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An Experimental Psychologist's approach to the Psychology of Scientific Progress: Edwin Boring's Theory of History

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ABSTRACT

To account for the antecedents that contributed to the emergence of psychology as a new science, Edwin Boring (1886-1968) wrote "A History of Experimental Psychology." This paper addresses the historiographical problems that Boring struggled with while he was writing the 1929 edition of his history. It then focuses on Boring's life-experiences that conceivably influenced his interpretation of history. Boring's development as a historian is demonstrated by comparing Boring's 1929 interpretation of history with his 1950 revision. Foremost, Boring was interested in the psychological factors that influenced scientific progress. Boring's theory of history evolved into a psychology of history.

El acercamiento a la Psicología del Progreso Científico de un Psicólogo Experimental: La Teoría de la Historia de Edwin Boring

Palabras clave
E.G. Boring,
Historia de la psicología,
Psicología de la historia,
Historiografía,
progreso científico

RESUMEN

Para dar cuenta de los antecedentes que contribuyeron al surgimiento de la psicología como una nueva ciencia, Edwin Boring (1886-1968) escribió "Una historia de la psicología experimental". Este artículo aborda los problemas historiográficos con los que Boring luchó mientras escribía la edición de 1929 de su historia. A continuación, se centra en las experiencias vitales de Boring que posiblemente influyeron en su interpretación de la historia. La evolución de Boring como historiador se demuestra comparando su interpretación de la historia de 1929 con su revisión de 1950. En primer lugar, Boring se interesó por los factores psicológicos que influían en el progreso científico. La teoría de la historia de Boring se convirtió en una psicología de la historia.

This paper presents Edwin Boring (1886-1968) as a psychologist in the role of a historian who attempted to account for the existence of a new science, experimental psychology. There is an extensive amount of interesting literature on Boring, for example O'Donnell's (1979) "The Crisis of Experimentalism in the 1920s," Campbell's (1980) "Boring and Applied Psychology," and Samelson's (1980) "E.G. Boring and his History of Experimental Psychology." These men debated Boring's influence on American academic psychology in the

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first half of the 20th century, and they speculated about Boring's motives for writing *A History of Experimental Psychology*. Another interesting article is Rosenzweig"s (1970) eulogy for his mentor "E.G. Boring and the Zeitgeist: Eruditione Gesta Beavit." Although interesting in the context of Boring's influence on the broader social history of American psychology, they are not particularly informative when it comes to presenting Boring as a historian who developed a theory of history.

Over his long career, Boring incrementally developed a psychological informed theory of history to explain scientific progress, and in this paper the evolution of Boring's theory is demonstrated by comparing succeeding editions of his textbook, *A History of Experimental Psychology*. This paper addresses the problems that Boring struggled with while he was writing the first edition of his history in 1929, and then it briefly looks at a few of Boring's life-experiences that conceivably influenced his intellectual development as a historian. Finally, Boring's 1929 edition of *A History of Experimental Psychology* is compared to his 1950 revision. This approach follows Boring's struggle to understand how the new science of psychology came into being.

A word about Boring's psychological approach to history: Boring learned the psychology of psycho-physics in the early twentieth century at Cornell University. For those who are not familiar with the early psycho-physics methods, some confusion may arise reading Boring's interpretation of history. Psycho-physics takes its experimental methods from 19th century physiology. There are several physiologies, cellular, hormonal, and the physiology of the nervous system and organ functions. Function is an abstraction that eludes a clear definition, but the role that function played in physiology was to discover the conditions necessary for the purposeful activity of a vital organ. For example, the function of the stomach is digestion, or digestion results from the stomach's various functions which were the object of physiology's experiments. Boring's object of study was the origin of the revolutionary idea that introduced progress in science, and metaphorically speaking that idea resulted from the dynamic interactions of the organs of history.

Boring began writing history his history of experimental psychology at a time when modern psychology was inventing itself, a time before today's psychological concepts and categories. He thought terms that may be unfamiliar today. For example, Boring uses 'genetic psychology' in place of directly citing Darwin's evolutionary theory; the concept of evolution played a role in Boring's view of the history of scientific ideas. Boring borrowed the concept of the 'personal equation' from astronomy. He used it as a morally neutral phrase to replace the morally charged 19th century word 'character' in order to denote the individual scientist's personal biases. Boring also used the terms 'social psychology' and 'abnormal psychology' to express ideas that eventually evolved into personality psychology. Boring was interested in the origin of the novel idea that marked scientific progress. Ideas come from minds, and mental activity was for Boring the domain of psychology. This paper presents Boring's use of psychological functions in interpreting the causes of scientific progress.

Section I

A History of Experimental Psychology

When he was a graduate student at Cornell University in 1912, Boring's supervisor, Edward Tichener (1867-1927), put together a systematic course in the history of psychology. It was 200 lectures in length, at the rate of three lectures per week, conducted over a period of two years. Boring was among those instructors who taught this course. "Out of my participation in these lectures at Cornell and then the giving of them myself at Clark and later at Harvard grew my book in 1929" (Boring, 1961, p. 3).

Describing the origin of *A History of Experimental Psychology*, Boring said, "…. In the summer of 1924 I had offered a course on the history of experimental psychology at the University of California at Berkeley with the intention of carrying on to a book. I worked hard at the job in successive summers…. I took a sabbatical half-year off to finish the writing job in early 1929 …" (Boring, 1961, p. 49).

A History of Experimental Psychology was published in the fall of 1929. Inside the cover was a map of Central Europe identifying the relevant universities. Inside the first page, on the left was Wilhelm Wundt in profile, opposite Wundt was the title: "A History of Experimental Psychology by Edwin G. Boring, Professor of Psychology in Harvard University." On the next page Boring dedicated his history "To Edward Bradford Titchener." Note, this was a family tree: Wundt, Titchener, and Boring. Wundt was the first self-declared psychologist, Wundt made Titchener a psychologist, and Titchener mentored Boring at Cornell. "In dedicating this book to Edward Bradford Titchener I am acknowledging my greatest intellectual debt. … Especially was it due to his influence that I gained the conviction that the gift of professional maturity comes only to the psychologist who knows the history of his science…." (Boring, 1929, p. x). In the preface, Boring elaborated on this, "Of the purpose that has held me to this undertaking in the face of endless academic distractions, I need say only one word. The experimental psychologist… needs historical sophistication within his own sphere of expertness. … In this matter I can hardly state my faith too strongly" (Boring, 1929, p. vii).

It is difficult to succinctly summarize Boring's 685 page textbook. In some respects, it is a case of the trees hiding the forest, where the antecedents of experimental psychology hid the forest that was Boring's developing theory of history. Boring's organization revolves around Wundt. Boring said, "Naturally the words "experimental psychology" must mean, …what they meant to Wundt and what they meant to nearly all psychologists for fifty or sixty years - that is to say, the psychology of generalized, human, normal, adult mind as revealed in the psychological laboratory" (Boring, 1929, p. viii). Boring's goal was to construct an inclusive historical narrative of the conditions that were necessary for experimental psychology to come into existence in the person of Wilhelm Wundt. In terms of his narrative arch, Boring said, "… the genetic account requires the explanation of the new movement in terms of its ancestry" (Boring, 1929, p. vii-viii). By genetic account, understand the evolution of ideas. "… my picture shows the lines of descent debouching from Descartes, Leibnitz, and Locke on the philosophical side, and developing within

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the new experimental physiology on the physiological side. It was the union of these two movements that experimental psychology was born"(Boring, 1929, p. viii).

While writing *A History of Experimental Psychology*, Boring published two papers about the problems that occupied him.

"The Problem of Originality in Science" published in 1927 in *The American Journal of Psychology*, vol 30, 70-90.

In 1927, Boring published "The Problem of Originality in Science." At that point in his career, Boring had taught the history of psychology for approximately 15 years; he was now a professor at Harvard University and writing what would become a seminal textbook in American psychology's history. As an indication of this article's importance to Boring, he was both the author and the editor. In 1926 Boring became one of the co-editors of *The American Journal of Psychology*, and as editor he had complete sovereignty to publish what he wanted, and he devoted 20 pages to inform his associates about a problem that he had with the history of psychology.

Boring's problem was identifying the origins of a scientific discovery in terms of important new ideas. For Boring, the history of science was the history of ideas, and as ideas were naturally attributed to individuals, psychological factors necessarily played an important part in understanding the historical process. Boring complained that psychologists failed to consider the psychology, or more specifically the 'personal equation,' of scientists in their perpetual attempt to assign credit for discoveries, original theories, and systematic conceptions.

"Of all scientists the psychologist ought to be the one who is best prepared to take a knowing account of the personal equation as it enters into psychology and thus to understand the history of this science, for the history of science is primarily a history of thought, and the modes of human thought are something that a psychologist ought to understand" (Boring, 1963, p. 50).

In researching important ideas, Boring had often found previous occurrences of the idea, and he argued that the original ideas of discovery, ideas routinely attributed to an individual's genius, were instead the result of the historical processes and circumstances. Boring believed that seemingly spontaneous ideas were the result of a person's psychological history. "New thoughts do not occur; they hardly emerge, they evolve" (Boring, 1963, p. 51). New ideas were instances where a scientist mixed personal experience with the body of scientific work. Boring thought that originality in science was a result of selecting, correlating, and emphasizing the relationships with a clarifying exposition. "Such, I take it, is the psychology of originality in the individual and thus in science at large" (Boring, 1961, p. 54).

For Boring, it was seldom the case that a single idea attributed to an individual caused a significant step forward in scientific progress. Progress was a synthesis of many ideas contributing to the next inevitable step. The origins of an important scientific idea was found in the dynamic interaction of complex historical forces and the psychological functions that contributed to discovery. Boring suggested the following characteristics identified important new ideas: The idea expressed a generalized meaning, where the generalization introduced a system of research. The greatest discoveries revealed the most numerous relationships. The scientific idea yielded results that were extrinsic to the scientist. There was a clear exposition of the idea that turned the theories into doctrines or laws. The idea introduced a departure from tradition. And, great discoveries did not occur until the historical environment was ready to receive them (Boring, 1965, p. 64-65).

Boring's thoughts about history in 1928 can also be found in his presidential address to the American Psychological Association.

"The Psychology of Controversy," Boring's Presidential Address to the APA, given 28 December 1928 and published in the Psychological Review in 1929, vol. 36, 97-121.

Boring said that in an Ideal world, psychology would be the perfect science because psychologists had the advantage of knowing the psychological factors that biased scientists. Ideally, psychologists could eliminate personal prejudices, ambitions, and tightly held beliefs, the irrational forces that often inhibited the rational processes of scientific progress. Unfortunately, the science of psychology suffered from these same irrational factors that plagued all sciences. "Work of the exact sciences, … involves not only precise observation but also a loose admixture of personal prejudice, ambition and conviction" (Boring, 1963, p. 67).

Boring attributed both scientific vision and egotistic blindness to the psychology of attention, where attention to one thing created blindness to another. This created a paradox for the scientist who was caught in the sociology of science. The psychological urge that motivated a person to do science was the same source that inhibited progress (Boring, 1963, p. 67-84). This was the dynamics of history as seen through the eyes of an experimental psychologist who took his role as scientist seriously.

Citing Hegel's history of thought, Boring said that the history of science was a series of theses, where the personally invested thesis was countered by an equally emotionally invested antitheses, which was conflict. Boring believed that conflict resulting from the thesis-antithesis function was ingrained in the scientific method. "After much thought about the matter, I have come reluctantly to the conclusion that scientific truth… must come about by controversy" (Boring, 1963, p. 68).

The ingrained conflict in the scientific method that Boring identified implied irrational conditions inherent in an enterprise otherwise logical. "The paradox then in science would seem to be that the more you fight for the truth the less you see it. If you are always trying to see it, you have no time to fight, and without fighting you get science nowhere, you are just the cautious critic who is afraid to venture research" (Boring, 1963, p. 68-69). In terms of the scientists' personality, Boring thought that "…we have a true dilemma, that the drive that urges men to laborious research and to the braving of public criticism … the same thing that drives them towards truth may also keep them from it" (Boring, 1963, p. 78). Logically, any advance in the scientific process could only be a partial truth, but in the scientists' competition for acknowledgment, when they

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defended their research against criticism, they typically overstated the evidence.

Boring found another source of conflict inherent in scientific progress, in the rhetoric for gaining public attention for a new idea. Boring used movement as a metaphor. For the scientist to get the public's attention for their idea, the public had to see movement, and movement only became visible in terms of a reference point. Movement needed something to push against. In attracting the public, the founders of new systems were required to call attention to what they were not, and they were required to emphasize the problems associated with the competing ideas (Boring, 1963, p. 79). Using several examples from psychology's history, Boring said, "I believe that I have shown that movements and the rise of schools are a form of controversy…" (Boring, 1963, p. 82).

Emphasizing personal conflicts relevant to the history of psychology, Boring said, "If we could read out of the body scientific every investigator who lost his temper with an opponent and kept it lost, we should read out those very men who, because of their drives or prejudices or whatever we like to call that cognitive component of their personalities, had made the positive contributions to the science." Although irrational psychological factors functioned to impede progress, the research life required passionate motivation and a strong ego (Boring, 1961, p. 83).

Thirty years later, recalling his 1928 speech before the APA, Boring said, "… now I see, just as I was saying in 1928, … the blindness of egoism may be all that the productive scientist is vouchsafed. He contributes thus unwittingly to the stream of History which carries the burden of progress - a progress that becomes apparent to posterity" (Boring, 1961, p 51)

Boring's two articles are substantive evidence that show him thinking about history as a physiologist thinks about functions, systemic and interactive. In 1929 Boring, the experimental psychologist, was thoughtfully interpreting the history of science as a psychological phenomenon.

The role of biography in Boring's theory of history.

In the preface to his *A History of Experimental Psychology*, Boring explained the role of biographical material in his narrative. Boring believed that the history of experimental psychology was intensely personal because authority was decisive on many occasions. What Wundt said was important regardless of the evidence. "…there was always the further question: if personalities lie, in part, back of psychology, then what lies back of the personalities?" Boring said, "I trust that I have been cautious in drawing such inferences; however, I have never been able to get this question out of my mind" (Boring, 1929, p. ix).

In the conclusion of his 1929 textbook, Boring returned to the biographical theme, "In the foregoing chapters we have been considering the history of modern experimental psychology in terms of longitudinal strands that represent the work and influence of some man or school. The emphasis has been personal largely because in psychology, so young a science, personalities have mattered very greatly. By such an expository method we have been able in part to treat the history of psychology psychologically, to see some of the dynamic factors that have been at work in determining thought and research,…" (Boring, 1929, p. 599).

Although Boring emphasized personalities, it was not a celebratory history. As seen above, Boring struggled with the concept of the original discovery. " Wundt is the senior psychologist in the history of psychology. He is the first man who without reservation is properly called a psychologist. Before him there had been psychology enough, but no psychologists. … When we call him the 'founder' of experimental psychology, we mean both that he promoted the idea of psychology as an independent science and that he is the senior among 'psychologists' (Boring, 1929, p. 310). While Boring credited Wundt with founding experimental psychology, he did not give Wundt the same stature as Darwin. The antecedents of experimental psychology proved too complex for Boring to credit Wundt with the great idea that would make him the revolutionary discoverer-originator.

Now, what happened in the twenty years between editions of *A History of Experimental Psychology* that may explain Boring's development as a psychologist-historian?

Section II

Events contributing to Boring's intellectual development as a historian.

Rescuing psychology from philosophy

When Boring was hired by Harvard in 1922, psychology was still in the philosophy department. In his 1960 autobiography, Boring thought that his paper, "The logic of the normal law of Error in Mental Measurement," landed him the job. The Harvard philosopher Ralph Barton Perry liked Boring's paper, and at Harvard philosophers hired the psychologists. Boring turned down better offers from Stanford and Princeton universities. He said that he wanted the challenge; "I wanted to stay, to work at the mission of rescuing psychology from these philosophers…" (Boring, 1961, p. 41). Wundt had reformed a philosophy department into experimental psychology, and likewise Titchener had rescued psychology from philosophy at Cornell University. Boring may have had this tradition in mind when he accepted Harvard's offer. Anyway, Boring went to Harvard. He arrived in 1922 and stayed for a long career. As he developed as a historian, Boring's immediate environment was Harvard University politics and Harvard psychology.

The Harvard Psychological Clinic for Personality Research

In 1926 Morton Prince (1854-1929) offered Harvard a $125,000 to establish a department of abnormal psychology. Prince demanded that it be administered by the faculty of arts and sciences. If Harvard did not accept in a timely manner, Prince was going to Yale. Boring

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participated in the debate to accept Prince's offer. By his own confession, Boring's politicking was important in founding of the Harvard Psychological Clinic. Boring argued that in the psychology of the 1920s it was difficult to make a clear distinction between abnormal and normal personality, and in the future, abnormal psychology might become the psychology of personality. Boring argued that many psychologists wanted to do more about motivation, otherwise called human nature, or personality. Boring contributed a solution to accepting Prince's demands. Boring added the word dynamic to the deed of gift. Dynamic gave flexibility to the interpretation, it suggested the field of personality psychology, and that would satisfy both Prince's intentions and provide for possible future developments (Boring, 1961, p.44-45).

The Psychological Clinic also served Boring's interests. It had the word psychology in its title, and it was independent of philosophy. Boring might have seen the Psychological Clinic as a possible place to move experimental psychology should the opportunity arise. Also, while working on *A History of Experimental* Psychology in 1926, Boring was far from indifferent to the problem of scientists' personalities.

In 1928, Boring pursued his interest in personality by other means. Boring's thoughts were made clear by Carl Murchinson (1887-1961). Murchinson was the editor of *A History of Psychology in Autobiography*. On April 10, 1928 Murchinson received a letter from Boring, and the contents of Boring's letter are expressed on May 22, 1930 by Murchinson when he wrote the preface for the book Boring suggested. Murchinson, "The author of a recent history of psychology found that it was impossible to get important facts concerning the scientific development of certain individuals except from the individuals themselves. Since a science separated from its history lacks direction and promises a future of uncertain importance, it is a matter of consequence to those who wish to understand psychology for those individuals who have greatly influenced contemporary psychology to put into print as much of their personal histories as bears on their professional careers" (Murchison, 1930, p. ix). Pierre Janet's autobiography included the instructions to the contributors. "The editor of this collection had a very unique idea when he asked psychologists to write their own intellectual histories and criticisms, to transform themselves into philosophical historians, and treat themselves as though they had been dead for a long time" (Murchison, 1930, Vol. 1, p. 123). Boring initiated the project where forty-three noteworthy psychologists submitted their autobiographies, which were published in three volumes from 1930 to 1936.

Continuing to build on his interest in personality, in 1929 Boring courted Gordon Allport, and in September of 1930 an important contributor to the future of personality psychology took his place in Harvard's psychology department. Hiring Allport also gave Boring a logical bridge between his experimental psychology and the independent Psychological Clinic.

A new Harvard president gives psychology its independence

In 1933 when James Conant (1893-1978) became president of Harvard University, he told Boring that the day of psychology was dawning. In 1934 Boring proposed that psychology and philosophy be divided into a Department of Philosophy and a Department of Psychology. Conant complied and made Boring the chairman of psychology. In 1936 Boring proposed that the faculty abolish all divisions between philosophy and psychology. Approved, psychology at Harvard was finally autonomous. It took 13 years for Boring to see his goal of rescuing psychology from philosophy. "My mission was accomplished" (Boring, 1961, p. 56).

Meanwhile, in 1933 Boring published *The Physical Dimensions of Consciousness*. This marked a significant event in Boring's intellectual development as a psychologist. In this book Boring broke from the traditional experimental psychology of Wundt and Titchener. They believed that the content of consciousness was immediate and given, but Boring now believed that the contents of consciousness were mediated by subconscious psychological factors. Soon after, Boring went into psychoanalysis with Hanns Sachs.

"Was This Analysis a Success? Comment by Hanns Sachs", published in the Journal of Abnormal and Social Psychology, 1940, vol. 53, 11-16.

What can be more revealing of Boring's intellectual development than accounts of this psychoanalysis? In 1934-35, Boring underwent psychoanalysis with Hanns Sachs (1881-1947). In 1940 he published an account of his experience in the *Journal of Abnormal and Social Psychology*. In 1960, when he reread it, he was shocked. "Was I really so disturbed, so fearful and insecure, only twenty-five years ago?" (Boring, 1961, p. 128). Boring told Sachs that he was insecure, unhappy, frustrated, and afraid. Boring told Sachs that he could no longer work, and he wanted to be restored to productivity (Boring, 1961, pp. 127-142).

Boring was 48 years old. He doubted his professional accomplishments, and his future seemed unbearable. His associates urged him to seek psychoanalysis. Boring said that he hoped psychoanalysis was a way to "regain full control of my attention" (Boring, 1961, p. 129). Boring's alibi to psychologists who were critical of analysis was, the analysis of an experimental psychologist might result in an important insight into the relation between experimental psychology and dynamic psychology.

Boring's analysis was not a trivial undertaking, it began in September of 1934 and was terminated in June of 1935. He received 168 sessions at the rate of five sessions a week (Boring, 1961, p. 54). He said that, "… I liked my analyst, I suffered, and I felt impoverished - all favorable auspices for a successful analysis" (Boring, 1961, p. 131). "I had what I think was my share of emotion. I wept. I threw things" (Boring, 1961, p. 130). But when Boring compared his experience to the psychoanalytic literature, he was disappointed. Sachs did not look for old memories. They worked on a couple dreams, but that failed to provide the kind of closure Boring expected. While he found Sachs impressively erudite, Sachs was indifferent to rigorous science. Sachs was indifferent to the terms that they used. Sachs refused to make generalizations, and Boring, a committed determinist, was irritated when Sachs repeatedly told him, "Where there is a will there is a way" (Boring, 1961, p. 131).

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Something happened to Boring in the spring of 1935, the situation in 1932 that threw him into despair suddenly changed in the spring of 1935. "Thus the analysis, which started for the purpose of clarifying one situation, ended by needing to clarify another" (Boring, 1961, p. 132). As far as Boring was concerned, he underwent analysis to change his personality. That did not happen, and he could not see how an event could turn what he thought was a failed psychoanalytic treatment into a successful one. As far as Boring understood psychoanalysis, it was supposed to be something more than a practical adjustment of individuals to unpleasant circumstances. Sachs ended Boring's analysis on June 21. Boring lamented, "There is so much about this personality of mine that would be better if different, so much that analysis might have done and did not!" (Boring, 1961, p. 135).

Published along with Boring's account was Sachs' reply. Sachs said he would briefly describe the problems and difficulties of a successful analysis. To begin, you have to evaluate the results in the context of the available time, the amount of effort put into it, and the money spent. With regard to Boring's doubts about a successful outcome, doubt was unavoidable because the mental adjustments to the changing environment interacted in complex ways (Boring, 1961, p. 137-142).

Sachs provided a description of Boring's psychological condition at the time. Boring was suffering, but he had no neurotic symptoms. It was clearly a case of character analysis, and the supportive therapy for character analysis was far different from the dramatic case studies for neurosis that Boring had read.

With regards to Boring's desired personality change, success in changing a personality depended on having a character that had retained some of its flexibility. Age, professional life, family ties, money situations, all of these factors had to be taken into consideration in the context of the role that they played in the evolution of a person's character. Boring's chosen professional life was not something that he would likely abandon. And Boring's family life had a significant psychological claim on him. In Sachs' opinion, Boring's chances of beginning a new way of life were never promising. Another important question to consider: Was it in Boring's best interest to attempt a personality change, given that his present situation was in most respects a good living, and a successful outcome could not be guaranteed?

The issue of an unspecified crucial event arises again in Sachs' account. "This fact amounted to a potential trauma: that is, I have some good reason to assume that this fact, without analysis, would have produced the danger of a breakdown in the sense mentioned above, probably tending towards depression" (Boring, 1961, p. 138). With regards to Boring's hoped-for personality change, Sachs said that up-rooting traces of magical thinking was one of the important goals of psychoanalysis.

Commenting on his experience in 1960, Boring said of his published account "This paper has provided a very interesting perspective on that quest of mine for the kind of maturity that I wanted so desperately when I first sought analysis" (Boring, 1961, p. 127). He said that his need for therapy came out of the basic tenets of his professional creed, and his problem was fundamentally due to a need for social approval. Resisting the temptation to speculate on the deeper meaning of Boring's psychoanalysis, it does suggest that whether or not he was happy with who he was in 1934, Boring's fundamental characteristics were cemented. Boring said that, "Ever since my analysis I had realized that I must save myself from sterility by hard work and not by psychoanalytic magic" (Boring, 1961, p. 59). Seen in that context, Boring's psychoanalysis was successful in terms of his long career in that he abandoned wishful thinking and resumed writing.

A summary of the possible experiences that contributed to Boring's intellectual development as a psychologist-historian.

In the preface to the 1929 edition of *A History of Experimental Psychology*, Boring said, "…there was always the further question: if personalities lie, in part, back of psychology, then what lies back of the personalities? … I have never been able to get this question out of my mind" (Boring, 1929, p. ix).

Harvard was the perfect place for Boring to pursue this question. Arguably, personality psychology was invented at Harvard in the 1930s, and this was due in large part to Boring's help. On several occasions Boring paved the way for personality psychology, and he was privileged to observe personality research first hand as it progressed. It is certain that Boring read the two seminal textbooks on personality psychology that came out of Harvard in the 1930s. In 1937 Allport published *Personality: A Psychological Interpretation*. It was a discipline defining textbook (Fancher, 2020). Allport's textbook covered the approach to personality, the development of personality, the structure of personality, and the analysis of personality

Henry Murray (1893-1988) was the director of the Harvard Psychological Clinic in 1938 when he published *Explorations in Personality: A Clinical and Experimental Study of 50 Men of College Age.* This was Murray's attempt to marry dynamic psychology with experimental psychology. The goal was to create a dynamic theory of personality, to develop new concepts and experiments, and to construct a psychological portrait of individuals. Based on the case-history method, this was the study of a persons's life history to find the personality shaping events. (Elliot, 1939). And that was what Boring was hoping to do with the individual scientists in his history of experimental psychology.

Allport and Murray provided Boring with the state-of-the-art interpretation of personality. Through their eyes, Boring saw personality from the motivation point of view on one hand and the objective descriptive point of view on the other. Murray's theory saw personality as a combination of needs, partly integrated and partly conflicting, that were traceable to early childhood experiences. Allport's theory of traits was based on observed behavior, dominate cardinal traits, central traits, and secondary traits that combined and interacted to create unique individual personalities.

Also, Boring's suggestion for an anthology of autobiographies of eminent psychologists was published in three volumes between 1930-36. As a member of the editorial board, Boring undoubtedly read the autobiographies of the 43 esteemed contributors. Boring also had the opportunity to explore his own personality in a psychoanalytic setting with an eminent psychoanalyst, and post hoc, he had his psychoanalyst's published comments to review. In the 20 years that separated Boring's first edition of *A History of Experimental*

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Psychology from his 1950 revision, he had ample time to consider the psychology of scientists. At this point, it is safe to make one generalization, Boring was a historian practicing the psychology of history in thought and deed.

Section III

Boring's 1950 revision of history: Important elements of his theory expressed the 2nd edition of A *History of Experimental Psychology*.

In 1960, Boring said that by 1950 he had achieved "a wiser conception of what was going on when science advanced" (Boring, 1961, p. 69), and he wanted to address old regrets. In 1929 he thought that the progress of psychology had been slowed by internal conflicts. For example, Boring regretted that psychology suffered from a complex about philosophy (Boring, 1957, p. 742). Experimental psychology's important historical roots were in philosophy, but experimental psychology did not acknowledge this because it needed laboratories and its own intellectual space. Boring's other regret was that there had never been a great psychologist, not compared to Darwin. Wundt provided a structure for psychology, he gave it a self-conscious identity, he gave it its name, he gave it its first formal laboratory, he gave it its first experimental journal, and he gave it the system in which experiments could be formulated and given significance. Although that was an impressive accomplishment, it was essentially promotion, and Boring believed that even without Wundt, by 1900 experimental psychology would have found itself in the same position that it reached with Wundt's "mediation" (Boring, 1957, p. 384-85).

For Boring of the 1950s, psychology's greats would eventually be those whose influence proved the most important. Although Helmholtz and Darwin were not psychologists, their influence was important, and so they qualified as great figures in psychology's history. Boring saw Freud as the greatest originator; he accomplished the invasion of psychology with the principle of unconscious processes. Persistent posthumous importance, that was the ultimate criterion for greatness. Boring identified four greats in psychology's history: Charles Darwin, Helmholtz, William James, and Sigmund Freud. Of those, Darwin and Freud produced the greatest revolution in thinking.

What changes did Boring want to make in 1950?

"What changes have I found that I wish to make in my twenty-one-year-old book?… I wanted to get more into the dynamics of history, to say something about the why, as well as how, science emerged, to speak of the role of the Zeitgeist and of the great man in determining progress in science, and to show that these two views of the development and emergence of thought are not mutually exclusive but obverse and reverse of every historical process" (Boring, 1957, p. xiii).

Boring's 1950 position on the revolutionary idea

Addressing his theme of revolutionary scientific ideas, Boring said, "The tiniest element of scientific progress … whither it is going…is a human event in a man's thought and brain, the insight that creates something new by relating two old items that had never before been put together in just that way. That man is counted great whose insights are crucial and lead to long continued important progress in new directions…With proper advertising, the new development becomes identified with the name of the man in whose brain the crucial initiating insight occurred. … Such a simple assignment of credit occurs in spite of the fact that collateral scientists and successors have been necessary to give the new movement the importance which justifies considering it great, and in spite of the fact that a change in scientific direction occurs readily only when it moves with the Zeitgeist…"(Boring, 1957, p. 744).

Titchener was like Freud in many ways, but "Titchener was swimming against the current of the Zeitgeist, and Freud with it" (Boring, 1957, p. 744).

The Scientist as the Agent of History

The human brain was where the historical forces converged in the field of thought, and where they were resolved. The resulting novel idea set forth new directions in science, but the individual attributed with the idea was only one of the many causes of scientific progress. The individual scientist was a product of their times. As for fame, the epoch and its ethos had to be working in the individual's favor because the scientist could not be successful without an audience. "To think of the man whose brilliant novel thought heads an important development as the *originator* is to abandon scientific psychology and suppose that among all orderly lawful mental phenomena the insights of genius constitute an exception in that they occur without causes. … A crucial thought by a great man is neither cause nor symptom, but an event in the space-time field of history" (Boring, 1957, p. 745).

For Boring the causes of historical events were so complex that a complete explanation was impossible. History was a part of nature where multiple causation ruled and where single effective causes were over-simplifications that were devised to capture something of the incomprehensible complexity of reality and bring it within the human capacity to understand. Written history was a simplification because explanations were constrained by what the human mind could assimilate.

Boring closed his revised history with this statement on the individual scientist. "The author has in twenty years changed his view of that matter. What is the function of the great man in science or, for that matter, in history? Are these great men the *causes* of progress or are they merely its *symptoms*? The answer is: they are neither, the are the *agents of progress*" (Boring, 1957, p. 744).

And what is an agent of progress? If an agent is someone who acts on behalf of another person or a group, then Boring's scientist was someone who acted on behalf of history. The revolutionary idea marked scientific progress was a function of human nature responding to and interacting with its particular complex historical environment.

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Ultimately, what alienated scientists from the truth that they looked for was the limitations imposed by human nature, the individual's psychology, the social conditions imposed while conducting science, and the fact that truth was only ever a partial solution in the never ending cycle of progress.

The most detailed history written can only provide a sketch of the unattainable complexity of causal factors contributing to historical events. Despite these limitations of writing a comprehensive history of experimental psychology, on January 11, 1950 Boring wrote in the preface of his 2nd edition, "The dedication of this book to E.B. Titchener is no less appropriate now than it was in 1929. What I said then, I still believe" (Boring, 1957, p. xvi). Although Boring's understanding of history had evolved to acknowledge the limitations of what it was possible for an individual to know, he remained committed to his belief, "…I gained the conviction that the gift of professional maturity comes only to the psychologist who knows the history of his science…." (Boring, 1929, p. x).

Conclusion

The generation of historians that followed Boring in psychology were critical of some of his work, but as Boring undoubtedly foresaw, in historical scholarship his part would become the role of thesis for the new antithesis. The next generation needed to attract attention by showing movement, and Boring was the obvious reference point for historians aspiring for recognition to push against. But this essay was not written to use Boring as a reference point in order to demonstrate progress in historical fact finding. The thesis claimed that Boring had worked out a theory of history that guided his understanding of scientific progress. Boring's theory evolved over his career, this was demonstrated by comparing two editions of his textbook published twenty years apart. Considered in terms of Boring's theory of history, *A History of Experimental Psychology* was his attempt to understand how and why a new science came into being and the important meaning this history had for the psychologist?

By way of offering a generalization, Boring's psychological theory of history raises him above the level of a scientist as technician to his esteemed level of a scientist-scholar, a goal of personal maturity that he struggled to achieve throughout his career. Boring's theory of history was consistent with his training, consistent with someone trained as a psychologist in a psycho-physics laboratory. And the evidence suggests that despite Boring's self-doubts, he was a man who could benefit by education, experience, and adapt as the science of psychology evolved. Considering the evidence, Boring eventually achieved the goal that he set for himself as a student at Cornell, psychologist-scholar, and he deserves to be remembered today for his theory of history.

This essay does not celebrate or criticize Boring's theory, but it seems reasonable to suggest that Boring's example could be useful for historians of psychology today, if only to remind them that psychological factors are an important part of history.

In conclusion, Boring's psychological vision of history was an "… ever-flowing stream through the centuries, a stream of events that occur in the nervous systems of persons situated so that their thoughts and acts become links in the course of progress" (Boring, 1961, p. 49).

References

Allport, G.W. (1937). *Personality: a Psychological Interpretation*. New York: Henry Holt & Co.

Boring, E.G. (1927). The Problem of Originality in Science. *The American Journal of Psychology*, *39*, 70-90.

Boring, E.G. (1929). The Psychology of Controversy. *Psychological Review*, *36*(2), 97-121.

Boring, E.G. (1929). *A History of Experimental Psychology*. New York: D. Appleton - Century Co.

Boring, E.G. (1957). *A History of Experimental Psychology*. 2nd ed. NewYork: D. Appleton - Century Co.

Boring, E.G. (1961). *Psychologist at Large: An Autobiography and Selected Essays*. New York: Basic Books.

Boring, E.G. (1963) *The Physical Dimensions of Consciousness*. New York: Dover Publications Inc.

Boring, E.G. (1963) *History, Psychology, and Science: Selected Papers*. New York: John Wiley & Sons, Inc.

Campbell, D.T. (1980). E.G. Boring and Applied Psychology. *American Psychologist*, *35*(5), 472.

Elliot, R.M. (1939). The Harvard Explorations in Personality. *The American Journal of Psychology*, *52*(3), 453-462.

Fancher, R. (2020). Gordon Allport. *Oxford Research Encyclopedia, Psychology*. https://doi.org/10.1093/acrefore/9780190236557.013.829

Jenkins, J.G. (1938). Reviewed work: A Psychological Interpretation by Gordon Allport. *The American Journal of Psychology*, *51*(4), 727-778.

Murchinson, C. (1961). *A History of Psychology in Autobiography*. Vol. 1. New York: Russell & Russell

Murray, H. (1938). *Explorations in Personality: A Clinical and Experimental Study of 50 Men of College Age*. New York: Oxford University Press.

O'Donnell, J.M. (1979). The Crisis of Experimentalism in the 1920s: E.G. Boring and His Uses of History. *American Psychologist*, *34*(4), 289-295.

Rosenzweig, S. (1970) Boring and the Zeitgeist: Eruditione gesta beavit. *The Journal of Psychology: Interdisciplinary and Applied*, *75*(1), 59-70.

Samelson, F. (1980). E.G. Boring and his History of Experimental Psychologist. *American Psychologist*, *35*(5), 467-470.

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