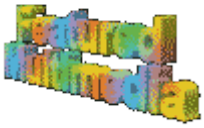
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Multimedia/Software Review Section

(Page 1 a - Review by Dr. Aashima Gupta, Topper of Maulana Azad Medical College, New Delhi, India)

FEATURED BOOK : REVIEW 1



A REVOLUTIONARY EFFORT IN UNDERSTANDING THE BASICS OF THE BRAIN

Rating : 10/10
★★★★★★★★★★
(10/5)

[Review 1] [Main Page] [Review 2]

Dissection of the Human Brain (DVD), *by* Lennart Heimer, MD
Departments of Neurosurgery and Neuroscience, University of Virginia, Publication Date 2006. Total running time: 1 hour 16 mins. Price $65.00 + Shipping, USA. Contact: bsc@virginia.edu.

To order call: UVA Media Services or email: Scott Creasy at bsc@virginia.edu, .

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Links:

Instructional Video. Dissection of the Human Brain

Neurosurg Focus 18 (6b):E4, 2005

Pubmed link of the *Neurosurg Focus* article

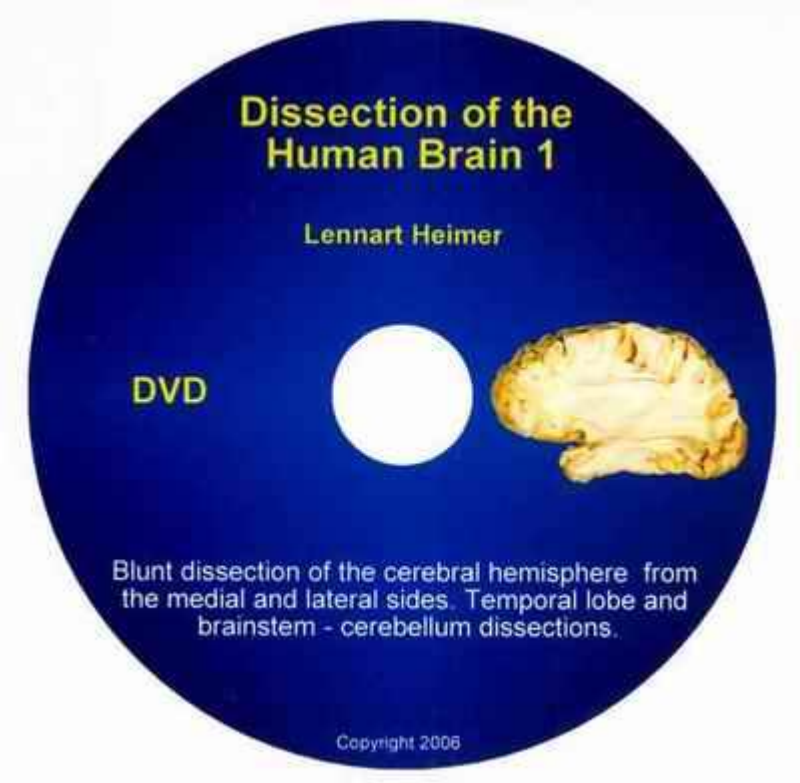
View an 18 minute clip from this video by Clicking here

Lennart Heimer's websites:

http://www.hubin.org/news/vip/heimer/index_en.html (English)

http://www.hubin.org/news/vip/heimer/index_se.html (Swedish)

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LENNART HEIMER, MD



Lennart Heimer - the brain behind this DVD - was born in a small town of Northern Sweden on the 11th of March, 1930. He has an MD degree from Gothenburg's University, Sweden, 1963. In 1965 he moved to the USA, and worked as a research associate in Dr. Walle Nauta's laboratory at the Massachusetts Institute of Technology until 1972, when he became professor of Anatomy at the University of Virginia in Charlottesville, USA, where he has been ever since, except for a

short stay at the Anatomy Department of Aarhus, Denmark., 1979-1980. Heimer has written about 110 scientific papers, dealing with the anatomy of the basal forebrain. He has also written and edited several books, including a text book for medical students, entitled "The Human Brain and Spinal Cord" (Springer-Verlag, 1995). He is currently a professor emeritus in the Departments of Neurosurgery and Neuroscience at the University of Virginia, where he teaches neuroanatomy to residents and medical students.

The DVD under review unravels the secrets of the human brain. It is a DVD on the dissection of the human brain with details of the anatomy and the neuronal connections. The information has been presented using both sharp and blunt dissection. However as the structure of the brain permits the use of blunt dissection, it has been used extensively to study the brain.

The DVD covers the brain in four divisions:

- **Dissection of the cerebral hemisphere from the medial side** - cingulum, lateral ventricle, internal capsule, sub occipito-frontal fasciculus
- **Dissection of the cerebral hemisphere from the lateral side** - insula, superior longitudinal fasciculus, extreme capsule, claustrum, external capsule
- **Dissection of the temporal lobe** - occipito-frontal, uncinate and inferior longitudinal fasciculus, optic radiation and Meyer's loop, anterior commissure, Meyer's loop and internal capsule, lateral ventricle, hippocampus and amygdala
- **Dissection of the cerebellum and the brain stem** - cerebellum, peduncles, flocculo-nodular lobe and rhomboid fossa, cerebellar nuclei.

The four sections of the DVD provide the viewer with details of all significant anatomic structures of the brain including insula, fornix, amygdala, claustrum, putamen etc. The first three sections deal with the cerebral hemisphere while the fourth studies the cerebellum and the brainstem.

Each of the four sections begins with a diagrammatic explanation of the overview of the structures to be dissected. It depicts what structures are encountered on proceeding with layer-by-layer dissection. Here the narrator also specifies the physiological importance of certain landmarks - e.g. corpus callosum. The diagram also clarifies the anatomical relations of the parts under study. This helps to visualise and understand the exact access to the structure.

...Before the dissection commences, an attempt is made to identify the parts grossly-e.g. corpus callosum, sensory and motor cortex. The important gross details like differentiation between grey and white matter of cerebral cortex, arbor vitae appearance of cerebellum etc. can be appreciated well...
Before the dissection commences, an attempt is made to identify the parts grossly-e.g. corpus callosum, sensory and motor cortex. The important gross details like differentiation between grey and white matter of cerebral cortex, arbor vitae appearance of cerebellum etc. can be appreciated well. Few of such mentions (like the foot like appearance of hippocampus from where it derives its name as *pes hippocampus*) provide the spectators with the pertinent information.

The rest of the structures are displayed in the course of dissection. The approach is so accurate that one gets to see even the deeper parts of the brain like the amygdala and hippocampus. During the process of dissection, the narrator recalls the relations of the structures as mentioned in the

overview. He also enlists points to be noted while dissecting like how deep to dissect, in which direction to dissect and important details that may be missed if not taken care of.

The neuronal tracts mentioned in the overview have been dissected distinctly. A panoramic view of the tracts can be seen. The entire course of the few nerve fibres has been displayed e.g. optic radition, pyramidal tract. More remarkably, the exact direction of the fibres can be made out. For example- the course of pyramidal tract with the change in their direction at the genu of the internal capsule, the hooking of fibres at limen insulae etc. As the dissection proceeds, even the connections of the fibre tracts with one another can be understood e.g. the occipito-frontal tract and the inferior longitudinal fasciculus. The physiological importance of certain tracts has been emphasized like that of Meyer's loop.

An attempt has also been made to depict the ventricles of the brain. The lateral ventricle has been approached from both medial and the lateral side, enabling better comprehension. This knowledge is of use to the neurosurgeons as well. The fourth ventricle is illustrated with the brainstem. Notably, the choroid plexus can be seen lining the ventricles. The hippocampus is made visible after lifting the choroid plexus from the wall of the lateral ventricle. Surely, this relation never appeared that simple until in this demonstration!

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Almost all cranial nerves have been dissected and identified in the fourth section of the DVD. Though not much information about their nuclei, course and functions is provided. Relevant surgical importance of tumors of cerebello-pontine angle finds a mention in concern with the seventh and eighth nerve.

There are places where sharp dissection has been done like the section of brainstem at the level of the superior colliculus. One can clearly identify the substantia nigra, red nucleus etc. Similarly, the cerebellar nuclei have been shown in cut sections.

The entire approach to the subject is very practical in the DVD. If you are thinking that this is a chapter vise description of the human brain, you are mistaken. It gives you a vivid description of the dissected brain (including display of nerve tracts), much extensive than what one can expect in a dissection room. Anyone studying neuro-sciences for the first time may find it difficult to comprehend. Especially because the DVD makes no mention of the general structure of the brain, its parts, blood supply, functions, tracts etc. But it delivers complex information in an explicit manner than most of the textbooks on neuro-anatomy. The facts are mentioned in relation to whatever is dissected enabling better assimilation. And so this is of definite advantage even to the first timers!

...The narrator makes use of pointers throughout the depiction, highlighting landmarks and tracing the course of tracts. The anatomical names of the structures identified during dissection can be also read on the screen. The narration is very clear and comprehendible....This DVD is certainly a revolutionary effort in understanding the basics of the brain...
In addition to students, the DVD proves to be impressive enough for anatomists, neurologists and neuro-surgeons. There is a mention of related surgical facts during dissection like in vivo tractography.

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The specimens of brain used in dissection are good. The dissection has been carried out very finely and precisely. Care has also been taken to preserve and identify the most of structures.

The operative and practical approach helps in a better comprehension. This is of more significance in a medical specialty where observing is essential for understanding and learning. 'The brain is wider than the sky..', appears as a quote in the end. And this DVD does complete justice in exploring the most difficult part of the human body- brain.

This DVD is certainly a revolutionary effort in understanding the basics of the brain.



-Aashima Gupta,
Dr. Aashima Gupta is a graduate from Maulana Azad Medical College, where she consistently toppped in every subject. She was chosen as the best student of the Maulana Azad Medical College. A keen learner, she pursues reading with great zeal. She can be contacted at aashima82_gpt@yahoo.co.in

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To order this DVD call: UVA Media Services or email: Scott Creasy at bsc@virginia.edu, .

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