

Bureaucracy:

New Room. Keene/Flint 105.
Hand out student cards
CAMERA! + Flat Stanley
How are we on the list? textbooks, handouts, online materials.

Substantive:

I. Go over some basic structures on Igor. Do functions as you go.

Longitudinal fissure
Lateral or Sylvian fissure. "Perisylvian." Greek and Latin.
Cerebrum
Central sulcus - variability
4 lobes + cerebellum

Brain stem (2 words)

Medulla
Pons
Midbrain

Between brain stem & cerebrum, basal ganglia (reptilian) and limbic system (mammalian, maybe reptilian). Nested C-shaped structures.

Thalamus - hypothalamus - subthalamus (subthalamic nucleus)
Thalamus as gateway: 10X as many connections back as forward.
Learn terms: top-down and bottom-up. Most thinking about literature is bottom-up.
Hippocampus
Hypothalamus --> pituitary --> body

II. Newspapers: Types of brain imaging--read newspapers with skepticism. Skepticism a lost art.

single neuron: v accurate time and space. Milliseconds
EEG - hundredths of seconds. Millimeters in space
ERP - hundredths of seconds Millimeters in space
MEG - Magnetoencephalography hundredths of seconds Millimeters in space
x-ray
x-ray CT (computerized tomography) : 1mm w x 5 mm h.
MRI - magnetic resonance imaging. Depends on blood flow.
fMRI - functional 1 mm. in space; 1-3" in time. Averaging. Talairach space. Noise of machine.
PET - Radioactive - measures blood flow. 40 seconds.
TMS - transcranial magnetic stimulation
Problem of the resting condition.

III. Newspapers: Evolution

1. Twice as many Americans believe in miracles as believe in evolution.

Genetic change/mutation ---> replication ---> selection and go round again.
Darwin & problem of the eye: how could so complicated a thing evolve by chance?
God as engineer. Good at materials. Not so good at apparatus.

2. Variance (Darwin-farmers)/genetic change/mutation ---> replicate ---> select and circle.
Middle is lawful but the first and last are random!! Not "survival of the fittest."
Economics. Malthus. Scrooge. Herbert Spenser. Laissez-faire.
3. Phenotype - genotype. Not about survival of phenotypes but of genotypes. back.
4. How would you evidence evolution to the 43% unconvinced?
 1. Fossil evidence - v imperfect. Odds against fossilization, odds against finding a fossil.
 2. Embryology. Haeckel's law. Total/partial recapitulation of evolution. Embryos of diff't species are similar. You had gills and arteries to match. Tail ---> cocyx.
 3. Comparative anatomy. The five fingers of the manatee. Horse hoof. Homolog vs. analog.
 4. Geographical distribution of species. Similar habitats widely separated have similar biota. Different habitats near one another have different biota. Selection by habitat or environment ultimately determines species.

IV. What are the brain structures important for literature? A question we'll come back to.

Levels of explanation:

What level are we talking at? # Six kinds of brain science, in order of size:

cognitive (neuropsychologists).

behavioral (neurophysiology; neuropsychology);

systems (neuroanatomy; neurophysiology);

cellular (neurochemistry; neurobiology);

genetic (evolutionary psych);

molecular (neurochemistry; neuropharmacology);

Lot of neuro writing about literature, just talks about top levels. E.g., Scarry: 1) we have procedural memory; 2) literature is a series of instructions for processing; 3) Therefore literature uses procedural memory. Some at level of psychological experimentation. Gerrig: Test beliefs after reading. During reading?

Here, we talk down to the systems-structures level. I don't think anybody else is doing this. Zeki and visual arts. Is there an advantage?

IVa. What are the brain structures or systems important for literature?

Perception.

Language obviously.

Memory - how?

Emotion

Fixed motor patterns: laughter, crying.

All kinds of intellection

Evaluation

"Image space" vs. "dispositional space." Representations.

Do you understand about "dispositional space"? 219: "a space in which dispositional memories contain records of implicit knowledge on the basis of which images can be constructed in recall, movements can be generated, and the processing of images can be facilitated. Dispositions can hold the memory of an image perceived on some previous occasion and can help reconstruct a similar image from that memory; dispositions can also assist the processing of a currently perceived image--for instance, in terms of the degree of attention accorded to the image and the degree of its subsequent enhancement." Unconscious! Visceral changes. Impulses to act. Why does he call it a "space"? Cp. Cartesian space. What is a "convergence zone"? Cp. polymodal processing.

Solms and Turnbull, "Introduction to Basic Concepts" and "Mind and Brain," pp. 1-43, 45-78.

44+34 pp. I DID NOT GET TO THIS ON 1/14. WILL COME BACK TO.

Pp. 75-78 summarize the theoretical underpinnings of this course.

Solms and the neuro-psychoanalysis movement. Feb. 19th.

26. Feedback loop.

Unfortunate terms: subjective, introspection.

75-78. The importance of free association.

Use the aliquis example.

Lacan: signifier - signified.

Details --> themes ---> the theme. Holistic reasoning. Tectonics. Evolution. Data problems.

Holland, "Meet Your Brain." Online. 29 pp.

Please help with typos, not clear, not necessary, etc.

Is this too long? Is some of it unnecessary?

Trimble and Cummings, "Introduction." Handout.

Kalat, "Anatomy of the Nervous System," ch. 4. Handout, 27 pp.

Learn the "essential terms" and familiarize yourselves with basic brain anatomy. I have put online a list of various parts of the brain that you should be able to locate on diagrams. The Kalat assignment includes such a list, but longer than I require. Use the list I have handed out to see what from Kalat's pictures and text you are being asked to remember.

Holland, "Reader-Response Criticism." Handout. 9 pp.

Pinker, "Introduction." Handout. 2 pp.

Important: get ahead by reading part of Pinker, Language Instinct, chs. 4-7, pp. 83-230. Read chs. 4-5 or 75 pp. this week.

What is the relation between brain and mind?

Do you understand dual-aspect monism?

After the break--

What is the basis for reader-response theory?

All we know goes through perception. memory, knowledge, etc.

Do the three-level diagram?

Next week:

What are advantages of r-r?

What are disadvantages of r-r?

3. January 21. "The" Text - What is language? Where is a text? "Out there"? We will continue building neurological knowledge and considering what is perhaps the most basic assumption in human thinking about literature.

Discussion:

- * How do the brain's perceptual systems work?
- * How do we know our 3-D world?
- * What is the theory behind reader-response theory?
- * How does it affect what we say about literature?
- * What is language?
- * Where did language come from?

Reading:

1. Holland, "Reader-response already is cognitive criticism." Online. 2 pp.
2. Holland, "Where Is a Text?" Online. 18 pp.
3. Taylor and Taylor, "Language and Brain," 362-394. 33 pp .
4. Damasio and Damasio, "Brain and Language." 29-41. Handout, 13 pp.
5. Finish reading Pinker, Language Instinct, chs. 4-7, pp. 83-230. 75 pp.
6. Pinker, "Baby Born Talking," Language Instinct, ch. 9. 37 pp.