9.01 - Neuroscience & BehaviorFall 2003Massachusetts Institute of TechnologyInstructor: Professor Gerald Schneider

Study questions for lecture 2 assigned readings.

From Rosenzweig pp. 1-21:

1. What might you hypothesize if you find that a). some feature of the nervous system is much the same in two species that are extremely different(like squid and humans)? b). some feature of the nervous system is quite different in two species that are closely related (like chimpanzees and humans)?

2. How can developmental research shed light on the organization of the nervous system? Use the development of memory as an example.

3. What is the basis for saying that "what is true of E. coli is true of the elephant"? In what ways does this generalization not hold true?

4. What are the independent variable and dependent variable of somatic intervention, behavioral intervention and correlation experimental approaches in biological psychology, respectively?

5. What does the term 'neural plasticity' refer to? Give examples.

6. For each of the sections that follow, prepare two brief statements: one concerning the nature of the problem, and one concerning current research on that topic.

- a). Problem: Growth and development of the nervous system.
- b). Problem: Processing of sensory information by the nervous system.
- c). Problem: Basis of sexual orientation.
- d). Problem: Brain regions underlying emotions.
- e). Problem: Storage of information by the brain
- f). Problem: Neural bases of language.

7. What are the main points in D.O Hebb's book 'The organization of behavior'?