

## 9.14

### **Classes #5-6: Specializations in CNS evolution** **Friday February 11; Monday February 14, 2005**

*Questions on readings: Nauta*

- 1) Give the English and the Greek terms for the primary brain vesicles.
- 2) What are the attributes of a “cortex” in the brain?
- 3) What is the English equivalent for the term “diencephalon”. Similarly, for the term “telencephalon”.

*Additional questions based on lectures:*

- 4) Define a “multipurpose action”. Name two specific movement patterns that are multipurpose.
- 5) What sensory specialization is common to bats and porpoises?
- 6) Name two behavioral specializations in the primates.
- 7) Contrast the location of primary sensory neurons of the body region in earthworms and mammals.
- 8) The rostral-most motor neurons which innervate striated muscles are located in which brain subdivision?
- 9) Define a dermatome.
- 10) Contrast spinoreticular and spinothalamic tracts.
- 11) Briefly define diaschisis. Why is spinal shock an example of diaschisis?
- 12) Visual inputs are very primitive, and were a major influence on evolution of the forebrain. To which subdivision of the forebrain do these inputs connect? What is probably the most basic and widespread function of these inputs?
- 13) Modulation of functions of the entire organism are characteristic of one of the brain regions receiving optic input. To which region am I referring?
- 14) Why might most sensory pathways reaching the endbrain of mammals and other vertebrates synapse in the thalamus first?
- 15) The limbic system can be defined as a group of structures with close connections with what part of the CNS? What sensory pathway projects most directly to the limbic system?
- 16) Name two major long pathways associated with neocortex of present-day mammals, and describe their decussations.