

## 9.01 Study Questions, Introductory Lectures

### Session 1: Lecture

- 1) How may Descartes' encounter with a toy in the French Royal Gardens have influenced the history of science?
- 2) Is the nervous system like a machine?
- 3) How was Descartes wrong and how was he right, in his description of a reflex?
- 4) We "believe in" reflexes, but most modern neuroscientists are not "reflexologists". What is a reflexologist? In their view, what gives rise to human uniqueness?
- 5) What was it about Ivan Sechenov's writings about reflexes that caused problems with the censors in 19<sup>th</sup> century Russia?
- 6) What major factor did Sechenov's student Ivan Pavlov add to human knowledge about reflexes that made reflexology a much more adequate theory of behavior?
- 7) What is the "law of roots"? Who were the people that discovered it? How was one of them more modern and convincing in his experiments?
- 8) How did the Spanish neuroanatomist Ramon y Cajal specify the first complete neural circuit underlying behavior? What kind of behavior?
- 9) What did the British neurophysiologist Charles Scott Sherrington add to this picture? What was the word he coined that is so important in modern neuroscience?
- 10) How did Donald M. MacKay argue that one can accept physiological determination of behavior and still argue that a person is responsible for her/his actions?