9.01 - Neuroscience & BehaviorFall 2003Massachusetts Institute of TechnologyInstructor: Professor Gerald Schneider

9.01 Study Questions Lecture 31

- 1. How can an inferotemporal cortex lesion syndrome be found in monkeys with specific unilateral lesions of the endbrain, made in different places on the two sides? (A "disconnection syndrome" was described in class that answers this question.)
- 2. Contrast the surgical operations on the midbrain tectum of a newborn hamster and in an adult hamster. How were the outcomes different?
- 3. What are two abnormal retinal projections seen after neonatal tectal lesions in the hamster?
- 4. What function, other then visually elicited turning of head and eyes, is the superior colliculus important for in small animals like the hamster? (This function led one discoverer to call the tectum the "sentinal" of the midbrain.)
- 5. Give a possible reason why the optic tract projects to multiple, distinct cell groups of the diencephalon and the mesencephalon. Does this also help explain why there has been an evolution of multiple, distinct representations of the retina in the posterior neocortex?
- 6. Give some advantages and disadvantages of the lesion method and the unit recording method of studying the function of cell groups in the visual system.