1. Purpose of course.  How new knowledge about brain affects our thinking about literature.  Why do we willingly suspend disbelief at sc-fi characters--beast fables, fairy stories, why do we think of them as real people?  
   Seminar not about literature but what we say about literature.  
   Limitations on "theory."  
   Some things are just plain wrong. 

2. Introduce self

3. Go thru class memo. Explain about dividing reading by eight.  QUESTION OF DOING BOOK SUMMARIES. VOTE NEXT WEEK.

4. Hand out Student cards **** Take photo of class and put online.


1. Neuroscience  Medicals: neurologist; psychiatrist; neurosurgeon; neuropathologist.  
   Experimenters: computational neuroscientist; developmental neurobiologist; neuroanatomist; neurochemist; neuroethologist; neuropharmacologist; neurophysiologist; physiological psychologist; psychophysicist. Handy prefix: neuro- Neurotheologist. Neurocritics? Neurotheorists?

2. Cognitive science (not a good term coz overly intellectual/perceptual): the search for "mind."  
   Under "mind" just about any topic. Learning, memory, perception, language, etc.  
   Consciousness, the ultimate mystery.  
   Dualism - Monism. Dual-aspect monism.

3. Two approaches to "cognitive science and humanities." 2 groups digging into the Alp from different sides, both seeking to get at MIND in the middle. 2 quite different methods:  
   a. Left side: use of  
      1) special populations. E.g. Viet vets, left-handed, stroke victims, elderly.  
      2) experimental situations; non-ecological  
      3) "clinico-anatomical method": look for a lesion site in brain that goes with cognitive deficiency  
      4) Two things about left (neuro-) side. How tremendously much we know. What a vast, complex field this is.

4. The Brain Itself. "Every cubic millimeter contains over two miles of connecting neuronal wire.  
   Somewhere: pinhead contains 6 million neurons. Brain as a whole: 100 billion neurons, 100 trillion synaptic connections. Brain has $10^{27}$ possible states? "  
   Men have about two billion more neurons than women. Bigger: gray cells vs. white.  
   Said to be most complicated object in universe. When you read the popularizers, the books about the brain that make the best-seller lists, you often don't get a clue as to how involved and various this field is.
That's the other thing I've learned: how much we don't know; how much there is yet to be figured out.

5. Dual-aspect monism. Two sides of Alp.
   a. Right side of Alp. Logic first established by Freud,
      1) But precisely by Chomsky when he began talking about universal grammar.
         Huge effect: ling, psych, AI, philos--not in Eng depts.
      2) Earlier, Freud started as neurologist, then on to neurotic symptoms, moved outward to
         dreams, jokes, character --> normal stuff, hence a general theory of mind. Problem of
         scientific value of Freud - don't get into yet. In effect, moved from left side of Alp to
         right side.
      3) Basic arg: If this is universal among all human beings, then it must be innate or
         otherwise "in" the brain. If everybody learns to walk . . . If everybody learns language . . . If
         subject-verb is something everybody does, then you can infer something about the brain
         from that. But not every universal: cooking; taking recreational drugs.
         i. Universal Grammar argument is extremely important. Applied to all kinds of
            things: numeration; belief in God; literature.
         ii. All cultures do literature . . . We will come back to towards end of semester.
         iii. Universals: emotion. Darwin and basic emotions. Ekman: all cultures use same
              facial expressions for basic eight or how many?: disgust, anger, anticipation, joy,
              acceptance, fear, surprise, sadness; other lists: love, hate, shame, envy, guilt,
              anxiety.
         iv. Laughter. All cultures laugh. 2000: Book by Rob't Provine: most laughs not to wit.
         v. Evolutionary arguments applied within brain itself to learning, etc., by Edelman
            and others. The growing and ungrowing of the brain in infancy, childhood,
            adolescence--very important. [Ask me to talk about this Jan. 12.]
   b. Right side of Alp leads to evolutionary explanations or evolutionary psychology, earlier
      called sociobiology. If everybody does it, it must be innate, must have been inherited, must
      have evolved. Argument is that evolutionary timetable is such that homo sap's hard-wired
      brain contains only traits useful for survival in hominid hunter-gatherer environment.
      Evolution is very slow. No known changes since homo sapiens sapiens, 100K BP. (Cp.
      dinosaurs.) Hominids 5M BP.
         Cosmides: scope syntax
      2) Sociobiology gets into politix. If in all societies men dominate and rape women, then it
         must be in human biology--useless to change. Is rape genetic? A useful site on all this:
         <http://www.ship.edu/~cgboeree/sociobiology.html>. Or check
         <http://www.psych.ucsb.edu/research/cep/index.html>

   a. Darwinian evolution. Variation - replication - selection. Remember these three!! 2 kinds of
      selection: survival; sexual. Very slow, millions of years. But anything we attribute to
      genetic endowment ought to have a Darwinian explanation. What's it good for? Why was it
      selected for and not against? Some things irrelevant: appendix, little toe. Argument from
      design?
i. But how about the opposite argument? If it's universal, it's genetic. This doesn't work.

b. Baldwinian evolution. How a social change can affect the genome, but not Lamarck. Variation - replication - selection. Lactose intolerance. In hunter-gatherer environment, genes promoting will be selected for. In pastoralist env., genes promoting will be selected against. Cp. the orang-utans. Apes have culture.


7. Left side of Alp.
   b. Brain imaging used by both right and left sides of Alp. Normals on the right/humanist side (fMRI); lesioned on the left/neuro- side. Imaging is important achievement, but also important to recognize limitations. Newspapers overstate.
   a. One very striking difference in approach betw right/left side of Alp. Right side of Alp shows considerable interest in children's patterns of development. On left side, I can remember very few papers, a lot on dyslexia. Often, in general presentations of brain science, no mention of children at all. Foetal development of brain yes, but not children. By contrast, the language people on the right are very interested in children's acquisition of language and children's psychological development. Both are assumed, in this tradition, to have foundations in the brain.
   c. Obviously, one should combine methods, but in this, as in so many interdisciplinary operations, neither side talks much to the other. Left side, in particular, has contempt for right side (clinical demands, intense focus of research, superiority of doctors, psychologists' emphasis on "science" [narrowly defined as experimental]); failure to consider brain itself. Right side is bound to be less precise.

8. The basic aim of this course: to understand how the brain functions when we "do" literature and other media. We will be going from fairly abstract questions like those in the two encyclopedia articles to specifics in the brain. We will in effect be straddling back and forth between left and right side of Alp. I am assuming that the left side is new to you as it is to me. We will need to invest some time in learning about the brain.

What should you take away from this class? The two sides of the Alp: dual-aspect monism.

For next week, January 12, session 2.

We will be doing two things: 1) opening up some of the basic questions about literature and media that critics, theorists, and philosophers have asked over the ages. 2) learning some more about the brain. (I will try to keep these technical materials to the necessary minimum.)

We will watch a video on basic information about brain structures and neurochemicals (Zellner 2003). By contrast, the encyclopedia article should get you started asking questions about the nature of literature, its difference from other kinds of writing, your response, its role in your life, and so on. It is these two quite different kinds of thinking that we are trying to put together. <br>

Reading:
a. Look at essential terms (handout or online). Don't be intimidated! Follow out the links.
b. Study pictures of the brain. Black-and-white handout. Color online--too many for color
print-outs. Link.
c. Look at a short list of perhaps helpful books. Online.
e. The "Aesthetics" article in the online Encyclopedia Britannica, available through the library's
homepage > references > encyclopedias link. 68pp. Also, here is the link:
href="http://www.search.eb.com/eb/article?eu=108463".
f. Holland, Your Mind on Media (hereafter abbreviated as YMOM), ch. 1. "Why This Book?"
Online. 19pp. This covers some of the generalizations we talked about on Jan. 5.

Discussion:

* What are some of the issues that have puzzled people about literature?
* What are the basic brain structures and systems important for literature?
* What is the relation between brain and mind?