Study on the titchener versus munsterberg saga

The Titchener versus Munsterberg saga was basically the personification of the battle between two systems; structuralism and behaviorism for supremacy with respect to the focus and the direction of the psychology. A system in its simplest form is an organized way of envisioning the world or some aspect of the world (Edward Tichener's, 2008). For Psychology, the theoretical system provides a broad definition of psychology and defines the major terms and concepts. The psychological system also dictates the assumptions about major issues like the mind and brain or the preeminence of nature or nurture. The combination of the first two leads to the third characteristic of a psychological system, which is that it (the psychological system) will specify the actual subject matter. For example, in Behaviorism the subject matter is behavior whereas for Wundt's psychological system, the focus of study was the elements of consciousness.

Titchener was a student of Wundt, who basically " Americanized" Wundt's experimental psychology. He is also the student who translated the Principles of Physiological Psychology into English. At the age of 25 he started the psychology program of Cornell and ran it for 35 years. He denounced any system of psychology that was not experimental although, he did apparently recognize the efficacy of having a rigorous applied psychology program that investigated areas such as abnormal and developmental psychology.

From Titchener's perspective the definition of psychology is the study of the mind thus its focus should be all conscious experiences. Because of the prominence he gave introspection with respect to his experimental methodology, the study of animals, children or the mentally ill was

prohibitive, since they were incapable of providing true introspection (Hothersall, 2004). Consciousness according to Titchener was composed of three elements (sensations, images and feelings). Titchener called his brand or system of psychology “ Structuralism”. The primary tool of his system as noted earlier was introspection and the focus was the investigation of the elementary mental processes; primarily the senses. He believed that all sensations had at least four attributes: quality, intensity, clearness and duration (Edward Tichener’s, 2008). He surmised that even complex mental states were simply a combination of sensations, ideas and feelings (attention results in certain sensations and ideas become more vivid and distinct; meaning is the product of context) (Hothersall, 2004, p. 147). He (Titchener) was extremely interested in attention and differentiated between primary attention (involuntarily focused) and secondary attention (voluntarily focused).

Titchener’s impact on psychology is an interesting one, primarily because his methodology of introspection was deemed not viable and his systems was criticized as being to inflexible (thus the system became extinct at his death). However, he did personally direct fifty six (56) doctoral students including nineteen (19) women (Hothersall, 2004 & Edward Ticherner’s, 2008). Many of his students or his student’s students significantly impacted psychology. For example, Margaret Floy Washburn, the first female to earn a PHD in psychology, was a powerful force in psychology and an important figure for women not only in psychology but science in general (Russo, 1987). Franz Bretano developed a classification system for mental phenomena. This system and his teachings is said to have impacted the

thoughts of William James, Gestalt psychology and existentialism. Carl Stumpf (imageless thought), George Muller (the first to describe the interference of newly learned material as retroactive inhibitions) and Ebbingaus (work in memory and mental testing) were all “ seeds” of Titchener (Edward Tichener’s, 2008). So despite the extinction of his system of psychology, it was his students who comprised the core of American psychologist. These American psychologists were not structuralist, but neither were they behaviorist or clinical.

Munsterberg

Hugo Munsterberg, like Titchener obtained his Ph. D. under Wundt in 1882. He directed the lab in Freiburg (Swirtzerland). Initially the lab occupied two rooms of his house. In 1892, he was actively recruited by William James (theories of emotion) to direct the Psychology lab at Harvard University and wrote American Traits in 1902. One of Munsterberg’s first book was entitled “ Activity of the Mind” in which he restated his belief that muscle sensations were the basis of awareness and consciousness. This book received public criticism from his teacher Wundt but gained him the eye and favor of William James. Munsterberg was a prolific writer but was not known for precision or thoroughness in his research or writings.

Unlike Titchener and Wundt, Munsterberg was deliberate and consistent about not giving a precise definition of psychology. His fear was that in doing so, he would imply restrictions that he sought to avoid. His was very much interested in the functional aspects of psychology and sought to understand such topics as memory, learning and empathy. He also apparently was very

interested in mental illness and actually began treating patients. Granted, he limited it to those who added value to his research. He did not accept Freud’s views on the significance of unconscious determinants but saw psychoanalysis as a possible tool for treating patients (Kneessi, 2002). Because he believed that mental illnesses had a physiological basis, he opposed general or schematic approaches to treatment. Assurance, direct suggestions and auto-suggestions were all significant tools in his “ tool box” for successfully treating patients (Kneessi, 2002). Accordingly, he reported that he had experienced successes with his clinical techniques for a host of problems. It is interesting that although he was reluctant to define psychology, he did define both psychotherapy (practice of treating the sick by influencing the mental life) and psychiatry (treatment of mental disease) (Kneesi, 2002).

Because Munstenberg’s focus was more functional or applied in nature, he has been credited for providing meaningful contributions to not only psychotherapy but forensic and industrial psychology as well (published On the Witness Stand in 1908). In this same year (1908), he wrote a host articles on the efficacy of using psychological information in legal situations. He theorized and then proved that witness testimony could often be unreliable, despite the witness making an honest effort to be truthful. His argument was that there were two types of truths; objective and subjective truth (Hothersall, 2004). Our objective truth he argued could be skewed because the senses can be deceived and because suggestions often affect our perceptions. While he spoke negatively regarding our adversarial legal system because of the psychological affects that actually hinder objective

truth, he did perform research that seemed to have vindicated the jury system. Specifically, he did a pioneer study in which it was discovered that a person (men) asked to make a judgment alone was only 52% accurate but in a group the accuracy increased to 78%. He is also considered to be America’s first industrial psychologist publishing “ Psychology and Industrial Efficiency” in 1913 (Domingue & Rardon, 2002). In this particular text, he discussed creating simulations to identify the best workers, worker satisfaction, worker efficiency and advertisement.

Titchener and Munsterberg in Retrospect

Both these gentlemen earned doctoral degrees under Wundt and both earned the ire of their teacher because of their divergence from introspection. Titchener insisted on defining and maintaining a strict boundary of what he considered to be psychology. His focus was discovering the basic elements or structures of the mind. Munsterberg, in contrast did not want to be exclusive, so he refused to define psychology. Furthermore, unlike Titchener who was more empirical and academia focused, Munsterberg was less inclined to be constrained by studying only that which could be empirically proven. His focused was more on application or outcome of the mind processes in real world situations. I believe it is this difference more than anything else that contributed to the demise of Titchener’s work. David Hothersall wrote that contemporary psychology reflect Munsterberg’s influence but little of Titchener’s (p. 173). While I acknowledge that there are no Titchener Structuralist psychologists today, his influence can be felt indirectly by the impact of the fifty six students he trained. As for who made the most lasting impact on American psychology,

well that has to be Munsterberg. This is true primarily because of his emphasis on applied psychology. Much of what we believe about group think and group decision finds its foundation in Munsterberg's work. The same can be said for advertisement, the work of criminologist and even some schools of counseling or therapy. In other words much of Munsterberg's work has proven to be relevant to psychologist today.

Major Ideas of Darwin's Theory of Evolution By Natural Selection

To say that Darwin's Theory of Evolution by natural selection is perhaps one of the most controversial theories in science would be an understatement. Since its initial introduction via publication of the Origin of Species by Means of Natural Selection, there has been a continuous debate in both the science and in the religious community. Needless to say despite which coin you personally fall on, with regard to acceptance of the theory, it did fundamentally change the direction of scientific thought. It is important to note that up until the 19th Century, it was widely accepted that all the organisms and the subsequent adaptations and differences noted within them were guided by or represented the work of an intelligent designer. However, at the dawn of the 19th century, geologist began questioning the age of the earth (it did not line up with the teaching of the Bible) and other scientists began considering the possibility of a world without God, or at least a God that was deliberate and active in his creation.

Darwin's theory is based on his observations while traveling for five years and forty thousand miles onboard the H. M. S Beagle. The most significant stop in this voyage was their stay on a group of islands called the Galapagos.

It is here that Darwin got the opportunity to observe and note the differences of two particular species; the giant tortoise and the finches. He noticed that the tortoise’s shells from the various islands within the Galapagos were different. Darwin apparently observed fourteen different species of finches on different islands. These finches had a multitude of beaks that seemed to have been predicated on the food they ate. This observation led Darwin to consider the possibility that the species was initially one but in response to the food supply on their particular island the fiches developed a specific beak that facilitated its ability to partake of the available food (Hothersall, 2004). During his five years aboard the Beagle, Darwin realized that species did seem to change and adapt but he initially was unable to isolate what the impetus for these changes were.

Darwin answer, natural selection was inspired by Thomas Robert Malthus’s view of population growth. His theory of evolution consists of four primary ideas or principles. Of which only one is unique to Darwin. Principle one states that all species make babies and changes over time. The species that exist today are different from their ancestors. Furthermore, a species population from different geographical locations will differ slightly in either form or behavior (Evolution) (Hothersall, 2004). Principle two states that we are all share common ancestors and if we look far enough back in time we would discovery it. The best example of this principle is his belief that eight million year ago humans shared a common ancestor with chimpanzees. According to this principle shared ancestry explains the similarities of organisms that are classified together (Hothersall, 2004). The third principle simply states or notes that evolutionary changes are gradual and slow. This

appears to be supported by the gradual changes in organisms in the fossil record. The fourth principle unlike the other three is uniquely Darwin. In other words the other three principles were already being discussed in the science community. But this fourth principle is Darwin’s explanation for how and why the first three principles “ play out”. Specifically, Darwin states that the primary mechanism of change over time is natural selection (Hothersall, 2004).

The process of natural selection according to Darwin has four components. First, all organisms display differences or variations in color, size and behavior. Secondly, some traits are consistently inherited, while others seem to be dictated by environmental conditions. Third, almost all viable populations produce more babies than the resources can support therefore there is a constant struggle for survival. Fourthly, the individuals possessing the traits that give them a substantial advantage in this struggle for survival contribute more offspring to the next generation (Evolution) (Horthersall, 2004). Later, genetics was added to this puzzle called natural selection.

Sir Francis Galton

Introduction

Sir Francis Galton is one of the most intelligent men of our time. He is credited with writing over 340 papers and books during his lifetime. His impact on psychology was significant and far reaching. He introduced the use of questionnaires and surveys as suitable tools for data collection and was the first to use statistics to study human differences and inheritance of intelligence. He is the founder of psychometrics (the science of measuring

mental faculties) and differential psychology (the branch of psychology that concerns itself with psychological differences between people, rather than on common traits (Frost, 2007). He made the term nature versus nurture popular and his introduction of the twin-study method has withstood the test of time and is still one of the most significant tools in psychology and the nature versus nurture debate. Finally, he was a pioneer in selective breeding among humans, coining the term “ eugenics” to describe the study and practice.

Individual Differences

Galton was fascinated by the differences that he had observed in people during his travels, especially the functions and working of the mind. It appears that there was almost nothing insignificant enough for him not to count; counting the number of fidgets per minute he found that children can’t sit still and elderly philosophers could sit still “ forever” it seemed. In 1884, he established an anthropometric laboratory so he could measure the “ various ways of human form and faculty” (Hothersall, 2004). It is has been estimated that over 17, 000 individuals were tested in Galton’s psychometric labs in which he charged 3 to 4 pence to test the physical and mental powers (Hothersall, 2004). Galton used visual and auditory responses to measure mental activities. Visual and auditory responses were selected because at the time it was believed that there was a relationship between sensory and mental abilities.

His efforts to study individual differences led to Galton’s popularization of the use of questionnaires. One of the most well-known studies concerned mental

imagery. In this particular study subjects were asked to describe imagery, coloring and other details of some scene from memory. He discovered that most could do this easily, with some of his subjects displaying the ability to be really detailed in their descriptions. But to his surprise he found that most scientist and mathematicians were unable to recall such images (Hothersall, 2004). He concluded that this was the result of scientist and mathematicians focus on the abstract. The point of the last two paragraphs is to paint the picture of a man so fully engrossed with individual differences that he would eventually develop mathematical statistics to express or explain these differences.

Nature versus Nurture Concept

The term Nature versus Nurture was not new, having been introduced in 1582 by Richard Mulcaster but it was new to psychology when Galton began exploring what was the stronger influence in our physical and behavioral characteristics; heredity (nature) or environment (nurture). In 1874, Galton wrote English Men of Science: Their Nature and Nurture, which addressed the nature versus nurture controversy. Using the results of a questionnaire that surveyed the Royal Society regarding their political and religious affiliations and their interests in science, he concluded that intelligence was hereditary but required nurturing to come to full fruition (Frost, 2007). Realizing that studies using questionnaires had its limitations, he introduced the “ twin study methodology”. In 1883 he published the History of Twins in which he compares the similarity of monozygotic or identical twins, who share nearly 100% of their genetic polymorphisms, to that of dizygotic or fraternal twins, who share only 50% of their polymorphisms (Frost, 2007).

Galton concluded that nature trumped nurture. This conclusion may not be accurate but this methodology has proven to be very effective. Present scientist have discovered that by studying families of twins, they can get a better picture regarding the role of genetic and the role of our environment plays in the development of our various characteristics.

Eugenics

Eugenics (well born) is the study and practice of selective breeding of humans so that the species can be improved (“ Eugenics,” 2010). The impetus for the introduction of an idea that has done more harm than good for mankind was based on two ideas. First, it was Galton’s direct and logical response to his cousin Charles Darwin’s Origin of the Species and his obvious belief that nature was more influential than nurture with respect to development of a human being. This seems to also be an outgrowth of Galton’s studies of individual differences. At any rate Galton proposed that the state encourage marriages between a selected class of men and women. The state would then provide healthy conditions for their children (food, shelter and education) to be raised (Frost, 2007). This was in reality a social program which aimed to improve a race or nation from within based solely on genetics. There were and are obvious problems with this principle, since nations or races throughout history have always sought to lift itself up at the expense of another race or nation. Galton had many great ideas but history has proven that this was not one of them.

William James and G. Stanley Hall

Introduction

William James and G. Stanley Hall were two of the most prominent and influential Psychologist in the history and development of American Psychology. It is said that James' psychology was livelier and that he called into question the some of the more restrictive approaches to consciousness. He (James) did pioneering work on emotions and habits. Hall a contemporary of James was the founder of developmental psychology, the founder of the American Psychology Association and one of the first psychologists to actively study both adolescents and the elderly.

The Influence of the theory of evolution

Both James and Hall were influenced by the evolutionary theory. For Hall, it was the ideas of the theory of evolution that prompted his examination of childhood development in an effort to learn more about the inheritance of behavior (Hothersall, 2004). Furthermore, Hall's version of the recapitulation theory is a direct application of Darwin's evolutionary theory. According to Hall, the child recapitulates the development of the human species in that children first crawl on all fours and then they walk upright (" G. Stanley Hall," 2010). Like Hall, James was greatly influenced by Darwin's theory of evolution. For James the theory of evolution with its contention that human's like the rest of the animal kingdom " must adapt to the world" was the impetus for his argument that human conduct is regulated mostly by habits combined with the self-correction mechanisms of the consciousness when these habits break down (Goodman, 2009).

William James

I believe it is universally accepted that William James was a pioneer in American Psychology and that although he lived and toiled in the nineteenth and twentieth century his thoughts are impacting contemporary psychology. For James, psychology was “ the science of mental life, both of its phenomena and their conditions” (Hothersall, 2004). Thus, James became one of Functionalisms most famous and influential advocates. James argument for functionalism and against structuralism is fairly straightforward and compelling. He noted that Wundt and Titchener’s method of studying the consciousness by studying its basic elements was akin to studying a house by studying each brick and was not only restrictive but destined to fail (Hothersall, 2004). His point is reasonable because the essence of his argument was that the whole was definitely greater than the sum of its parts. It seems reasonable to me considering Darwin’s theory of evolution’s influence on James that he would believe that the fact that the human consciousness has an apparent ability to adapt and to adjust to the environment was its most significant attribute (Goodman, 2009). He also noted four additional essential characteristics of consciousness; it’s personal, ever-changing, continuous and selective. The personal nature of our consciousness would seem intuitive in that my consciousness is mine and mine alone. While you can influence my thoughts, you cannot partake of them. Further, our consciousness is ever changing and continuous as a result of our constant interaction with the environment. This constant interaction means that we are constantly assimilating new ideas, reasoning and recollecting so our thoughts are not static. Because our thoughts are constantly flowing much like a stream, it would be almost impossible to capture or chop up them into pieces (Goodman, 2009). In fact to successfully

do so would in essence destroy the thought itself. It was this logic that led him to conclude that the Structuralist and their methodology was doomed to failure. Finally, James believed that our adaptability was propelled by the ability of our consciousness or mind to make sense of the myriad of stimulus it is receiving from the world, this of course means that we have to organize and be selective with respect to the various stimuli in our environment.

Another major contribution was his theory of emotion which came to be called the James-Lange theory in acknowledgement that Carl Lange (Danish physiologist) formulated a similar hypothesis around the same time. According to his 1884 publication in the journal Mind, " the nervous system makes certain innate or reflex adjustments to external stimuli and it is these perception of the physiological changes that constitute the emotion" (Hothersall, 2004, p. 340). In other words emotions are actually physiological reactions we have to some event or situation. Thus in theory at least, if we can control these physiological reactions we can control our emotions. Conversely, if we wish to trigger a specific emotion all we have to do is stimulate the appropriate physiological response that is connected to that emotion. This explains why counting to ten when provoked or talking to yourself when afraid works. The principle is simple, control the physiological response and you can control of its corresponding emotion. This principle is still being used by clinicians.

Perhaps the most quoted chapter of James' Principle is chapter four of Volume I, in it he argues that the nervous system has the property of plasticity and can be modified by experience" (Hothersall, 2004, p 342.) . The formation of pathways between the nerve centers in the brain is how

habits are established according the James. He believed that most of our habits are firmly established by the age of thirty and these habits block or facilitate new ones. Since it was believed that habits did in fact hold such prominence in psychology, it should be of little surprise that it was of utmost concern to the twentieth century psychologist. Taken his theory regarding habits to the next logical step, James began pondering how these habits are remembered or retained (memory). Going against the prevailing educational doctrine of his day (formal discipline doctrine), James concluded that it is possible to improve memory by systematically linking similar material.

Last but not necessarily the least of his accomplishments or influences is the publication of the two volume 1, 393 page " Principle of Psychology" that I've alluded to several times previously. The book was widely read not only by psychologist but by ordinary people as well. For many years this book was the standard texts for Western Psychologist and was even translated in Russian. It widespread appeal helped propel psychology into the mainstream of society.

G. Stanley Hall

Hall's impact on psychology is equally as impressive. Inspired by Darwin's Theory of Evolution and Haeckel's theory of recapitulation, Hall became the pioneer for developmental psychology with special emphasis (at least early in his career) on the various aspects of childhood development. His goal was to learn as much as he could about the inheritance of behavior. While the subjective character of these studies made their validation impossible, he never the less profoundly impacted American and International psychology

with the ideas and theories derived from these studies. “ His work also delved into controversial portrayals of the differences between women and men, as well as the concept of racial eugenics” (“ G. Stanley Hall,” 2010).

As noted earlier, Hall’s work in developmental psychology began in 1883, with the development of a number of questionnaires that he used to study Boston Kindergartener’s conception of nature. By 1915, Hall and his coworkers had developed over 190 questionnaires for adolescence that cover a wide spectrum of topics (Hothersall, 2004). In 1904, Hall presented the information he had gathered in a 1, 300 plus page book entitled, Adolescence. In the process he introduced to the world of psychology “ adolescence” as a unique stage of our life cycle (Goodman, 2009). He also organized the Child Study Institute at Clarke University. His genetic psychologist orientation led to the adaptation of the recapitulation theory into his theory of children development. Specifically, he noted that children’s play, art and social behavior as well as the fact that we first crawl on all fours before walking upright were all examples of recapitulation of human development (Goodman, 2009 & Hothersall, 2004). While this is obviously no longer an accepted theoretical concept, both this concept and Hall’s interest in Eugenics highlight the impact of Darwinism on psychological thought. Hall’s belief in higher and lower human races led him to surmise that the African American race were representative of an earlier stage of human development and thus in need of development and supervision from the superior white races (Hothersall, 2004). As appalling as this belief and thought process is/was, it did have a positive, at least with respect to Hall’s response. Specifically, it has been noted by Guthrie (1976), that more blacks

received doctorates under Hall than any other adviser in the early decades of this century.

Equally important is Hall’s role in founding the American Psychological Association (APA) in 1892. APA’s establishment provided a venue for psychologist to present and discuss their work. It was also the first learned society in America to extend full membership to women (Hothersall, 2004). Furthermore, his organizing of the Clark conference was instrumental in solidifying Freud and Jung’s ideas into American Psychology ideology.

Darwin’s Influence on John Dewey and Progressive Education

Like William James and G. Stanley Hall, John Dewey was also influenced by Darwin’s theory of evolution. As a psychologist, he emphasized the function and adaptability of mind and consciousness. He also characterized himself as a democratic evolutionist. In other words, while he accepted Darwin’s presupposition that resources are scarce and that there is a competitive struggle for those resources, he also believed that everyone should have an equal chance in this fight for survival. Dewey saw education as the vehicle for providing this equal opportunity. Thus, despite the predominance of intelligence testing during his time, Dewey believed that all children are born with an innate curiosity of the world that should be nurtured (Hothersall, 2004). Furthermore, he argued that the whole notion that intelligence is a personal endowment is evidence of the conceit of the intellectual elite and should not be used to deny anyone an opportunity to excel (Kumar, 2009). He was of course challenging the norms but as a citizen of Chicago, he was

acutely aware of the accomplishments of immigrants, whose talents and hard work had been the impetus for their success.

In 1899, Dewey published The School and Society in which based on my courtesy reading of it, I believe he presented what appears to me to be the principles of what we now call progressive education. The driving principle of his views is that humans are social animals that learn the best when given real time applicable activities as the “ backdrop” (Kumar, 2009).

Seeing applicable psychological principles as the basis or foundation for a sound educational theory and practice, Dewey outlined four basic psychological needs of a child; curiosity, conversation, construction and artistic expression (Hothersall, 2004). Unlike the schools of his day, in which children were taught by rote methods, he advocated a system that provided an environment for children to think and explore, thus learn. He placed a strong emphasis on the development of problem solving and analytical skills. It is important to keep in mind that for Dewey this was all about adaptability and survival. Rote memory gives you the answer to a specific set of problems but analytical skills allow you to look beyond that problem and even anticipate the next problem. In progressive education the instructor’s focus is on given his/her student the necessary skill sets for survival and success in our very competitive society. The point is well made, if I only know how to use a sledge hammer then everything becomes a spike (Hothersall, 2004).

The bottom line for Dewey was that the purpose of education is to make the student an effective lifelong learner by enhancing his analytical and problem

solving skills (Hothersall, 2004). The influence of progressive education on the educational system of the United States is still significant and can even be found in some of the later educational movements such as the Montessori Method and the teaching of English as a second language.

The Principal Ideas of Angell, Carr and Woodworth

Introduction

As discussed in previous sections, the genesis of Functionalism can be seen in the works of William James, G. Stanley Hall and James Cattel. However, although these three men can be regarded as pioneers in functional psychology, none of them were officially labeled as functional psychologist. This honor would be bestowed upon John Dewey, James R. Angell and Harvey A. Carr. In fact it is often said that John Dewey founded Functionalism, James Angell shaped it and Harvey Carr elaborated on it (functionalism). Functionalism at its core is the idea that that all mental process have a purpose or function and are useful to us in adapting to our env