Neuroscience and the “Seat of the Soul:” From Brain Maps to Brain Movies
Spring 2016
Tuesdays, 6-8:30pm, Gleacher Center
University of Chicago, Graham School

Instructor: Shannon Foskett
shannonmfoskett@hotmail.com
foskett@uchicago.edu

Course Description*

Neuroscience has always been an extremely visual discipline; many of its early investigators were also practicing artists. Still today, it has been described as one of the “least mathematical” of the sciences. Its methods are grounded in the use of various still and moving imaging technologies towards a more complete mapping (of anatomy and functionality) of central and peripheral nervous systems in humans and non-human species. This course will give an overview of the discipline’s history, methods and reliance upon visual media from the past 150 years while also considering its interplay with existing forms of popular visual culture that seek to accommodate its findings in a manner that appeals to a wider, public audience.

*This course is part of a 4-part series on the Visual Culture of Mind and Brain, and is followed by LASCBB: Beyond the Brain: (Dis)embodiment and the Extended Mind; LASCAV: Altered States, Altered Visions; and LASCCS: Consciousness and the Senses. Individual courses may be taken separately; there are no prerequisites.

Aims and Expectations

The goal of this class is to provide an introduction to the significance of the brain sciences in relation to, and in their intersection with, broader aesthetic and cultural concerns, such as the role of various visual media technologies in scientific development. No particular academic majors or background are assumed; it is open to anyone interested. We will occasionally screen relevant clips from films. While this is not a graded course, weekly readings are provided and students should come prepared for discussion with the class.

Classes and Readings

Weekly readings for class discussion are listed below; a bibliography of additional background readings and extended sources will be provided in class.

Week 1 (03/29): New Visibilities: Early Neuroscientific Representation
This week reviews a brief history of the early development of neuroscientific research and representation up to the end of the nineteenth century and considers the roles played by medical illustration, photography and the X-ray towards this science and the cultural understanding of “nervous” or “cerebral” subjectivity.

Week 2 (04/05): Brain Signals: Electrophysiological Representation and the first EEG
Where do we draw the boundary between the human, the mechanical and the technological? In this week, we’ll look at the factors involved in the development of human electroencephalography (EEG), such as the earlier histories of biophysical recording and the intersection of the history of electromagnetism with mechanistic and materialist views on human behavior.


Week 3 (04/12): Modern Neuroscience
Here we’ll look at the structural and functional imaging techniques of PET and fMRI, with respect to proposed neurological bases of empathy, depression, Alzheimer’s and autism. We’ll also begin to consider limitations and critiques of neurological approaches from both within and outside neuroscience.


Week 4 (04/19): After the “Neuroscientific Turn”
Problems and potential of the “neuro-” prefix (neuroaesthetics, neurocinematics, neuropsychiatry, etc.): a look at critical applications and interdisciplinary intersections with neuroscience, including “natural movies,” bioprojectors and brain-to-brain/computer interfaces.