STUDY GUIDE FOR EXAMINATION #3

Class #16: Architecture of the Real World
1. According to Simon, what is complexity? How did complexity arise?
2. Identify three characteristics of a complex system.
3. According to Senge, what are the primary characteristics of systems thinking?
4. Using either the Shifting the Burden or Limits to Growth templates, illustrate how the template can be used to understand dynamic complexity.
5. Use Senge’s tragedy of the commons template and construct a story of your own.

Class #17: Challenges To Positivism
1. What is Hume’s paradox? What is the problem of induction? How are the two related to one another?
2. What does it mean to say that observation is theory dependent? Give an example of theory dependence.
3. Does the theory dependence of observation mean that we can see whatever we like? In light of your answer, how might you interpret N. R. Hanson’s observation that “. . . there is more to see than meets the eyeball?”
4. What is the correspondence theory of truth? What happens when there is a clash between theory and observation?
5. Discuss the following quotation:

“The scientist who supposes that he is single-mindedly dedicated to the search for the truth deceives himself. . . . He seeks system, simplicity, scope; and when satisfied on these scores, he tailors truth to fit. He as much decrees and discovers the laws he sets forth, as much designs and discerns the patterns he delineates.”

Class #18: Perception, Public Relations, And The Tree Of Talking
1. What is the user illusion? What does it mean to say that our consciousness is our user illusion for ourselves and the world?
2. Highlight the key characteristics of the perceptual analysis component in Dennett’s subpersonal flowchart. Be sure to include a diagram that captures the essence of his argument. In light of these characteristics, how might you interpret the following excerpt from William James:

“The mind works on the data it receives very much like a sculptor works on his block of stone. . . . other sculptors, other statues from the same stone.”

3. Using the “tree of talking” as a base, describe the way in which a message is formulated by one person, emitted, and received by another person.
4. Compare and contrast information and exformation.
5. Discuss the following quotation from Norretranders: “We can derive knowledge from the world; but we cannot derive the world from knowledge.”

**Class #19: Consciousness**

1. What are the primary steps in heterophenomenology?
2. According to Jaynes, what is understanding? What role does language play in understanding?
3. According to Jaynes, what is consciousness? How is consciousness related to the analog world?
4. Identify and define the four major structural characteristics identified by Jaynes.
5. Provide a short outline of the “multiple drafts” interpretation of consciousness given by Dennett.

**Class #20: Memes**

1. Provide a definition of a meme. How do memes replicate? What accounts for the survival of memes?
2. In what ways is the scientific method a meme or a memeplex? What implications follow from such a characterization?
3. Discuss the following hypothesis from Dennett: “Human consciousness is a huge complex of memes that can be understood as a virtual machine with parallel architecture. . . We weave our understanding out of memes.”
4. Using the Libet experiment as a starting point, discuss the role of “I” in explaining our actions. What is the importance of the “half second delay”?
5. What does Dennett mean when he says “The inner self that does things is an illusion”?

**Class #21: Sense Making**

1. What is equivocality? How does it arise? Why is it important?
2. Identify the three questions of interpretation.
3. Compare and contrast the following:
   - Structural characteristics of consciousness from Jaynes
   - Three questions of interpretation from Mailloux
   - Two aspects of sensemaking from Weick
   - Tree of talking
   - Dennett’s characterization of perception
4. Albert Einstein made the following observation connecting scientific thinking and everyday thinking: “The whole of science is nothing more than a refinement of everyday thinking.” Write a coherent essay -- of at least four paragraphs – comparing and contrasting the traditional view of the scientific method to everyday thinking as captured in the attached diagram. Possible paragraphs subjects include:
   i. Traditional view of scientific method
   ii. In-class characterization of everyday thinking
   iii. Similarities between the two
   iv. Differences between the two
   v. Is Einstein correct in his characterization in the above quote?

Class #22: What Do Perception, Memes, And Consciousness Have To Do With The Scientific Study Of Politics?

Write a short essay interpreting the following diagram: