to predict when a pigeon or whatever will do a certain thing?**

IV. Trials of Life -- Ambrose Video -- David Attenborough -- Talking to Strangers

Contents and rough timing (start from title of video)

0	Honeyguides	Bird ==> human communication
3:02	Wild dogs and stotting gazelle	Predator/prey
5:27	ringed plover - broken wing display	"
6:54	skylark and merlin	"
8:07	hairy mole rat - Israel	substrate vibration
11:27	lacewings	"
12:00	waterstrider - ripples	"
12:35	palm cockatoo drum and song	" and vocalization
13:01	dawn singing - bell bird	song and transmission conditions
	screaming peeka	"
14:27	African hornbill duets	dueting
14:58	indri - Madagascar	simple territorial calls
16:25	black gibbon	complex territorial calls
17:50	mangaby - Kenya	inter-group food calls
19:19	vervets	alarm calls - predator specific
21:35	vervets and superb starling	alarm calls - use of other species'
	--- Nocturnal communication systems	
22:20	Panamanian frogs	multi-species assemblages - tactics
24:24	synchronized fireflies - Malaysia	using light
26:53	N. E, US fireflies	attracting with flashlight
	---- Underwater communication systems	
28:31	fireworms Bermuda	light
30:23	combjellies, etc. - sea bottom	"
34:22	toadfish San Francisco	underwater - sound
36:36	male tending young	
37:23	sea lions	underwater sounds
38:28	narwhals	"
39:50	squid chromatophore displays	complex communication
42:19		dolphins