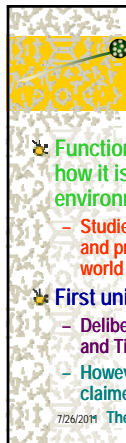


Chapter Six

Functionalism: Antecedent Influences

PSY 495: History & Systems
Rick Grieve
Western Kentucky University

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The Functionalist Protest

- Functionalism concerned with how the mind functions, how it is used by an organism in adapting to its environment
 - Studied mind as a conglomerate or accumulation of functions and processes that lead to practical consequences in the real world
- First uniquely American system of psychology
 - Deliberate protest against Wundt's experimental psychology and Titchener's structuralism
 - However, none of the movers and shakers in functionalism claimed the ambition to establish a movement like Wundt had

7/26/2011 Therefore, not a single functional unit 2

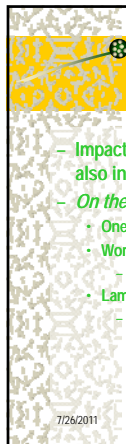


Forerunners of Functionalism

- American psychology first to use laboratory rat
 - Wundt and Titchener excluded the study of nonhumans (including animals, children, and the mentally ill) from psychology
 - Functionalists collected data from a number of sources; animals were one of them
- The Evolution Revolution: Charles Darwin (1809-1882)
 - The idea that living things change with time (the fundamental notion of evolution) did not originate with Darwin
 - Can be traced to 5th century
 - Darwin's father
 - Explorers finding fossils




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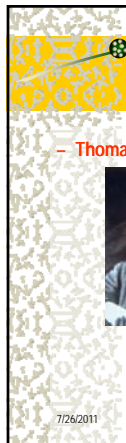


Forerunners of Functionalism

- Impact of change was seen not only in intellectual circles, but also in everyday life
- *On the Origin of Species by Means of Natural Selection* (1859)
 - One of world's most important books (love it or hate it)
 - Workings of natural selection and evolution
 - Note a passive process
 - Lamarckian evolution
 - Close but no cigar



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Forerunners of Functionalism

- Thomas Henry Huxley vs. Bishop Samuel Wilberforce


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Forerunners of Functionalism


- Evolution v. religion
 - 1925 Scopes Monkey Trial
 - 1968—Supreme Court Ruling
 - 1972—TN Minister
 - 1985 survey
 - 1990 Texas school board ruling
 - 1999 survey
 - 2005 school system rulings



Clarence Darrow & William Jennings Bryant

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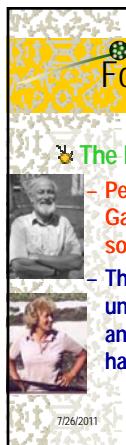
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Forerunners of Functionalism



- White Supremacy argument
- Darwin's other work
 - *Descent of Man* (1871)
 - *The Expression of Emotions in Man and Animals* (1872)
 - "A Biographical Sketch of an Infant" (1877)

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Forerunners of Functionalism Cont.

🌟 The Finches' Beaks: Evolution at Work


- Peter and Rosemary Grant studied finches in the Galapagos Islands beginning in 1973 and ending some 20 years later
- Their conclusion was that Darwin had underestimated the power of natural selection and that evolution occurred much faster than he had thought possible

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Forerunners of Functionalism Cont.

🌟 The Evolution of Machines



- Samuel Butler
 - Machines evolving faster than animals and speculated about the consequences
 - Consciousness, anyone?
- 🌟 Darwin's Influence on Psychology
 - A focus on animal psychology, which turned into comparative psychology
 - Possibility of continuity between animals and humans
 - An emphasis on the functions rather than the structures of consciousness
 - Functionalism, in the U.S.

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Forerunners of Functionalism Cont.

- The acceptance of methodology and data form many different fields
 - Broadened that which was acceptable past simply introspection
- A focus on the description and measurement of individuals differences
 - Evolution occurs because of individual variation
 - Now, it is time to examine what variation is adaptive and what is not adaptive


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Forerunners of Functionalism Cont.

Individual Differences: Francis Galton (1822-1911)

- Galton applied evolutionary theory to mental inheritance and the individuals differences in human capacities
- Mental Inheritance
 - *Hereditary Genius: An Inquiry into its Laws and Consequences* (1869)
 - Argues a person's natural abilities are derived by inheritance by examining the eminence of family members
- Eugenics
 - Social program that seeks to improve the population through selective breeding, especially (for Galton) intelligence
 - Ethical Issues





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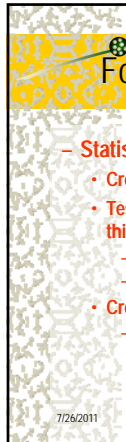
Forerunners of Functionalism Cont.

- Mental tests
- Anthropometric lab
 - Measured intelligence based on conclusions drawn from John Locke
 - Measured physiological functions
 - Began at the 1884 International Health Exhibit
 - Goal: define the range of abilities in the British Empire

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Forerunners of Functionalism Cont.

- **Statistical methods**
 - Created stats to help understand the results he got
 - Test scores are most informative when you know two things:
 - The average score
 - The dispersion around the average score
 - Created correlation
 - Which Pearson (Pearson's r) refined


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Forerunners of Functionalism Cont.

- **Association of ideas**
 - Found that many associations come from childhood
- **Mental imagery**
 - Found that other scientists could not do imagery
 - But common folk could...
 - Created psychological questionnaire
 - Created word association questionnaire
- **Influence on functionalism**
 - Methods and individual differences

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Animal Psychology and the Development of Functionalism

- **Influence of Darwin on Animal Psychology**
 - Darwin's theory of evolution was a stimulus for the development of animal psychology
 - Following the publication of *On the Origin of Species*, the topic of animal intelligence grew in popularity among both scientists and lay public

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Animal Psychology and the Development of Functionalism Cont.

George John Romanes (1848-1894)

- Formalized and systematized the study of animal intelligence
- Became friends with Darwin, who chose him to carry on applying the theory of evolution to the mind of animals
- Animal Intelligence* (1883)
 - Mental ladder
 - Introspection by analogy
- Romanes' work falls short of modern scientific rigor
 - praised for starting the comparative psychology movement and paving the way for experimental study of animals

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Animal Psychology and the Development of Functionalism Cont

C. Lloyd Morgan (1852-1936)

- Most animal behavior resulted from learning or association based on sensory experience
- Law of parsimony
 - Animal behavior must not be attributed to higher mental processes when it can be explained in terms of lower mental processes
 - Lloyd Morgan's Canon
- 1st to conduct large-scale experimental studies in animal psychology

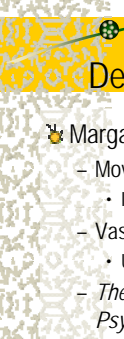
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Animal Psychology and the Development of Functionalism Cont

Jacques Loeb (1859-1924)

- Also did animal research
- Postulated that animal behavior was influenced by tropism
 - Involuntary movement in response to a stimulus
- If the actions of lower organisms can be explained without reference to mental events, why can't human behavior?

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Animal Psychology and the Development of Functionalism Cont

- ✦ Margaret Floy Washburn
 - Mover & Shaker in Comparative Psychology
 - Introspection by analogy
 - Vassar College
 - Undergraduate helpers
 - *The Animal Mind: A Text-book of Comparative Psychology* (1908)

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Animal Psychology and the Development of Functionalism Cont

- ✦ The Rest of the Story
 - Maier & Schneirla
 - Griffin
 - Dawkins

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