Ch. 1: ORIGINS OF LEARNED BEHAVIOR

Difficulties in Understanding Complex Behavior

Describe in your own words the three difficulties identified in this section and relate them to the example that began the section. Can you think of an example of your own construction that illustrates each difficulty?

Approaches to Understanding Complex Behavior

The Status of Unobserved Events in a Science of Behavior

1. Given the definition of behavior in the readings, is dreaming behavior? Justify your answer.

2. Critically evaluate the following statement: Although much human behavior cannot be observed by others—e.g., thinking—our ability to talk about that behavior permits it to be studied.

3. Given your answer to the previous question, comment on the following: Personality tests allow us to study a person's innermost thoughts and feelings. [Note: Personality tests can use either verbal material (e.g., statements with which the person agrees or disagrees are descriptive of himself) or so-called projective tests (e.g., the Rorschach or the Thematic Apperception Test). Does your answer depend on which type of test is used? Explain.]

Methodological Approach

4. Three approaches to dealing with unobserved processes are described in this chapter—the			
m_	approach, the i	p	approach, and the
b	approach.		

5. What is methodological behaviorism, and how does it treat unobserved behavior?

6. Give one historical reason why many found the approach of methodological behaviorism attractive.

7. Making reference to Figure 1.1, why is methodological behaviorism sometimes called the "black-box" approach? Use the phrase *functional relation* in your answer.

8. What are the principle reasons for adopting the approach of methodological behaviorism?

9. Be able to state at least one practical reason why unobserved events should have a place in a science of behavior.

10. Is B. F. Skinner's view of a science of behavior the same as methodological behaviorism? Explain the difference.

11. Be able to state at least one formal (logical or scientific) reason why sub-behavioral events are of interest in a science of behavior.

Role of Unobserved Events in a Science of Behavior

12. The two approaches for dealing with unobserved processes are the i______p____ and the b______ approach.

The Inferred-Process Approach

13. What is the inferred-process approach, and how does it propose to deal with unobserved events?

14. Describe the major findings from experiments in which subjects were presented with sets of letters and then asked to recall them. Specifically, how did response errors change when the presentation and retention intervals were increased from a fraction of a second to a few seconds?

15. Indicate how the standard inferred-process approach attempts to account for these findings. Use the terms sensory memory, short-term memory, and representation in your answer.

16. What is circular reasoning? Indicate how the "explanations" described in your answer to the preceding question might fall victim to this logical fallacy. Be specific.

17. What do the historical record and formal analysis suggest about the ability of intervening processes to be accurately inferred on the basis of behavioral observations alone?

18. Explain the following statement: Inferred-process theories endure—at least in part—because reliability is mistaken for validity. (Define reliability and validity and what is the relation between them?)

Biobehavioral Approach

20. Summarize a biobehavioral account of the same memory experiments described in question 14 above.

21. Why is it said that the explanations offered by the inferred-process approach do not meet the technical requirements of scientific interpretations? Your answer should make clear the definition of a scientific interpretation.

Organized Complexity in Historical Science

Organized Complexity in Evolutionary Biology

22. State what you believe to be the main points in the discussion of the role of natural selection in biological evolution. Illustrate each point with an example from the readings that illustrates that point.

23. Summarize the major steps in human evolution.

24. In your own words, what are four main characteristics of the account of how complexity comes about in evolutionary biology?

25. What are some of the limitations of the account of how complexity came about in evolutionary biology?

Organized Complexity in a Science of Behavior

Selectionist Approach to Complexity

v_____, s_____, and r_____. Be able to describe each step briefly.

26. Comment on the following statement: Early fish developed lungs so that they could survive on land.

27. Are selection processes directed toward some ultimate goal—e.g., the best solution to a problem? Explain your answer.

28. What is the point of the example with the reading of the word "MACHINERY?"

29. To what extent do selection processes prepare us to live in future? Explain.

30. What is the relation between selection and the variability on which selection processes act? In what sense are they independent; in what sense are they interdependent? How does the example of the evolution of feathers from scales illustrate this relation?

31. Could the contribution of selection processes to variation occur without the third step of retention? Explain.

32. In evolutionary biology, the characteristics that vary are structures and how those structures are used together with their biological basis in the genes. What are the corresponding characteristics and their biological basis in a science of behavior?

Implications for Complex Behavior

33. Behavioral science has employed several approaches to gathering observations—the d______approach and the c______approach, and the n______approach.

34. Be able to describe each of these three approaches and their strengths and limitations.

35. Comment on the following: The ability to learn may be the most important legacy of evolution through natural selection.

36. What is *blindsight* and what are some reasons for its importance?

37. In the light of Figure 1.8, comment on the following statement: Behavior is caused either by heredity or by the environment.

38. Some have been critical of selection processes because they seem to make the individual a mere slave of the environment. Making use of Figure 1.9, evaluate this criticism using the term *counterselection* in your answer.

39. Does behavioral engineering occur even when it is not explicitly practiced by society? Explain.

40. What are some of the sources of limitations of selectionist explanations?