

9.01 Study Questions, Introductory Lectures

Sessions 2 and 3: Lecture

- 1) If phrenology was a “false science”, how could it have had an important and positive influence on the development of neuroscience?
- 2) Contrast the contributions of Paul Broca and Karl Wernicke to functional localization studies of the human brain. (See Rosenzweig p. 613-623.)
- 3) Contrast the contributions of Fritsch and Hitzig on the one hand, and Betz on the other, to functional localization in the neocortex. What is a Betz cell?
- 4) What is a “clinical map” of the human brain, and how can it be misleading?
- 5) Pierre Flourens was publishing books on his experiments with brain lesions in animals at the same time that the literature of the phrenologists was appearing. He found evidence for functional localization, yet he is often classified with the “anti-localizationists”. This is also true for Karl Lashley. Explain.
- 6) What is wrong with the sentence, “Hunger is localized in the hypothalamus?”
- 7) What was wrong with the conclusion of physiological psychologists that claimed evidence that sexual function was located in the neocortex of the male, but not the female? What animal did they use in their experiments? (Findings from such experiments have often been applied to humans.)
- 8) Evidence for clear correlations of brain events and behavioral events are always fascinating, especially when the data are obtained from humans. Modern “functional imaging” methods are providing much data of this kind. Comment on the limitations of such data.
- 9) Will scientists ever be able to build an android like Data in Star Trek? Will such a creature necessarily be so lacking in human emotion?