

Lecture 9: Volunteerism, Structuralism and other Early Approaches to Psychology

I. INTRODUCTION

A. Introduction

- We will be discussing the founding of Psychology
 - Wundt's laboratory in Leipzig (1879).
 - His theory of Volunteerism.
 - Titchner's laboratory in Cornell (1892).
 - His theory of Structuralism.
 - We will consider other contemporaneous psychological ideas including
 - Phenomenologists
 - Otto Kulpe
 - Vaihinger
 - Ebbinghouse

II. WUNDT

A. Introduction

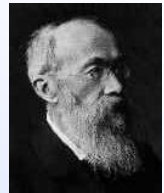
- Wilhelm Wundt (1832 - 1920)
 - German medical doctor, physiologist, psychologist, and professor
 - He studied briefly with Müller, before becoming an assistant to Hermann von Helmholtz in 1858.
 - Created first Psychology lab (1879)
 - Studied basic and higher-ordered thinking and applied issues.
 - Also formed the first journal for psychological research (1881)
 - Psychological studies



II. WUNDT

B. Students

- Wilhelm Wundt (1832 - 1920)
 - Wundt's students include:
 - Oswald Külpe (a professor at the University of Würzburg)
 - James McKeen Cattell (the first professor of psychology in the US)
 - G. Stanley Hall (the father of the child and adolescent psychology movement, President of Clark University and APA founder),
 - Charles Hubbard Judd (Director of University of Chicago's School of Education at the, home to Dewey)



II. WUNDT

B. Students

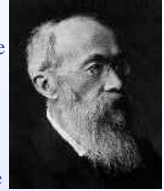
- Wilhelm Wundt (1832 - 1920)
 - Wundt's students include:
 - Hugo Münsterberg (contributed to the development of industrial psychology and taught at Harvard University)
 - Edward Bradford Titchener (founded the first psychology laboratory in the United States at Cornell University),
 - Lightner Witmer (founder of the first psychological clinic in the US and coined *Clinical Psychology*)



II. WUNDT

B. Students

- Wilhelm Wundt (1832 - 1920)
 - Wundt's students include:
 - Charles Spearman (who developed the two-factor theory of intelligence and several important statistical analyses)
 - Constantin Rădulescu-Motru (Personalist philosopher and head of the Philosophy department at the University of Bucharest).



II. WUNDT

C. The Lab

- Wundt's lab was heralded by J.M. Cattell in 1888
- The laboratory was 4 rooms but expanding to 6 rooms.
 - An international collection of 20 researchers worked in groups of at least two
 - Two researchers needed with the one acting as subject, the other taking charge of the apparatus and registering the results.
 - The researcher would published the study in *Psychological Studies*.



II. WUNDT

C. The Lab

- Methodology
 - Wundt's primarily method was introspection.
 - Wundt's introspection used laboratory instruments to present stimuli.
 - The subject was to respond with a simple response such as saying "yes" or "no", pressing a key.
 - These responses were made without any description of internal events.



II. WUNDT

C. The Lab

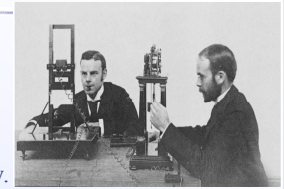
- Multiple research directions in 1888
 - Psychophysics
 - Measurement of sensation
 - Psychometry
 - Duration of mental processes
 - Time-sense
 - Time-relations of perceptions
 - estimation of intervals of time.
 - Association of ideas.
 - The time it takes for one idea to suggest another



II. WUNDT

C. The Lab

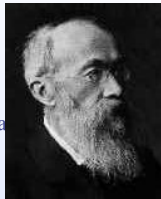
- The Equipment
 - The lab looked like a watchmaker's factory.
 - Precise equipment were fashioned for experiments.
 - Fall Chronometer (created by Cattell) used in his reaction-time experiment.
 - When the screen drops, the subject (S, left) is able to see a word written on a card. At the same time the chronoscope in front of the experimenter (E, right) starts running.
 - As soon as the S pronounces the word the lip-key in his mouth arrests the chronoscope, allowing the E to read the reaction time.



II. WUNDT

D. Achievements and Contributions

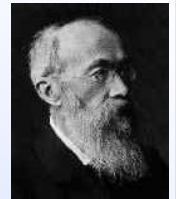
- Achievements & Contributions
 - Took achievements of others and his own early research on attention (pendulum experiment) created a unified program of research.
 - Determined that this program must stress *selective attention*, which is a willed process and so *volitional*.
 - Volunteerism (derivative from volition) was Psychology's first school or Kuhnian paradigm.
 - This achievement may be more important than the having the first lab or journal.



II. WUNDT

E. Nature of Volunteerism

- Volunteerism
 - Psychology's goal was to understand both simple *basic processes* of the mind and *complex conscious* phenomena.
 - For simple phenomena, experimentation was to be used.
 - For complex phenomena, experimentation could not be used.
 - Complex phenomena considered to be higher mental processes
 - Only various forms of naturalistic observation could be used.



II. WUNDT

E. Volunteerism

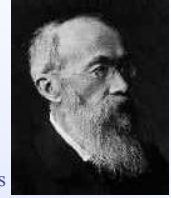
- Volunteerism
- Volunteering seeks to understand experience.
- Two types of experience
 - *Mediate* experience and data are obtained via measuring devices and thus is not direct.
 - *Immediate* experience and data are events in human consciousness as they occurred
- Volunteerism holds that immediate experience is the subject matter of psychology.



II. WUNDT

E. Volunteerism

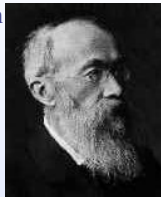
- Volunteerism
- Volunteerism studies two types of immediate experiences.
 - Sensations : Occurs when a sense organ is stimulated and impulse reaches the brain. Described in terms of modality, intensity, and quality.
 - Feelings : Accompanied sensations and could be described along three dimensions
 - pleasantness – unpleasantness
 - excitement – calm
 - strain – relaxation



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E. Volunteerism

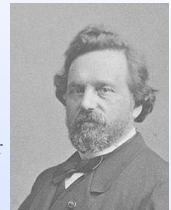
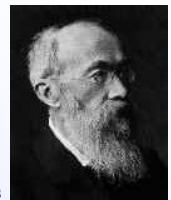
- Volunteerism's Account of perception
 - Perception is interaction between
 - The stimulation present
 - The physical makeup of the person
 - Person's past experience.
 - The part of field that is attended to said to be is apperceived (selectively attended).
 - Creative synthesis
 - Elements which are attended to can be arranged and rearranged as the person wills, thus arrangements not experienced before they can be produced.



II. WUNDT

E. Volunteerism

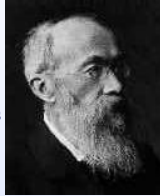
- Volunteerism
- Mental chronometry
 - Wundt used a method developed by Donders (1818-1889)
 - Donders was the one of the founders of the science of ophthalmology (with Helmholtz).
 - To measure differences in reaction time to different mental activities required by experimental situation.
 - Today, mental chronometry is one of the most common tools used for making inferences about learning, memory, and attention.



II. WUNDT

E. Volunteerism

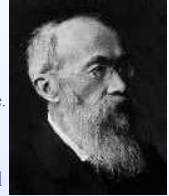
- Volunteerism
 - Mental vs. Psychic Causality
 - *Physical causality* treated as a polar opposite to *Psychological causality*.
 - Physical causality is a reality because events could be predicted on the basis of antecedent conditions
 - Psychological causality was not possible.
 - Although willed, selective attention and creative synthesis is not physically caused by antecedent conditions which can be known.



II. WUNDT

E. Volunteerism

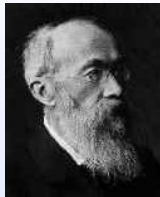
- Volunteerism
 - Volkerpsychologie or Cultural Psychology
 - Higher mental processes could not be studied experimentally
 - They were reflected in human culture.
 - Higher mental processes could be inferred from the study of such cultural products as religion, social customs, myths, history, language, morals, art, and the law.
 - Twenty year study of these things culminated in his 10-volume work "Cultural Psychology."



II. WUNDT

F. Issues, Consequences and Significance

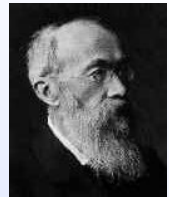
- Wundt rejected materialism
 - Agreed with Muller's vitalism and rejected Helmholtz's materialism with regard to the mind.
 - "Consciousness ... cannot be possibly be derived from any physical qualities of material molecules or atoms"
 - But he also was a determinist.
 - Acknowledge that the process underlying volitions may not be known or knowable but they are controlled by laws.



II. WUNDT

F. Issues, Consequences and Significance

- Misrepresentation of Wundt
 - Wundt has been portrayed in texts inaccurately.
 - He is a rationalist and accepts mental holism (can not identify elements)
 - However he is presented as an empiricist-positivist whose psychology is based on fundamental elements.
 - May be due in part to students of Wundt's who misrepresented or misinterpreted him.



III. TITCHNER

A. Issues, Consequences and Significance

- Edward Titchener (1867-1927)
 - Titchener was English and a student of Wundt.
 - He becoming a professor of psychology and founded a psychology laboratory in the United States at Cornell University.
 - He founded the *Experimentalists* an alternative group to the APA which was by invitation only.
 - Known for Structuralism, which was distinct from Volunteerism



III. TITCHNER

B. Structuralism

- Titchener's structuralism
 - Structuralism seeks to understand phenomena as a complex system of interrelated parts.
 - Titchener's structuralism is consistent with this definition.
 - His structuralism addressed the elements and relations of consciousness.
 - This is different than Wundt's holism and rationalism.



III. TITCHNER

B. Structuralism

- Titchener's structuralism
 - Psychology should address the what, how, & why of mental life.
 - *What* is learned by introspection.
 - Cataloging basic mental elements that make up conscious experience.
 - *How* addresses the way that the elements combined.
 - *Why* involves neurological correlates of mental events.
 - He only sought to describe mental experience or the structure of the mind
 - Giving rise to *Structuralism*



III. TITCHNER

C. Introspection

- Titchener's introspection
 - More complicated and required more of the subject than Wundt's.
 - Introspection in Titchener's laboratory required subjects to describe the basic, raw, elemental experiences which form complex cognitive experience.
 - He wanted subjects to report on sensations, not perceptions.
 - If in the report the subject responded with the name of the object rather than the elemental aspects of the stimulus, the subject committed a **stimulus error**.



III. TITCHNER

D. Conclusions

- Conclusions regarding consciousness (the mind)
 - Three elements of mind
 - *Sensations* (elements of perceptions)
 - *Images* (elements of ideas) and
 - *Affections* (elements of emotions).
 - The elements could be known only by their attributes.
 - There are 5 attributes of sensations and images
 - The five include quality, intensity, duration, clearness, and extensity (not content).



III. TITCHNER

D. Conclusions

- Conclusions regarding consciousness (the mind)
 - Affections (emotions) could have the attributes of only quality, intensity, and duration.
 - Titchner did not agree with Wundt's tridimensional theory of emotion
 - Emotions were described in terms of one dimension: pleasantness – unpleasantness.
 - Emotional can occur with sensational elements to create unique patterns of experiences



III. TITCHNER

D. Conclusions

- Conclusions regarding consciousness (the mind)
 - Law of Contiguity
 - Elements combine by the British Empiricists' laws of contiguity (association), rejecting Wundt.
 - Psychological Processes and Continuity of Mental Events
 - Physiological processes give psychological processes a continuity they otherwise would not have.
 - Nervous system used to explain characteristics of mind (not a cause).



III. TITCHNER

D. Conclusions

- Conclusions regarding consciousness (the mind)
 - The context theory of meaning
 - What gives meaning (content) to sensations is called the context theory of meaning.
 - What gives sensations and events meaning is the images and events with which the sensation has been associated contiguously in the past.
 - These associations form a core or a context.



III. TITCHNER

D. Conclusions

- Titchener and Wundt
 - Like Wundt, Titchener did not appear to be a materialist about mind
 - Textbook proposes that Titchener's mind-body positions include double aspectism and epiphenomenalism
 - This reflects a disinterest in the question, as it required speculation
 - Unlike Wundt, Titchener rejected volitional consciousness.
 - Embraced associationism and rejected rational process of attention and creative synthesis.
 - Also embraced positivism.



III. TITCHNER

E. Decline of Structuralism

- Decline of Structuralism
 - Structuralism declined quickly after Titchner's death.
 - People began to question the use of introspection as a viable method in research.
 - Development of the study of animal behavior
 - The lack of interest in practical implications on the part of structuralists.
 - The development of behaviorism and objective methods of research.



IV. OTHERS

A. Phenomenologists

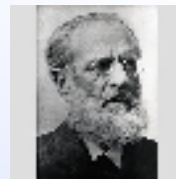
- Phenomenology was another German movement.
 - Franz Clemens Brentano (1838-1917)
 - The important aspect of the mind was not what was in it but what it did
 - Mental processes are aimed at performing some function (Act Psychology).
 - All mental acts incorporate something outside of itself (which he called intentionality).
 - He employed phenomenological introspection – introspective analysis of intact, meaningful experiences.



IV. OTHERS

A. Phenomenologists

- Phenomenology
 - Carl Stumpf (1848 – 1936)
 - Like Brentano, Stumpf argued for study of intact, meaningful experiences, phenomenology.
 - Influenced the development of Gestalt psychology.
 - The three “founders” of Gestalt psychology studied with Stumpf.
 - Stumpf and a student Oskar Phungst helped investigate the Clever Hans phenomenon.



IV. OTHERS

A. Phenomenologists

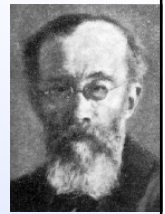
- Phenomenology
 - Edmund Husserl (1859-1938)
 - Argued that there are two types of introspection
 - One focuses on the intentionality described by Brentano
 - Second focuses on subjective experience which include mental essences (pure phenomenology)
 - His goal was to create a taxonomy of the mind based on the mental essences by which humans experience themselves.
 - Examined sensory content (meanings and essences) not elements (intensity, duration etc.)



IV. OTHERS

B. Oswald Külpe and the Wutzburg School

- Oswald Külpe (1862- 1915)
 - Külpe (and the Wutzburg School) challenged Wundt,
 - Proposed imageless thought and that the higher mental processes could be studied experimentally
 - Method called systematic experimental introspection.
 - Now called *Verbal Reports*
 - Einstellung (or mental set) causes one to behave in a ways unaware that they are doing so.
 - The mental set can be induced by instruction or by past experiences.
 - Supports Wundt but not Titchener.



IV. OTHERS

C. Hans Vaihinger

- Hans Vaihinger (1852-1933)
 - Proposed that societal living requires that we give meaning to our sensations, and we do that by inventing terms, concepts, and theories and then acting “as if” they were true.
 - Fictional thinking is part of all other reasoning about the world.
 - Connected to James’ Pragmatism, Adler’s Psychodynamic theory, and Kelley’s Personal Construct theory.



IV. OTHERS

D. Hermann Ebbinghaus

- Hermann Ebbinghaus (1850-1909)
 - Researched learning and memory
 - First time learning and memory studied as they occurred
 - It illustrated that these processes could be studied experimentally.
 - Many of his findings are still cited today and most of the major conclusions reached are still valid today.



IV. OTHERS

D. Hermann Ebbinghaus

- Hermann Ebbinghaus

- Method

- He developed nonsense syllables to use as stimuli in his research.
 - Controlled for meaningfulness of the stimuli used in memory.
 - The subject is to learn (memorize) a series of syllables by looking at them sequentially until mastery.
 - Then after various time intervals they were to relearn the same list.
 - The difference in number of exposures to relearn the list in comparison to the number of exposure to mastery at the initial exposure was called savings.



IV. OTHERS

D. Hermann Ebbinghaus

- Hermann Ebbinghaus

- Conclusions

- More rapid forgetting during the first hours following learning and slower thereafter.
 - Overlearning (continuing to study past mastery) decreased the rate of forgetting.
 - Distributed practice was more effective than massed practice

