Chapter Six

Functionalism: Antecedent Influences

PSY 495: History & Systems
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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
- Therefore, not a single functional unit

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
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

Forerunners of Functionalism

- Thomas Henry Huxley vs. Bishop Samuel Wilberforce

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

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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)

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

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.
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

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

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
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

- 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 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
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

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

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?
References


