

MEDIA REVIEW

Dissection of the Human Brain

By Lennart Heimer
(DVD; 2007 Sinauer)

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Student mastery of mammalian neuroscience is enhanced when the underlying neuroanatomical systems involved in the experimental findings or clinical conditions are understood. At some institutions, undergraduate courses in neuroanatomy are offered, but at many others at least some exposure to the material is incorporated into either lectures or laboratory exercises. Currently, there are many opportunities for instructors to provide a rich combination of approaches to teaching neuroanatomy, including traditional dissections, computer programs, and on-line sources. Sheep brain anatomy is often covered in such courses, in part due to the availability of tissues for examination or dissection, and also due to internet images and tutorials (Grisham, 2006). For many institutions, working with human brain tissues occurs only through textbooks or digital images, making the three dimensional nature of the anatomy a challenge for students to envision.

Dissection of the Human Brain is a DVD in which the late Lennart Heimer provides clear and helpful illustrations of different brain systems. Heimer's dissection and narration demonstrate the expert knowledge and dexterous abilities of one of the field's great neuroanatomists (Elias et al., 2008). The program is divided into sections of 5-20 minutes each, and navigation menus are clear and effective. Although the material is primarily directed at a medical school audience, it is adaptable to neuroscience curricula at undergraduate institutions. For example, instructors teaching undergraduate courses might choose to exclude some of the material on transtentorial herniation or some of the details regarding Meyer's loop, but there is a wealth of information that would be appropriate for upper level courses in functional neuroanatomy, behavioral neuroscience, and cognitive neuroscience.

There is great value in seeing an expert conduct a blunt dissection of the brain, allowing pathways to become apparent following careful removal of overlying structures. Students studying sections of brain tissue often have difficulty developing the three-dimensional picture of where different structures are situated and how pathways connect them. *Dissection of the Human Brain* provides an excellent tool to supplement other materials in teaching neuroanatomy. The material is presented in a way that balances the details of the neuroanatomy with functional implications. Thus, in many cases the dissection illustrates not only the specific area in question but also effectively indicates information about connections and function.

The well-crafted tutorial is provided for students to explore brain structure and organization. The material is organized into three parts, with the first two showing blunt

dissection of the human brain and a detailed coverage of the forebrain areas, respectively. The forebrain coverage includes an excellent integration of blunt dissection and surface topography with reference to stained coronal and horizontal sections. The third section of the program is organized into short segments that can be integrated with lecture material, and the topics include ventricular systems, sensory systems, motor systems, cerebral hemispheres, basal ganglia, limbic areas, and higher order cerebral function. A script of the program is provided on the disk.

In summary, Heimer's *Dissection of the Human Brain* provides a unique addition to the repertoire of resources for teaching neuroanatomy at the undergraduate level. This material can be presented to students of cognitive or systems neuroscience to provide a better understanding of the appropriate structures that will be covered in those classes. Although not all of the material will be appropriate for the undergraduate audience, a substantial proportion of it will significantly enhance the educational experience for upper level students of neuroscience.

REFERENCES

- Elias WJ, Ray DK, Jane JA (2008) Lennart Heimer: Concepts of the ventral striatum and extended amygdala. *Neurosurg Focus* 25:E8.
- Grisham W (2006) Resources for teaching mammalian neuroanatomy using sheep brains: A review. *J Undergrad Neurosci Ed* 5:R1-R6.

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