

The Psychology of Consciousness

CHAPTER 8



Settings

- This chapter focuses on the establishment of psychology as an academic discipline and an experimental science
- Experimental science was novel to the 19th and 20th centuries
- It was a bold move for Wundt to propose that psychology (traditionally practiced in philosophy) become an experimental science

The German University

- First experimental psychology was born in the German university
- After Napoleon's victory over the Prussians, the Prussian Kaiser resolved to modernize his nation, including education of citizens
- This resulted in the first modern research university. The University of Berlin was founded (1810) and became a model university for Germany and the world

The German University

- Before this, higher education was aimed at training three professions: physicians, lawyers, and clergy
- Very few people elsewhere pursued higher education unless aiming for one of the three learned professions
- College was seen as preparation for entrance into polite, educated society, not the pathway to a career

The German University



- William von Humboldt (1767-1835) proclaimed two aims of the new university: *Wissenschaft & Bildung*
- *Wissenschaft*: referred to any body of knowledge organized on definite principles
- *Bildung*: German concept referring to a person's self-formation through broad, humanistic education

The German University

- Humboldt referred to *Bildung* as “the spiritual and moral training of the nation”
- Product of *Bildung* was *Bildungsbürgers* - culturally educated citizens
- From the start, there was tension between these two goals. How could the pursuit of knowledge for its own sake aid the spiritual growth of the citizenry?

The German University

- Humboldt tried to unify the goals of research and *Bildung* by relating them to three coordinated aims of the university:
 - 1)** Deriving everything from an original principle (goal of *Wissenschaft*)
 - 2)** Relating everything to an ideal (goal of philosophy)
 - 3)** Unifying this ideal and this principle into a single idea

The German University

- As you can see, philosophy played an important role in Humboldt's scheme
- It was the philosophers job to provide the foundations for and synthesize all knowledge into a single unified view of the world (*Weltanschauung*) in the service of high moral and social standards

The German University

- Economically, the university relied on the training of teachers for the German *gymnasia* - academically oriented high schools for the rising middle classes
- From 1866 onward, psychology was included as part of the curriculum in philosophy
- The tension between humanistic cultivation of character and scientific cultivation of specialized research was apparent in the curriculum

The German University

- Specialization went against *bildung* values. Wundt and others remained committed to unification of philosophy, humanities and sciences.
- Philosophers and humanists resented the intrusion of science into their traditional domains
- Psychology did not fit comfortably into the professional education of *Bildungsbürger* so there was not much emphasis placed on making it an autonomous science

German Values: The Mandarin *Bildungsbürger*

- Cultural leaders of Germany (the *Bildungsbürger*) have been compared to the Mandarins who ruled Confucian China
- Both the Mandarins and the *Bildungsbürger* were a self-defined intellectual elite based on deep education in their respective cultures.
- The values of this Mandarin elite powerfully shaped German psychology

German Values: The Mandarin *Bildungsbürger*

- The distinction between *Gemeinschaft* and *Gesellschaft* reveals everything the *Bildungsbürger* loved and valued, and feared and hated, respectively.
- *Gemeinschaft* = Community
- *Gesellschaft* = Society

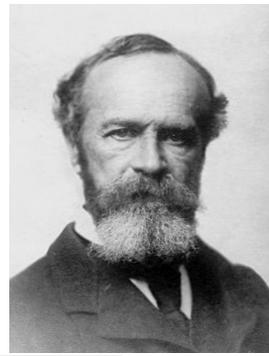
German Values: The Mandarin *Bildungsbürger*

- *Gemeinschaft* (Community) - What they loved and valued: Culture, living organism, rural, life and soil. A genuine community of people sharing common language, culture, and geographical roots
- *Gesellschaft* (Society) - What they feared and hated: Civilization, urban, mechanical aggregate, mind and reason. An agglomeration of isolated individuals lacking common ties

German Values: The Mandarin *Bildungsbürger*

- The *Bildungsbürger* values influenced Wundt who founded psychology as a science within philosophy
- He set uniquely human achievements such as culture and language, and key aspects of the *gemeinschaft* outside the scope of experimental psychology.
- Most psychologists wanted to move psychology into the realm of natural science and/or for it to become an applied field. These goals were resisted by the high value Mandarins placed on pure scholarship.

Wilhelm Wundt's Psychology of Consciousness



- Wundt was born in Germany in 1832. He was a member of the intellectual Mandarin elite
- Was the founder of psychology as an institution
- He created the first academically recognized laboratory in psychology
- His innovations were methodological and social rather than theoretical

Wilhelm Wundt's Psychology of Consciousness

- He received an assistantship with Hermann von Helmholtz
 - This is when he gave his first course in “Psychology as a Natural Science” in 1862
- His publications included the first edition of his fundamental work, *Principles of Physiological Psychology*, in 1873 and 1874

Wilhelm Wundt's Psychology of Consciousness

- Wundt received a chair in philosophy at Leipzig, where he taught from 1875 to 1917
 - This is where he won a degree of independence for psychology by founding his Psychological Institute
- During his time there he supervised at least 200 dissertations, teaching over 24,000 students and working on his own writing

Making Psychology A Science: The Path Through Physiology

- In the work that first defined scientific psychology, *Principles of Physiological Psychology* (1873), Wundt proclaimed “*an alliance between two sciences*”
- Wundt attempted to pair mental elements and processes with their underlying physiological substrates
- This is where Wundt began to transform the Cartesian-Lockean Way of Ideas from philosophical speculation into science

Making Psychology A Science: The Path Through Physiology

- The results of the alliance was to be a new science of physiological psychology, whose tasks were:
 1. *“To investigate those life processes [consciousness] that stand between external and internal experiences”*
 2. *“To throw light upon the totality of life processes from the point of view gained by investigators of this area and in this way try to mediate a total comprehension of human existence”*

Making Psychology A Science: The Path Through Physiology

- This alliance provided a strategy by which Wundt's fledging field might make its way into the academic world
- It would serve several important functions in psychology's struggle for existence
 1. Methodology
 2. A philosophical level
 3. Tactical move

Wundt's Two Systems of Psychology: Heidelberg and Leipzig

- Wundt offered the world two different systems of psychology
 - He formulated the first at Heidelberg
 - *“sin of my youthful days”*
 - His second program was put forward in Leipzig and changed significantly over the years
- What remained constant was Wundt's traditional definition of psychology as the study of the mind and the search for the laws that govern it
 - but his assumptions about the mind and the methods used to investigate it changed dramatically

System One - Heidelberg

- Heidelberg conceived psychology as a natural science
- Wundt believed that the mind could be brought within the scope of natural science by experimental methods
- In his early definition of psychology, Wundt did not identify the mind with consciousness as he did later. Here, the goal of experimentation was to gather data permitting inferences about unconscious processes

System Two - Leipzig

- Wundt was called to Leipzig to lecture in philosophy, to build a philosophical system, and to conduct psychology as part of philosophy
- Wundt had to find a new place for psychology in the Mandarin scheme of knowledge
- German intellectuals typically distinguished between *Naturwissenschaft* and *Geisteswissenschaft*

System Two - Leipzig

- Psychology forms the transition from natural science (*Naturwissenschaft*) to spiritual science (*Geisteswissenschaft*)
- The experimental methods of physiological psychology focused on the aspects of consciousness close to sensation and motor response. This led to an approach that is related to the methodology of the physical sciences
- However, the higher mental processes required scientific analysis and approaches of the special *Geisteswissenschaften*

Wundt's Psychology

- Wundt carefully defined the new methods on which scientific psychology should be built
- He introduced physiological (experimental) techniques into the formerly philosophical realm of psychology
- Wundt distinguished between two means of psychological observations which were both types of introspection
 - Internal perception
 - Experimental self-observation

Wundt's Psychology

- Internal introspection
 - The prescientific method of armchair subjective introspection, as practiced, for example, by Descartes and Locke
 - This kind of introspection is carried out in an uncontrolled way and cannot hope to yield results useful to a scientific psychology
- Experimental introspection
 - Designed a scientifically valid form of introspection in which 'observers' are exposed to standard, repeatable situations and are asked to describe the resulting experience

Wundt's Psychology

- The rationale and limits of experimental introspection changed as Wundt's systematic definition of psychology changed
- In the Heidelberg years, Wundt believed in unconscious psychological processes
 - Claimed it was “futile to attempt to penetrate into the realm of the higher mental processes by means of experimental methods”
- Wundt would later reject the existence of the unconscious
 - Experimentation was valued for re-creating the same experience in different observers or the same observers at different times
 - This is when he rejects his Heidelberg stance

Wundt's Psychology

- The Leipzig restrictions on introspection were consistent with Kantian Idealism
- Kant set the Transcendental Ego outside the possibility of experience
 - Restricting introspection, as Wundt now did, to the most superficial aspects of the mind: immediate conscious experience

Wundt's Psychology

- Alongside experimental introspection, Wundt recognized other methods of psychological investigation
 - Comparative-psychological
 - Historical-psychological
- Wundt assigned to the historical method (*Völkerpsychologie*)
 - Wundt held that the best way to construct a theory of psychological development in individuals was to study the historical development of the human race

Wundt at Work

- Two important methods developed by Wundt
 1. Experimental method of physiological psychology
 - a. How many ideas can consciousness contain at a given moment?
 2. Method of the Völkerpsychologie
 - a. How human beings create and understand sentences?

Physiological Psychology

- “How many ideas can the mind hold at once?”
- Traditional philosophical introspection, Wundt held, can provide no reliable answer
- Therefore, Wundt attempted to complete an experiment that would help answer this question

Physiological Psychology

E	H	I	V
F	P	C	K
Z	U	A	O
T	M	D	R

Physiological Psychology

- Wundt found that observers could recall about four to six letters
- Two further important phenomena can be observed in this experiment
 1. Whether letters are presented as random strings or as words
 2. The perception of letters that observers did not name

Physiological Psychology

- Wundt also studied feelings and emotions because they are part of our conscious experience
 - He often used introspectively reported feelings as clues to what processes were going on in the mind at a given moment
- Wundt proposed that feelings could be defined along three dimensions:
 - pleasant versus unpleasant
 - high versus low arousal
 - concentrated versus relaxed attention

Physiological Psychology

- Finally, Wundt considered abnormal states of consciousness
 - Emil Kraepelin (psychiatrist) studied with Wundt
- His first studies involved what he called *dementia praecox* (premature dementia), later called schizophrenia
- Wundt proposed that schizophrenia involves a breakdown in attentional processes

Völkerpsychologie

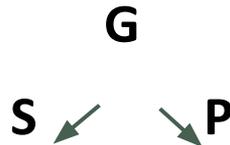
- The study of the products of collective life
 - Especially of language, myth, and custom
 - Provides clues to the higher operations of mind
- Völkerpsychologie reaches deep into the Transcendental Ego unlike experimental psychology which penetrates only the “outworks” of the mind
 - History would expand the range of the individual consciousness

Völkerpsychologie

- Wundt supported the idea that studying existing cultures would reveal the evolution of the human mind
 - *“To travel in geographical space from culture to culture was also to travel in time”*
- It was in the study of language that he made his most substantial contribution
 - Suggesting a theory of psycholinguistics that reached conclusions similar to those of psycholinguistics in the 1960's

Völkerpsychologie

- Wundt divided language into two aspects:
 - Outer phenomena
 - Inner phenomena
- Sentence production (according to Wundt) began with a unified idea that one wishes to express, the *Gesamtvorstellung* (G), or whole mental configuration
 - Example: “The cat (S) is black (P)”



Völkerpsychologie

- Despite the value Wundt placed on Völkerpsychologie in his writings, he never trained anyone in its practice
- It exerted little influence even in Germany, whose Mandarin values it reflected
- Outside Germany, it was misrepresented or ignored

After Leipzig: Other Methods, New Movements

- Students of Wundt took a natural science approach
 - Wanted to specialize
 - Separate psychology from philosophy
 - Practical application
 - Rejected Wundt's divisions of psychology into natural, experimental and völkerpsychologie
- Influence of positivism
 - Higher mental processes must be examined experimentally

E.B. Titchener (1867-1927)



- Englishman who brought German psychology to America
 - Important in founding American psychology
- Founded Structuralism by expanding Wundt's ideas
 - Attempted to to understand the mind as the sum of underlying parts
 - Similar to natural science approach i.e., chemistry

3 Goals of Structuralism

1. Identify basic sensation elements of perception

- Elements were simplest sensations to be found
- Found through introspection, a complicated retrospective analysis

2. How elementary sensations are connected to form complex perceptions, ideas or images

3. Explain workings of the mind

- Explanation sought in observable nerve physiology
- Experiences were only sensations not processes e.g., attention

Titchener's Structuralism

- Differences between Titchener and Wundt
 - Conformed to Humean view (mind is a collection of sensations) not Kantian (mind separate from experience)
 - He rejected Wundt's apperception which was inferred rather than directly observed
 - Reduced attention to sensation, attended sensations are most clear
- His extreme introspective, structural psychology contrasted with American psychology influenced by evolution and functionalism
 - Americans thought Titchener was out of date

Phenomenological Alternatives

- Two alternative conceptions arose from:
 - Franz Brentano (1838-1917)
 - Wilhelm Dilthey (1833-1911)
- Both rejected the analytic atomism of previous psychologies (i.e., structuralism) because it artificially imposed pretheoretical assumptions on to the lived experience reality
- They preferred to describe consciousness as it appears naively without assumptions about the nature of it. This was called phenomenology.

Franz Brentano (1838-1917)



- Rejected Cartesian Way of Ideas as artificial because it imposed false metaphysical theory on naive experience
- Brentano's conception was rooted in Aristotelian Realism
 - If we are more or less in direct contact with the world why analyze the mind?
 - Just describe experience as we find it
- Created influential version of realism giving rise to:
 - Phenomenology in Philosophy
 - Gestalt movement in Psychology

Brentano's Act Psychology

- The mind consists of mental acts directed at meaningful objects outside of it by which one grasps objects himself
- Ideas are mental acts which can not be reduced to components
 - Describe consciousness rather than analyze it

Influenced the ideas of Carl Stumpf, Sigmund Freud, Christian von Ehrenfels

Carl Stumpf (1848-1946)



- Link between Brentano and Gestalt Psychology
- First director of the Psychological Institute founded at University of Berlin in 1894
- Trained others in Gestalt Psychology
 - Inspiring them to describe consciousness as it was not as an empiricist atomist said it must be

Wilhelm Dilthey (1833-1911)

- Proposed the distinction between *Naturwissenschaften* and *Geisteswissenschaften* lies in intentionality
- Studying human behaviour goes beyond the scope of natural science
 - “We explain nature; we understand psychic life”
- We must understand motives, reasons behind actions
- Psychology not purely physiology
 - The direction of mental act is in the mind not the neurons

Systematic Introspection: The Würzburg School(1901-1909)

- **Oswald Külpe (1862-1915)**
 - One of Wundt's most successful students
 - Heavily Influenced by positivism
- He aimed to make psychology more of a complete natural science rather than a branch of philosophy based only partially in experimentation
- Believed that thought processes could be studied in the lab. He became a professor and established his lab at Würzburg (He and his students = The Würzburg school)

Systematic Introspection

- Külpe developed the *Ausfragen* Method (method of questions)
 - Very different than introspection at Leipzig
- A question of some sort was asked of the observer
 - Simple task
 - Difficult task
- Observers gave a response but were asked to report what had happened in their minds between the question and the answer (describe the thought process)

The Würzburg School: Important Result #1

1. Discovered thoughts could be imageless (some contents of consciousness could not be traced to sensations, feelings, or images of these)

- Würzburg theory: thought is actually an unconscious process
- Wundt rejected these findings because results could not be replicated
- Titchener replicated the studies to prove them wrong

Result #2: Association alone cannot explain the nature of rational thought

- Mayer and Orth's Free Association Experiment
 - Stimulus word: Bird
 - Response: Canary
 - Bird-Canary is strongest association
- Henry Watt's Constrained Association Experiment
 - Specific task "give a subordinate category" or "give a superordinate category"
 - Stimulus word: Bird
 - Subordinate category: Canary
 - Superordinate category: Animal

Conclusions of Würzburgers

- Würzburgers began to study function rather than components such as imageless thought
- Functionality was seen as more psychologically real and important compared to content
 - Future direction of psychology in America
- Würzburg dissolved when Kulpe left and no theory was ever published

Studying Memory



- Good topic for scientific investigation because it could be studied quantitatively and without introspection
- **Hermann Ebbinghaus (1850-1909)**
 - Investigated formation of associations by learning serial lists of nonsense syllables
 - Goal to isolate memory as the pure function of learning, taking away any content effects
- Wundt eventually accepted that higher useful processes could be experimentally investigated

George Elias Müller (1880-1943)

- The most rigorous experimentalist of the founding German psychologists
 - Elaborated on Ebbinghaus studies
 - More similar to Americans who emphasized methods and the minimization of theory
- Theoretically, he insisted on association as the only mental force
- Created the memory drum, a machine used to present nonsense syllables at a measurable pace

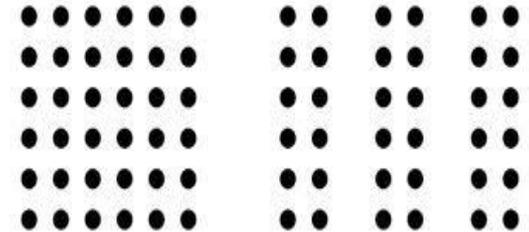
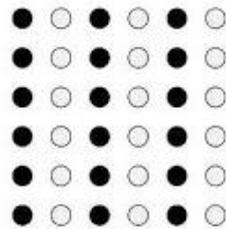
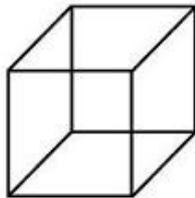
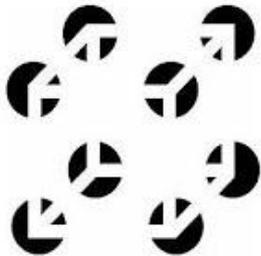
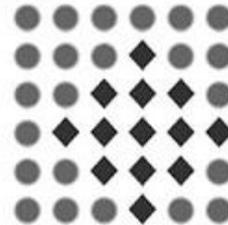
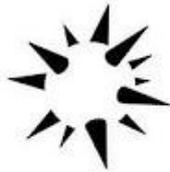
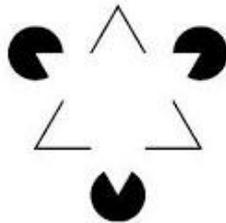
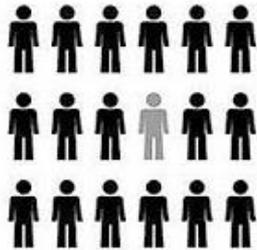
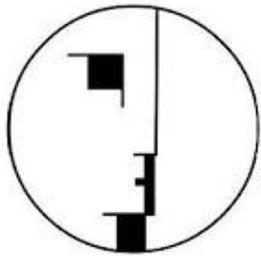
Gestalt Psychology

- Christian von Ehrenfels (1859-1932) introduced the term *Gestalt*
 - Gestalt = form, or whole
- *Gestaltqualitäten* - form elements
- Analogy of a melody: more than just a sequence of notes
- Gestalt psychologists rejected virtually every aspect of the Cartesian Way of Ideas

Gestalt Psychology

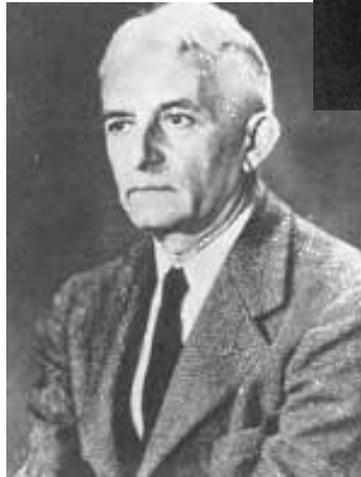
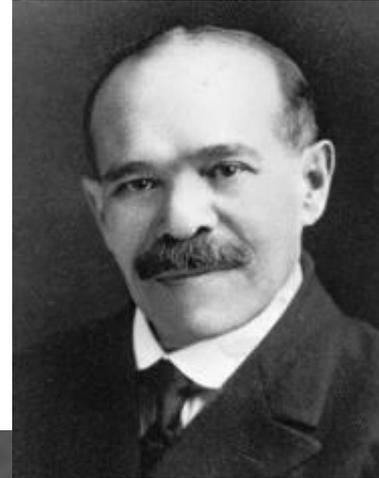
Gestalt Principles

- Principle of Closure
- Principle of Similarity
- Principle of Proximity



Leading Gestalt Psychologists

- Max Wertheimer (1880-1943)
- Wolfgang Köhler (1887-1967)
- Kurt Koffka (1887-1941)
- Kurt Lewin (1890-1947)

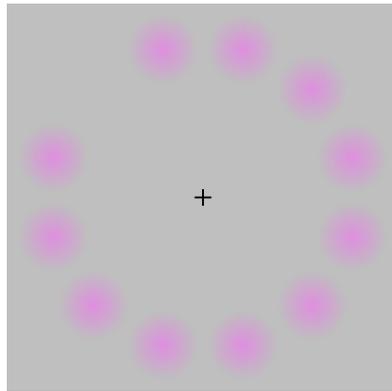


Rejection of the Cartesian Framework

- Gestalt psychology offered as a “liberating” alternative to atomistic theories of consciousness
- The Way of Ideas
 - Two Flawed Principles
 - i. Bundle Hypothesis (objects in consciousness were made up of unchanging atomic elements)
 - ii. Constancy Hypothesis (each sensory element in consciousness corresponds to a specific physical stimulus registered by a sense organ)

Apparent Motion and the Phi Phenomenon

- Apparent Motion - images presented in rapid succession are perceived as being in continuous, smooth motion, as with movies



- Wertheimer dubbed this the phi phenomenon to move away from the associations with apparent motion as an illusion

Applied Psychology

- There was heavy resistance from Mandarin Germans to making psychology a practical field
 - Huge value placed on “pure scholarship undertaken for its own sake”
 - *Lehrfreiheit* - academic freedom to teach and study as one chose
 - Philosophical roots were stronger than their ties to Darwin’s evolutionary theories

Applied Psychology

- Social forces throughout Germany and the world led to the development of psychology as an applied field despite resistance
- Psychology developed to meet the needs of the public and therefore applied psychology evolved to include fields like sports, traffic and railroad psychology

The Fate of the Psychology of Consciousness

- Growth of psychology was slow in Germany due to the Mandarin culture of philosophical *Bildung*
- Psychology largely remained part of the domain of philosophy
- Psychologists had to compete with philosophers for professorships and resources.
- Those inclined towards experimental psychology were deemed “experimental fanatics” who worshipped “the cult of facts”

The Fate of the Psychology of Consciousness

- The growth of psychology was further hindered with the rise of the Nazis who destroyed the Mandarin system
- Many important psychologists fled Germany as the Nazi party rose to power throughout the 1930's
- Many of the psychologists who remained in Germany began to endorse and scientifically justify Nazi policy and anti-semitism through Gestalt theories

The Fate of the Psychology of Consciousness

- Gestalt Psychology did not prosper after its strongest supporters moved to America
- They did not “shed their German ways” and fit poorly into the American academic world which prevented them from training graduate students in Gestalt theories
- Kurt Lewin did embrace American culture abandoning Gestalt theories in favor of American topics such as group dynamics

The Fate of the Psychology of Consciousness

- The growth of psychology in America was faster than that in any other country
- The psychology of consciousness in its German form could not exist outside Mandarin Germany
- The future of psychology lay largely in America, however it would be a psychology much changed from its German roots

Haben sie Fragen?
Questions?