John Watson's Paradoxical Struggle to Explain Freud

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John Watson was fascinated by the discoveries of psychoanalysis, but he rejected Freud's central concept of the unconscious as incompatible with behaviorism. After failing to explain psychoanalysis in terms of William James's concept of habit, Watson borrowed concepts from classical conditioning to explain Freud's discoveries. Watson's famous experiment with Little Albert is interpreted not only in the context of Pavlovian conditioning but also as a psychoanalytically inspired attempt to capture simplified analogues of adult phobic behavior, including the "transference" of emotion in an infant. Watson used his behavioristic concept of conditioned emotional responses to compete with Freud's concepts of displacement and the unconscious transference of emotion. Behind a mask of anti-Freudian bias, Watson surprisingly emerges as a psychologist who popularized Freud and pioneered the scientific appraisal of his ideas in the laboratory.

Sigmund Freud and John Watson are two of the most important individuals in 20th-century psychology; yet, they rarely have been considered together. Freud's ideas were increasingly penetrating American culture at the time, roughly between 1909 and the mid-1920s, that Watson was developing behaviorism (Hale, 1971). Watson was ambivalent about Freud, and he subordinated his interest in psychoanalysis to his great cause, the advancement of behaviorism. However, Watson's autobiography reveals that an anxiety attack he suffered at the University of Chicago "in a way prepared me to accept a large part of Freud when I first began to get really acquainted with him around 1910" (Watson, 1936, p. 274). This article discusses the early connections between psychoanalysis and behaviorism.

In 1909, Freud made his only visit to America to deliver a series of introductory lectures on psychoanalysis at Clark University (Rosenzweig, 1992). At the time of Freud's visit, most American psychologists were academic experimentalists, and very few psychologists were clinicians. Before Freud's visit to America, the practice of psychotherapy had been established by physicians as a branch of medicine but only after a struggle with nonmedical psychotherapists (Caplan, 1998a, 1998b). As an experimental psychologist, Watson displayed little interest in psychotherapy, which he left to his colleagues in medicine, but he was interested in Freud's psychological discoveries. Although Watson did not attend the conference at Clark, he recognized very early that the arrival of psychoanalysis in America created opportunities for research in his laboratory and challenges for his skills as a psychological theorist.

Understanding Freud's new and foreign ideas was initially very difficult for Watson, whose training in experimental psychology probably had not included psychoanalytic theory. A cultural historian who studied the assimilation of Freud's ideas into American culture concluded that "as Americans heard about Freud, they used familiar terms to conceptualize what he was saying" (Burnham, 1991, p. 119). For Watson, the familiar terms were those of his training in learning theory. Watson first explained psychoanalysis in terms of William James's habit theory (Watson, 1912a). Then he attempted to explain Freud in terms of what was at that time a new foreign import, Pavlov's classical conditioning theory (Watson, 1916a). Watson's ultimate goal was to assimilate the discoveries of psychoanalysis into behaviorism (Watson, 1924).

Historians have called the process by which Freud's ideas were assimilated into American culture the Americanization of Freud (Gifford, 1991; Matthews, 1967). This culture included not only popular culture but also the cultural matrix within which psychological theory was embedded. One rather surprising path by which psychoanalytic ideas were assimilated and transformed into American culture was through the medium of Watson's behaviorism. Watson contributed to this assimilation in two ways. First, Watson was an early contributor to the process by which the methodological tools of psychology were adapted to provide a scientific appraisal of Freud's theories (Fisher & Greenberg, 1996; Hornstein, 1992; Westen, 1998). Second, Watson was one of America's great pop psychologists. In popular articles and books, Watson "explained" psychoanalytic concepts within the framework of behaviorism.

Watson's attitude toward psychoanalysis was always ambivalent and paradoxical, but it hardened over the years. In this article, I describe Watson's struggle with psycho-

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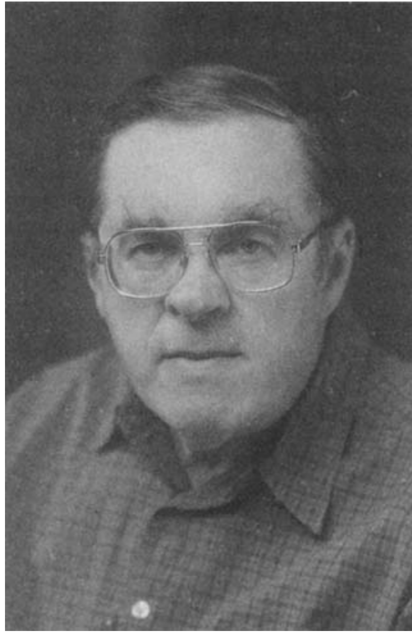

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analysis in three roughly chronological phases between 1910 and the mid-1920s. In the first phase, 1910–1916, Watson attempted to explain psychoanalysis in terms of the concept of habit. The first phase let Watson try Freud's and Jung's methods in his laboratory but failed to produce original research or theory. During the second phase, 1916–1920, Watson attempted to explain psychoanalysis in terms of classical conditioning. During this most creative phase of Watson's career, Freud's ideas influenced Watson's selection of infancy as the stage of childhood for his program of research on the development of human emotions. In contrast with Freud, Watson chose to investigate the emotion of fear rather than focusing on the emotional reaction of sex, a term that Watson and Morgan (1917) used with hesitation.

Watson was fascinated by Freud's theory of affective processes, in which it was predicted that emotions could be displaced or "transferred" from one object or person to another (see Jones, 1910). Watson had struggled for years to understand the process of displaced emotion without producing a scrap of publishable data until he conducted the famous case study with the infant known to history as Little Albert (Watson & Rayner, 1920; reprinted in this issue, pp. 313–317). This experiment was the tour de force of Watson's struggle to explain psychoanalytic concepts in terms of classical conditioning. The study confirmed Freud's prediction that affect could be transferred from one object to another. Historical research suggests that Watson and Rayner's (1920) experiment was inspired not only by Russian research on classical conditioning but also by Watson's major objective of explaining psychoanalytic concepts in terms of classical conditioning (Watson & Morgan, 1917).

In the third and final phase, Watson emerged as an arch anti-Freudian. This phase of Watson's career began after 1920 when he left academic life for the world of business (Buckley, 1994; Coon, 1994). In my opinion, Watson's strategy for writing *Behaviorism,* his book published in 1924 for the popular market, was to elevate behaviorism in the popular mind at the expense of competing schools of thought, especially psychoanalysis. Although Watson accepted many of Freud's ideas, he paradoxically used psychoanalysis as a foil for behaviorism. *Behaviorism* was peppered with attacks on psychoanalysis, which was referred to as "voodooism" (Watson, 1924, p. 18). Watson also ventured "to predict that 20 years from now an analyst using Freudian concepts and Freudian terminology will be placed in the same category as a phrenologist" (Watson, 1924, p. 243). Seventy-five years later, American psychologists (see Westen, 1998) and the American public are still engaged in a spirited debate about Freud's legacy (see Roth, 1998). Watson's prediction about the quick demise of psychoanalysis has not come to pass.

Unfortunately, Watson neglected in *Behaviorism* to tell his readers that some of the key concepts that he now described as behavioristic had been assimilated from psychoanalysis into behaviorism. As an illustration of this assimilation, consider how Watson reformulated his interpretation of Freud in terms of James's theory of habit. In 1916, Watson was willing to give Freud credit as follows: "The central truth that I think Freud has given us is that *youthful, outgrown, and partially discarded habit and instinctive systems of reaction can and possibly do influence the functioning of our adult systems of reactions*" (Watson, 1916a, p. 590). By 1924, in *Behaviorism,* the credit for Freud had disappeared, and the dogma of behaviorism included the assertion that "the whole of behaviorism is but an expression of the fact that infancy and childhood slant our adult personalities" (Watson, 1924, p. 242). Notice that Watson had by then stated as the core assumption of behaviorism an idea that he had acknowledged earlier as Freud's central truth (Watson, 1916a). Freud's dogma simply became Watson's dogma. The paradox of *Behaviorism* was that one of the paths by which Freud's ideas made their way into American popular culture was through Watson's anti-Freudian declarations.

In his history of behaviorism, Mills (1998) described the legacy of the paradoxical relationship between behaviorism and psychoanalysis as follows: "Throughout its history, behaviorism has treated psychoanalysis as both enemy and source of inspiration" (p. 72). Because Watson's later anti-Freudianism is well known, I focus primarily on the years between 1910 and 1920, when psychoanalysis inspired Watson's research and theory on emotions while he was at Johns Hopkins.

Explaining Freud in Terms of James's Habit

During his academic career at Johns Hopkins University, Watson actively sought contacts with psychiatrists in the medical school. Medical culture had a strong influence on the development of behaviorism and especially on Watson's thinking about psychoanalysis. For example, the challenge of teaching a course in psychology to the medical

students at Johns Hopkins was a catalyst for the development of Watson's conceptual framework for dealing with psychoanalysis. Watson's plan was to team teach a course in psychology for medical students with his colleague in psychiatry, Adolf Meyer. In 1911, Watson participated in a symposium called "The Relations of Psychology and Medical Education," which was sponsored by the American Psychological Association. Watson's reflections about the content of his course in psychology for medical students provide a window to his thinking about psychoanalysis at the time that he was beginning to develop behaviorism (Watson, 1912a).

Accepting Freud's Discoveries but Rejecting Psychoanalytic Independence

Very early in his career, Watson appreciated that the intellectual ferment created by psychoanalysis and psychopathology created opportunities for him to conduct research on psychopathology.

> I wish to express appreciation of the work of the psychiatrists for the interesting possibilities of research and interpretation which they are affording the normal psychologist. . . . The normal psychologist has been forced out of his academic reserve and into an active participation in the work of psychopathology. (Watson, 1912a, p. 918)

Some experimental psychologists, including Titchener (Leys & Evans, 1990), were hostile toward psychoanalysis and the practical application of psychological theory. In contrast with Titchener, Watson was optimistic about Freud's discoveries because psychoanalysis broadened the scope of psychology and provided opportunities for psychologists to conduct research and to develop theories that were relevant to psychopathology.

Psychoanalysis and psychopathology not only created opportunities for research by psychologists, but it also created a clash between the culture of Watson's "normal psychology" and the medical culture of psychoanalysis and psychopathology. One such clash between Freud and Watson concerned whether facts were established in the clinic during psychotherapy or only in the laboratory during experiments. Freud's psychoanalytic concepts emerged from his interpretation of notes about what his patients said during psychoanalytic psychotherapy (Grubrich-Simitis, 1998). For Watson, Freud's knowledge was private knowledge and as such was inaccessible to experimental psychologists who were not trained as psychotherapists. In contrast with Freud's position that psychoanalysis stood on its own as an independent science, Watson (1917) created a scientific niche for experimental psychologists by asserting that Freud's concepts required reformulation in terms of learning theory and additional validation in the laboratory before they could be admitted to psychology's canon of established fact.

During his lectures at Clark University, Freud frankly told his audience that for the development of psychoanalytic theory "my point of departure was not . . . that of laboratory research but, rather a result of therapeutic intervention" (Freud, 1910/1992, p. 408). When Freud brought psychoanalysis to America behind the banner of psychological theory, he was opening himself to the possibility that his ideas would be evaluated by American psychologists whose methodology he delicately described as "the American manner, i.e., by . . . empirical observations" (Freud, 1910/1992, p. 427).

Another clash between Watson and the Freudians concerned the question of whether psychoanalysis could be independent of research that was conducted in the laboratory. Watson described this theoretical clash with psychoanalysis in terms of the issue of scientific freedom for psychologists, but he also began a pattern of unfortunate name calling by attacking psychoanalysis as a "new cult."

> Probably the too ready attempt to make a complete and independent system of psychoanalysis and the failure on the part of the devotees of this new cult to maintain an intellectual freedom in their system have hindered a widespread and scientific study of the methods of Freud and Jung. (Watson, 1912a, p. 916)

Watson was willing to engage in a study of the methods of Freud and Jung, but he was unwilling to give up his right as a psychological theorist to criticize psychoanalytic theory.

The context in which Watson called psychoanalysis a "new cult" was the exclusion of alternative conceptions within the newly formed psychoanalytic institutes. Both before and after Freud's and Jung's visits to America, a few American physicians traveled to Europe to learn about psychoanalysis at first hand from either Freud or Jung. On their return to America, those who had spent even a few weeks in the study of psychoanalysis returned to set up psychoanalytic institutes where psychoanalytic orthodoxy was upheld (Gifford, 1991). The American orthodoxy excluded nonphysicians such as psychologists, who were called "lay analysts," from certification as psychoanalysts (Gifford, 1991). Watson's (1917) perspective was "that even a mere psychologist can understand the essential nature of the Freudian mechanisms and that he can give them their place in the whole scheme of psychology" (p. 85). Watson wanted an open discussion of psychoanalysis in psychological journals. He did not want small bands of orthodox Freudians asserting monopolistic control over what he considered Freud's many illuminating principles.

How Watson Extrapolated From Normal to Abnormal Behavior

Watson asserted that concepts from normal psychology or experimental psychology could be extrapolated to explain abnormal behavior. This perspective emerged from Watson's thinking about which concepts from normal psychology should be taught to medical students. Watson considered himself an expert on psychological terminology, and he resented the host of new psychoanalytic terms like *suppressed complexes* and *shocks* from childhood that were supposed to become *effective* in late adolescence. Watson argued that traditional psychological theory was not as inadequate as the psychoanalysts asserted. Watson's (1912a) early position with respect to psychoanalysis was that "such phenomena when rightly understood are statable

in terms of present-day psychology in terms of memory processes, retention, habit formation, habit conflicts, etc." (p. 916).

The concept of habit was very important to Watson and functioned for him as an explanatory mechanism similar to his later use of the term *learning.* In 1912, Watson was merely asserting, without developing a theory or reporting any data, that psychoanalysis could be understood in terms of habit. He was vague about how this theoretical reinterpretation would work for specific psychoanalytic concepts. Kemp (1998) has shown that habit is an ancient psychological concept whose roots extend as far back as Aristotle. Watson learned about habit by reading James (1890/1950). Furthermore, a group of Boston physicians extended James's concept of habit to explain psychopathology in nonpsychoanalytic terms (Caplan, 1998a; Taylor, 1996). For example, in a discussion of schizophrenia, Meyer borrowed from his friend James to describe the symptoms of schizophrenia rather vaguely in terms of "habit-conflicts" (Meyer, 1910, p. 388). Meyer had an influence on Watson's thinking about psychopathology. By using the concept of habit to explain Freud's psychoanalytic concepts, Watson was following a thoroughly American tradition.

Rejecting Freud's Unconscious

The unconscious was Freud's quintessential concept. It appears that Watson's decision rule for accepting or rejecting a psychoanalytic idea was how well it could be explained in terms of the concept of habit. The unconscious did not mesh with habit theory, and therefore, Watson simply rejected it. Instead, Watson called for an objective study of those behaviors that led Freud to infer an unconscious. As he put it, "Surely we gain nothing by this concept. We can study the visible and tangible effect of suppressions, tangles, conflicting habits and the like without positing a 'subconscious' " (Watson, 1912a, p. 918). Watson set for himself the arduous task of trying to explain Freud without the concept of the unconscious. Assimilation into behaviorism and competition with psychoanalytic theory had become Watson's strategy for dealing with Freud's psychoanalysis.

The paradox of the first phase of Watson's struggle with psychoanalysis was that although Watson called Freudianism a cult and rejected Freud's theory of the unconscious, he was intrigued by Freud's phenomena and by his methods. The appeal of psychoanalysis led Watson away from simply teaching about psychoanalysis and toward conducting research using Freud's methods.

"I Believe Thoroughly in the Method of Psychoanalysis" (Watson, 1912b)

The term *method* was salient to both Freud and Watson. For Freud (1910/1992), psychoanalysis was a clinical method of psychotherapy that he designed for helping patients with problems. For Watson (1916c), the clinical side of psychoanalysis was "a field which belongs to the specially qualified physician—the psycho-analyst" (p. 487). Watson did not consider himself qualified to conduct therapy or research on patients who suffered from mental illness. Fortunately for Watson, Freud did not restrict his theory to patients. Freud believed in the psychopathology of everyday life, the idea that what may be called normal behavior included "mechanisms similar to those observable in the abnormal" (Jones, 1911, p. 477). This element of psychoanalysis strongly appealed to Watson because he was an expert on methods for investigating normal behavior.

After Watson returned to Baltimore from the symposium on medical psychology, his colleague Meyer chided him for calling psychoanalysis a cult. Meyer wrote, "To speak of the study as a cult sounds to me rather too much like what the straight-laced antagonistic German–Austrian neurologists are trying to make of it when they put a taboo on the whole line of investigation" (Meyer, 1912). In his reply to Meyer, Watson (1912b) explained that his objection was to the mentalism of psychoanalysis. Watson believed that the phenomena that had been discovered by Freud could be investigated wholly from an objective standpoint. In a particularly revealing passage, Watson described how he had initiated a program of pilot research with normal human participants, using Freud's methods.

> You made the point, of course, that I am not dealing with abnormal cases directly. This is quite true but neither does the psychoanalyst confine himself to the clinical material. I have been hard at work upon normal subjects for sometime now. Upon dreams, Jung's method, etc. I have never made these studies for purposes of publication, but I have worked first hand with the method, so that your criticism is not quite true to the fact. I believe thoroughly in the method of psychoanalysis. (Watson, 1912b)

Watson's letter to Meyer is important historically because it demonstrates that he was conducting psychoanalytically inspired research with human participants as early as 1912.

Watson (1912b) referred to Jung's method in his letter to Meyer. In Jung's (1910) association method, the task of the participant was to respond rapidly to a word read by the experimenter with the first word that came to mind. Jung carefully constructed a list of 100 words. Some words were emotionally neutral, but others were selected to elicit strong feelings. For patients who suffered from hysteria, Jung reported that emotionally charged words were associated with longer reaction times than words that were not emotionally charged. Jung interpreted his data as follows: "The first thing that strikes us is the fact that many test persons show a marked prolongation of the reaction time. The explanation lies [not with cognitive processes], but rather in the emotions" (Jung, 1910, p. 223). For Jung, the association method was a tool for tapping Freud's unconscious, but for Watson, Jung's method showed initial promise as a behavioristic tool for investigating the emotions of normal adults in a laboratory. Jung's method was objective because it simply involved presenting a stimulus and then observing a response. Ultimately, Watson (1924, pp. 156–157) concluded that Jung's association method was not useful for behavioristic research on the emotions because a participant might display a long reaction time simply because the stimulus word was unfamiliar. By this time,

Watson had replaced Jung's method for studying human emotions with Pavlov's method of the conditioned reflex.

After teaching about psychoanalysis to medical students and after conducting research on dreams and Jung's association method, Watson's next psychoanalytic venture was a contribution to the popularization of Freud, specifically Freud's theory of dreams.

"A Popular Way to Rewrite the Essentials of Freud's Theory" (Watson, 1917, p. 92)

Historical research on the popularization of Freud in America has demonstrated that between 1915 and 1918, there was an explosion of popular articles about Freud and psychoanalysis (Caplan, 1998a). Psychoanalysis was then an avant-garde movement that was little understood by the American public. To explain the complex and foreign concepts of psychoanalysis to American audiences, these popular writers explained Freud in terms of concepts that were already familiar to their audiences (see Burnham, 1991). Furthermore, American writers often simplified and diluted Freud's concepts to make Freud's ideas comprehensible. Watson (1916c) contributed to the early popularization of Freud's theory of dreams with an article entitled, "The Psychology of Wish Fulfillment." Watson explained Freud's theory of the dream in terms of the language of habit.

Burnham's (1991) research on this early popular psychoanalytic literature has demonstrated that Holt (1915) and Watson (1916c) were the first psychologists who popularized Freud's ideas in America. They each selected Freud's concept of the wish. Watson (1917) described his goal of popularizing Freud in terms of behaviorism as follows: "I have tried in a popular way to rewrite the essentials of Freud's theory in terms of behavior" (p. 92).

Freud had an articulate advocate in America in the popular Watson of 1916. Watson borrowed William James's (1890/1950) concept of habit to explain Freud. For Watson, development from childhood to adulthood was a process by which the habits of childhood were replaced by the habits of adulthood. Therefore, Watson predicted that uncensored or Freudian wishes could be observed by asking children about wishes that their parents might forbid. Consider the anecdotal evidence that Watson (1916c) presented in favor of Freud's Oedipus complex: "I heard a boy of eight say to his father: 'I wish you would go away forever; then I could marry mother' " (p. 479). In this example, Watson has explained one of Freud's key concepts without using Freud's technical vocabulary of the Oedipus complex. Watson (1916c) artfully defined repression of memory as follows: "Wishes are immediately repressed; we never harbor them nor do we express them clearly to ourselves in our waking moments" (p. 479).

Consider the clarity of Watson's (1916c) exposition of Freud's theory of dreams as wish fulfillment in terms of Watson's theory of habits.

> The reason dreams appear illogical is due to the fact that if the wish were to be expressed in its logical form it would not square with our every-day habits of thought and action. We should be disinclined to admit even to ourselves that we have such dreams. Immediately upon waking only so much of the dream is remembered, that is, put into ordinary speech, as will square with our life at the time. The dream is "censored" in other words. (Watson, 1916c, p. 483)

Very few of Watson's psychologically unsophisticated readers would have understood the distinctions Watson drew between the vocabulary of behaviorism and Freud's vocabulary of psychoanalysis. By explaining Freud's ideas in familiar language, Watson emerged as an early popularizer of Freud.

At this point in his career, Watson was even willing to defer to the expertise of psychoanalysts in interpreting dreams. Furthermore, Watson (1916c) was convinced that "it does require special training and experience to analyze these nonsensical slips of tongue . . . into the *wishes* . . . which gave them birth" (p. 480). Even though Watson had described Freudianism as a kind of cult to an audience of professionals, the overall tone of Watson's popular article was enthusiastic about the value of psychoanalysis. Watson even concluded his article by recommending the use of psychoanalysis for the selection of leaders in business, diplomacy, and politics.

By 1916, Watson had very little to show for his six years of effort to explain psychoanalysis in terms of learning theory. Psychoanalysis had not yet influenced his theories or his published research. During the second phase of Watson's struggle to explain psychoanalysis, he forged an unlikely alliance between two methods and theories that were each foreign imports into American psychology: psychoanalysis and classical conditioning. Unlike James's vague theory of habit, Pavlov's unconditioned stimulus became the handle for the beginnings of a research program that eventually carried Freud's ideas into Watson's laboratory.

Explaining Freud in Terms of Classical Conditioning

Investigating the Emotions With Pavlov's Methods

Although Watson never entirely abandoned trying to explain personality development in terms of habit, he gradually turned his attention toward what was then for American psychologists the new method of classical conditioning (Watson, 1916b). Watson described the transition in his thinking from habit to the conditioned reflex as follows: "When I began to dig into the vague word HABIT . . . I saw the enormous contribution Pavlov had made, and how easily the conditioned response could be looked upon as the unit of what we had all been calling HABIT" (Watson, 1937, p. 1). First, the conditioned reflex became Watson's (1916b) unit for learning. Then, Watson returned to his long-standing interest of trying to explain the concepts of psychoanalysis in terms of concepts from learning theory. Soon after beginning his research program on classical conditioning, Watson was explaining Freud in terms of classical conditioning (Watson, 1916a).

In 1915, Watson gave his presidential address to the American Psychological Association. The address was called "The Place of the Conditioned-Reflex in Psychology" (see Watson, 1916b). Watson's (1913) original manifesto for behaviorism, in which he advocated behavior as the subject matter for psychology, included an attack on Titchener's method for studying consciousness by means of the method of introspection. Watson was drawn to classical conditioning because his research program for advancing behaviorism needed a method to replace the method of introspection. Although Watson (1916b) was very optimistic about classical conditioning as a method for research, his data were meager, and his program of research in classical conditioning was little more than a primitive attempt to replicate prior Russian research.

Watson turned away from replicating the Russian research to consider adapting Pavlov's methods to study the emotions of infants. Pavlov had shown no interest in the emotions, and Freud had not made direct observations of infants, so Watson's idea was fertile and original. Watson (1916b) prophetically observed that psychologists

> have failed to work out methods for observing the finer changes that go on in that large class of actions that we call *emotional.* I believe that the conditioned secretory reflex, in one form or another, can be made useful in these fields. (p. 94)

For Freud, emotional disturbance was one of the chief symptoms of psychopathology. Watson's interest in the emotions represented his ideal of combining basic research and application. The application was the explanation of the emotional symptoms of psychopathology. Watson wanted to bring the emotional phenomena of psychoanalysis from Freud's couch into the laboratory. From Watson and Morgan's (1917) perspective, the weakness of psychoanalysis was that "the Freudian point of view does not help the laboratory psychologist in gaining experimental control over the whole system of emotional relations" (p. 165). Pavlov's unconditioned stimulus was a tool that was helpful. An unconditioned stimulus could be used in the laboratory to produce unconditioned emotional responses. If unconditioned emotional responses could be produced at will in a laboratory, did conditioned emotional responses also exist?

Russian Inspiration for Watson's Conditioned Emotional Responses

Watson's most original contribution to learning theory was the discovery of a new category of conditioning called conditioned emotional responses that emerged from his research program on children's learning of fears (Watson & Rayner, 1920). The idea was that a central emotional state, such as conditioned fear, was established when a neutral stimulus was paired with an unconditioned stimulus that previously elicited a specific unconditioned emotional state, such as unconditioned fear. From where did this most important idea come? The historical thesis presented here is that conditioned emotional responses emerged from two sources: Watson's interest in classical conditioning and his effort to explain psychoanalytic concepts behavioristically with competing concepts from classical conditioning.

In a lecture to kindergarten teachers about his research on infants, Watson (1920b) first described Pavlov's salivary reflex and then went on to describe Bechterev's work on conditioned motor reflexes. Finally Watson (1920b) predicted that "while we have not been able to show it yet in our laboratory we believe that the ductless glands which are so important for the emotions are conditioned in the same way" (p. 15). Clearly, Watson was inspired by Bechterev and Pavlov in developing the concept of conditioned emotional responses. In addition to the preceding quotation from Watson, the links between prior Russian research on classical conditioning and Watson's research on classical conditioning are well described in an extensive secondary literature (Boakes, 1984; Harris, 1979; Samelson, 1980; Todd, 1994). I do not dispute that interpretation. However, a second, less well-known historical path also led Watson to conditioned emotional responses.

Explaining Freud's Concepts With Conditioned Emotional Responses

Freud's concept of unconscious transference. Watson's development of the concept of conditioned emotional responses was the linchpin in his struggle to explain psychoanalytic concepts in terms of classical conditioning. The technical term *conditioned emotional responses* was used by Watson to compete with two psychoanalytic concepts that were part of Freud's theory of affect: transference and displacement (Watson, 1916a; Watson & Morgan, 1917). Watson wanted to explain psychoanalytic phenomena, especially transference, with behavioristic concepts, but his strategy, when possible, was to replace the psychoanalytic vocabulary with a vocabulary of Pavlovian learning theory. Unfortunately for historians, Watson's use of Pavlovian vocabulary masked the psychoanalytic influence on his work.

At the time of his talk at Clark University, Freud was working on the concept of unconscious transference (see Decker, 1998; Freud 1910/1992). Affective disturbance was one of the chief symptoms of neurosis that the early psychoanalysts observed in the behavior of their patients during psychotherapy. A characteristic of the disturbance was that patients directed their emotions toward people and objects that might appear inappropriate. Freud explained the transfer of emotion from a person in a patient's life to the physician in terms of one of his most important psychoanalytic concepts: transference. Consider Freud's definition of transference.

> Whenever we treat a neurotic psychoanalytically, there occurs in him the strange phenomenon of the so-called *transference,* i.e. he directs to the physician a measure of tender feeling, not infrequently mixed with hostility, which is grounded in no real relationship between them and according to all the indications of its appearance, must be derived from the old wishful fantasies of the patient which have become unconscious. (Freud, 1910/1992, p. 434)

Freud incorporated the concept of the unconscious to explain transference. Watson understood and was intrigued

by Freud's definition of sexual transference, but he was searching for an explanation of transference that did not involve the unconscious (Watson & Morgan, 1917). Furthermore, for his research program on the emotional learning of fear in children, Watson needed a definition of transference that was more general than Freud's sexual transference.

Freud's concept of displaced affect. Fortunately, Jones (1910), Freud's student who explained psychoanalytic theory to American psychologists, simplified and redefined Freud's concept of sexual transference in a way that was useful to Watson. Watson interpreted Freud's concept of transference as being restricted to sexual motivation, but Freud also nested transference within a more general concept, displacement. Displacement included all types of displaced emotions, such as a spinster's displacement of affection from a child toward a pet animal. Sexual transference was subsumed as an exemplar of sexual displacement. Jones (1910) defined displaced affect as follows:

> [Freud] tentatively states as a working hypothesis that "there is to be distinguished in psychical functions something (amount of affect, sum of excitations) which has all the attributes of a quantity—although we have as yet no means of measuring it—something capable of being increased, diminished, displaced, or carried off, and which spreads itself over the memory traces of ideas rather like an electric charge over the surface of the body. . . ." This displacement of affect from one idea to another Freud denotes as transference, and says that the second idea may in a sense be termed a representative of the first. (pp. 112–113)

Watson's use of the concept of displacement. Jones's (1910) interpretation of Freud's theory of affective processes influenced Watson: "Freud uses Uebertragung [transference] in a very narrow sense—the attachment of the patient's love-reactions to the physician making the analysis. We use the term here in the broader sense in which it is used by Ernest Jones" (Watson & Morgan, 1917, p. 168). Watson preferred Jones's definition to Freud's definition of transference.

When Watson used the term *transference* or *transfer,* he meant the displacement of affect from one stimulus to another (Watson & Morgan, 1917). Watson was never comfortable with the vocabulary of psychoanalysis, which he used only as a last resort when he did not have an equivalent concept from Pavlov. As he put it, "In view of the generally narrow use made of the concept of Uebertragung in most Freudian literature it seems advisable to get some better form of expression. The English translation 'transfer' has a very restricted use" (Watson & Morgan, 1917, p. 169).

Explaining the symptoms of mental illness with behaviorism. Watson (1916a) introduced the concept of conditioned emotional responses in an article that was written to replace the physicians' concept of mental disease with psychological concepts so that "the description of 'mental' cases can be completed as well as begun in behavior terms" (p. 591). Achieving this goal required the introduction of a behavioristic vocabulary of learning theory that could compete with the symptoms of mental illness that psychiatrists used to construct diagnostic categories. Watson was especially interested in explaining the disturbance of "affective values" that was the chief symptom in many cases of mental illness. Freud (1910/1992) had interpreted these cases in terms of unconscious motivation and had used the concept of transference.

Watson (1916a) described how he differed from Freud when he first introduced conditioned emotional responses with the following definition.

> As I view the matter we have here just the situation for arousing *conditioned emotional reflexes.* Any stimulus (non-emotional) which immediately (or shortly) follows an emotionally exciting stimulus produces its motor reaction before the emotional effects of the original stimulus have died down. A transfer (conditioned reflex) takes place (after many such occurrences) so that in the end the second stimulus produces in its train now not only its proper group of motor integrations, but an emotional set which *belonged originally to another stimulus.* Surely it is better to use even this crude formulation than to describe the phenomenon as is done in the current psychoanalytic treatises. (Watson, 1916a, p. 596)

Notice that Watson made a procedural slip by describing the normally ineffective backward conditioning procedure in which the unconditioned stimulus precedes the conditioned stimulus. The distinction between forward and backward conditioning was not as salient in Watson's day as it is now.

The preceding passage reveals that competition with concepts from psychoanalysis was a significant element of the context within which Watson first introduced the concept of conditioned emotional responses into the literature. However, Watson could not entirely escape the psychoanalytic vocabulary. Instead of using the word *acquisition* to describe the learning of a conditioned emotional response, Watson borrowed a diminutive *transfer* from Freud's transference. With conditioned emotional responses, Watson at last had a concept that could explain the transfer of emotion behavioristically without an appeal to Freud's unconscious.

A psychoanalyst answers Watson's critique. In the article, "Behavior and the Concept of Mental Disease," Watson (1916a) made the radical proposal that physicians' concept of mental diseases could be replaced by behavioristic concepts. Watson (1916a) asserted that he "did not understand the physician's use of the term 'mental' " (p. 589). In Watson's day, the practice of psychoanalytic psychotherapy was almost exclusively restricted to physicians. Readers, especially those who are psychotherapists, may wonder how Watson's ideas were received by the psychoanalytic community.

Smith Ely Jelliffe was a physician who became one of Freud's leading advocates in America (Hale, 1971). His private practice in New York City included intellectuals such as the liberal editor Max Eastman (Gifford, 1991). Eastman described Jelliffe as a talkative therapist who regaled him with Freud's ideas. Jelliffe's (1917) response to Watson provides a glimpse of a gulf that separated clinicians from scientists. Jelliffe described Watson's call for abandoning the concept of mental disease as "extremely naïve and simplistic" (p. 168). Jelliffe was a vitalist for

whom Watson's behaviorism was nothing more than an empty formalism "suggestive of nothing so much as a fire crackling through a carpet of dry leaves" (Jelliffe, 1917, p. 269). Although Jelliffe was pleased that Watson was investigating the problem of emotion experimentally and although he was intrigued by Watson's idea that consciousness could be described behavioristically as the ability to put ideas into words, he was not willing to restrict the concepts of psychoanalysis to concepts that had been validated in the laboratory. Jelliffe even conceded that Freudians were guilty of "a word fetichism" (p. 272). However, Jelliffe proposed a pragmatic test for psychoanalytic concepts whose epistemology was quite different from that of Watson. Jelliffe described psychoanalysis as a way of understanding and even of discovery whose concepts provided a "pragmatic truth of which, at least, is attested by an effective therapy which is proving itself in lasting result" (p. 271). In other words, if patients got better, the concepts used by the therapist had pragmatic validity. The epistemological gulf that separated Jelliffe, the clinician, and Watson, the experimentalist, was no more bridgeable in 1917 that it is today.

Watson's policy was never to respond to his critics, and he moved on to test his ideas about psychoanalysis in the laboratory.

Generalizing Freud's Ideas and Pavlov's Methods to Infant Emotions

Watson and Rayner's (1920) experiment with Little Albert is well known. Less well known is that their experiment was designed to test a theory of emotions developed by Watson and Morgan (1917). Morgan earned his doctor of philosophy degree in psychology at Columbia University and spent a postdoctoral year with Watson at Johns Hopkins University. Watson and Morgan's theory was inspired, in part, by Freud's ideas about the emotional development of personality. Infancy was an important stage of personality development for Freud, and he traced psychopathology in adults back to events during infancy.

Watson was persuaded by Freud that infancy was an important stage for emotional development. Watson's objection was to Freud's psychoanalytic methods for drawing conclusions about the emotional reactions of children. Freud was using the retrospective memories of his adult patients to reach conclusions about sexual events that took place during infancy. Watson thought that direct behavioral observations of the emotions of infants in a nursery would place the study of infancy on a firmer scientific footing than Freud's retrospective methods.

Watson differentiated Freud's ideas from his methods and by 1917 had come to reject the latter. Watson identified the laboratory as the place where his expertise as a psychologist who was a skilled observer of behavior could make a scientific contribution.

> Here we should like to offer a criticism not of the Freudian psychology but of their methods of observation. They have not examined with sufficient care the concrete daily situations of infant and child life. . . . We should go to the nursery and watch the child. (Watson & Morgan, 1917, p. 171)

Here Watson called for a scientific appraisal of Freud by the simplest of methods, observation.

A similarity between Watson in 1917 and Freud was that each was a developmental theorist whose theories traced the origins of psychopathology in adults back to the stage of infancy. Fine (1990) discussed the role that the sexual instinct played in Freud's theory of psychosexual development. Watson agreed with Freud that sex or love belonged in the instinctive category. However, Watson thought that Freud had been too parsimonious in restricting the etiology of neuroses to infant sexuality. Watson added the instincts of fear and rage to Freud's sexual instinct. Watson had discovered that he could reliably elicit unconditioned crying in infants with the unconditioned stimulus of a loud sound. Watson was interested in the psychopathology of children's fears, and he now had the tools for investigating this problem with infants in the laboratory.

In the context of a discussion about Freud's transference, Watson and Morgan (1917) considered the possibility that fears could be transferred from one stimulus to another in the laboratory by means of classical conditioning. Here Freud's clinical discovery during psychotherapy of the phenomenon of transference was far ahead of any phenomenon that Watson had observed in the infants in his laboratory. Watson and Morgan condescendingly said that "the concept of Uebertragung [transference], however mystical and unintelligible the Freudians have made it, is nothing more or less than habit formation" (p. 168). Nevertheless, a discovery was a discovery, and Watson and Morgan were forced reluctantly to give Freud credit where credit was due. In very complimentary language, they conceded that "it is extremely interesting that the Freudians were the first to utilize this principle [transference] and it is more or less a reflection upon us that we did not have it worked out ready for use by the psychopathologist" (Watson & Morgan, 1917, p. 168).

Watson wanted to go beyond Freud's discovery by demonstrating that the transfer of an emotion from one stimulus to another occurred not only during psychotherapy but also in the laboratory. Watson understood that Freud's patients walked into his office with their transferences already formed. Watson's goal was to create a simplified analogue of transference in the laboratory because a behaviorist "must have a uniform procedure which will allow at least approximate reproducibility of his results. He must have his phenomena under such control that he can watch their inception, course, and end" (Watson & Morgan, 1917, p. 169). For Watson, the procedure that held the key to a phenomenon that he believed was similar to Freud's transference was classical conditioning. The behavioral phenomenon that made the research possible was an infant's fear.

The most original idea in Watson and Morgan's (1917) article was generalizing Freud's concept of transference from sex to fear. As they put it,

> We have spoken thus far of transference within the sphere of love (and by *Uebertragung* the Freudian means only transference in the sphere of sexual emotion): *But there is no reason to suppose*

that the same thing does not occur in the other emotions. (Watson & Morgan, 1917, p. 169)

What kind of theory had Watson and Morgan (1917) written? In a recent review of Freud's legacy for psychology, Westen (1998) identified five postulates that define contemporary psychodynamic theory. One of these postulates is that "stable personality patterns begin to form in childhood, and childhood experiences play an important role in personality development" (Westen, 1998, p. 334). Here Westen's criterion of the role of childhood experiences in personality development is applied for purposes of historical analysis to Watson and Morgan's theory. Conceptually, Watson and Morgan simply added fear to Freud's sexual etiology. Therefore, Watson and Morgan developed a psychodynamic theory that was not, strictly speaking, an orthodox Freudian theory. They developed a psychoanalytic theory that was simply a variant of Freud's ideas about the development of personality. Methodologically, they also went beyond Freud by proposing behavioristic testing of the theory on infants in the laboratory with the method of Pavlov. Although not all developmental theories are psychoanalytic, Watson and Morgan's debt to Freud was clear and explicit. Watson and Morgan's article is important because the well-known experiment with Little Albert (Watson & Rayner, 1920) was conducted to test their theory. Careful reading of Watson's articles demonstrates that one of the pillars upon which his behaviorism rested was psychodynamic.

Watson and Morgan (1917) also explained how fear could become attached or generalized to an ever increasing series of objects. In contrast with Watson's rejection of the psychoanalytic concept of the unconscious, there was one concept for which Watson predicted a bright future: the principle of *Uebertragung*, or transference. They waxed eloquent in favor of transference as a useful concept for psychology: "We venture to predict that the one thing that will stand out as distinctly Freudian will be their utilization of the principle of *Uebertragung* [transference]. To our mind this is the essential concept in Freudian Psychology" (Watson & Morgan, 1917, p. 171). Remember, transference as understood by Watson was a synonym for displacement. If Watson and Morgan assumed that transference was "the essential concept in Freudian psychology" (p. 171), should it be surprising to learn that Watson attempted to bring an analogue of the Freudian concept of transference into the laboratory in his famous experiment with Little Albert (Watson & Rayner, 1920)?

The Path From Freud's Transference of Affect to Little Albert's Rabbit

Watson and Rayner's (1920) experiment with Little Albert was the pinnacle of Watson's efforts to demonstrate that concepts from classical conditioning were superior to concepts from psychoanalysis in explaining the same phenomena. Rosalie Rayner was Watson's graduate student at Johns Hopkins University, and she participated with Watson in conducting the experiment. For the first time, Watson obtained empirical evidence for his concept of conditioned emotional responses. He did not have to appeal to Freud's concept of the unconscious to explain that when a rat, which previously did not elicit fear from Little Albert, was paired with a loud sound, it produced through the mechanism of classical conditioning a response of conditioned fear from Little Albert. Watson and Rayner's (1920) tone in the discussion of their article was tinged with anti-Freudian hostility, which sharply contrasted with the self-confidence with which Watson asserted the value of data from the laboratory for the scientific appraisal of Freud's ideas. In rejecting Freud's idea that most neuroses were sexual, Watson wrote, "We wish to take sharp issue with this view on the basis of the experimental evidence we have gathered" (Watson & Rayner, 1920, p. 14). Watson ridiculed the use of the dreams of adults to infer sexual etiology for neurosis.

> The Freudians twenty years from now, unless their hypotheses change, when they come to analyze Albert's fear of a seal skin coat—assuming that he comes to analysis at that age—will probably tease from him the recital of a dream which upon their analysis will show that Albert at three years of age attempted to play with the pubic hair of the mother and was scolded violently for it. (Watson & Rayner, 1920, p. 14; p. 317 in the reprint in this issue)

This tasteless parody of Freud was probably intended to attack the exclusivity of orthodox Oedipal interpretation of adult psychopathology. Watson had developed the strategy of elevating his ideas by attacking Freud. In support of the theory of Watson and Morgan (1917), Watson repeated his claim that fear was as primal a factor in the etiology of adult phobic behavior as was sex. Watson confidently concluded that "many of the phobias in psychopathology are true conditioned emotional reactions either of the direct or transferred type" (Watson & Rayner, 1920, p. 14).

The most convincing and dramatic result that Watson and Rayner (1920) obtained was the finding that Little Albert displayed a conditioned emotional response of crying not only to the rat but also to a rabbit that had never been paired with the loud sound. Watson described the stimulus generalization from the rat to a rabbit as a *transferred type* of conditioned emotional response. Watson's description of a transferred type suggests that he had not entirely escaped from Freud's psychoanalytic vocabulary of transference. Similarly, Watson and Rayner's (1920) hypothesis for their experiment in what is now called stimulus generalization was "when a conditioned emotional response has been established for one object, is there a transfer?" (p. 5). Watson's (1920a) caption of this dramatic finding for a silent film he produced about the experiment with Little Albert was "The conditioned fear of the rat 'transferred' to the rabbit, dog, false face, fur coat, etc. without further stimulation." Watson repeatedly used the Freudian inspired word *transfer*, and he never used the Pavlovian concept of generalization in describing the stimulus generalization that was the most dramatic finding of his most famous experiment.

Why did Watson use the Freudian diminutive term *transfer* instead of its Pavlovian equivalent term *generali-*

zation? Watson was working at a time when the psychoanalytic vocabulary was much richer than the Pavlovian vocabulary. For example, Brill's (1914) textbook of psychoanalysis provided a glossary in which psychoanalytic terms including *transference* were defined. Watson disclosed in an interview about psychoanalysis that he had read Brill's textbook (Burnham, 1994). In contrast, Pavlov's (1927/1960) lecture on the generalization of conditioned stimuli did not appear in an English translation until 1927, long after Watson had completed his experiment on transfer with Little Albert. Windholz (1989), in his research on the origins of the concepts of classical conditioning, found that the phenomenon of stimulus generalization was discovered in Pavlov's laboratory by his student Kashereninova in an obscure dissertation that was published, in Russian, in 1908. After the initial discovery, it took Pavlov many years to investigate and to refine the concept of stimulus generalization.

In Pavlovian generalization, an artificial stimulus such as a tone was first paired with an unconditioned stimulus, and then generalization was observed by varying the stimulus frequency. Watson used animals as his conditioned stimuli because he was interested in the problem of children's fears rather than in stimulus generalization. His work on the transfer of emotion with Little Albert does not mesh well with the tradition of Russian research on stimulus generalization. The work fits better within Watson's goal of using classical conditioning as a tool for bringing an analogue of a phenomenon that Freud discovered, transference, into the laboratory. Although helpful to the understanding of contemporary readers, the concept of stimulus generalization is historically anachronistic when applied to explain the historical context within which Watson worked.

If not from Pavlov, where did Watson and Rayner (1920) get the idea that fears could be generalized or transferred from one object to another? Unfortunately, Watson and Rayner did not provide that information directly in their article. An interpretation of historical events is required, or the question will remain unanswered. Consider as a plausible, but not provable, hypothesis that when Watson carried the rabbit from its home cage to the table on which Little Albert was playing, he was also metaphorically carrying a simplified analogue of Freud's transference from Freud's couch into the laboratory for validation.

Is there any historical evidence beyond the theory of Watson and Morgan (1917) that corroborates the hypothesis that one purpose of Watson and Rayner's (1920) study was to test Freud's ideas about the unconscious and transference in the laboratory? Consider an article that Watson (1928) presented at a symposium on the unconscious after the work with Little Albert was completed. In that article, Watson mentioned the concepts of the unconscious and transference in connection with a discussion of the data that he had obtained from Little Albert. Little Albert was 11 months of age at the start of the experiment and had not yet learned to talk. Therefore, Little Albert was unable to put his fear of animals into words. Freud's unconscious had become Watson's unverbalized. Within the conceptual framework of Watson's behaviorism, Little Albert's conditioned emotional response was an example of unconscious learning because the child was unable to put his fears into words.

Did Watson ever discuss Freud's concept of transference in the context of his work on conditioned emotional responses with Little Albert? After describing how children could be taught to fear animals by classical conditioning, Watson (1928) went on to explain how fears of these animals could be transferred to other animals: "Along with the actually conditioned responses we have the transferred fears about which there need be no mystery since such 'transferences' are always obtained in every experiment" (p. 102). Clearly Freud's concepts of the unconscious and transference were very much a part of the cultural context within which Watson worked when he thought about how to interpret his experiment with Little Albert. Watson was proposing that concepts from classical conditioning were superior to those of psychoanalysis in explaining the data he obtained. Although he was critical of these psychoanalytic concepts, Watson may have had a Freudian muse when he designed his experiment with Little Albert.

The Data and the Critics

It has been 80 years since Little Albert, one lone subject, shed his tears in a sacrifice for science on the altar of John Watson's behaviorism. Regardless of the sources of Watson's inspiration, consider the question, how good were the data? Fortunately this question has already been discussed by Harris (1979) and Samelson (1980) in important articles that appeared earlier in the *American Psychologist.* Harris criticized the study as methodologically flawed and reached the conclusion that "by itself the Albert study was not very convincing proof of the correctness of Watson's general view of personality and emotions" (p. 158). Samelson considered Watson's description of his procedures so vague that subsequent investigators were not given sufficient information to replicate the study.

In defense of Watson's methodology, he obtained negative results from a control group before he conducted the experiment with Little Albert, but the negative results for the control group were not presented by Watson and Rayner (1920). In an obscure address to kindergarten teachers, Watson (1920b) reported that when he presented two infants with a white rat, a rabbit, and a dog for the first time without conditioning, unconditioned fear was not observed. When Watson took a third baby to a zoo, the child, who had never seen peacocks, camels, or zebras, displayed no unconditioned fear of these novel animals. Thus, Watson had some data to support his conception that fear of animals was learned and was not innate.

Despite the weaknesses identified by historians, Watson and Rayner's (1920) study remains a classic, a benchmark against which the theoretical questions, methods, and psychological limitations of the past anchor us to the same psychological questions about emotional learning and psychopathology that we are considering today with better methods and theories than were available to Watson and Rayner. The larger issues that concerned Watson, the validity and relevance of psychological concepts and the

use of the data from research by practitioners, are still issues today.

In conclusion, Freud deserves credit for the origins of Watson's thinking about transference. Watson and Rayner (1920) deserve credit for their efforts to validate in the laboratory Freud's idea that emotions can be displaced or transferred from one object to another. In this interpretative context, Watson emerges from his famous experiment with Little Albert as a pioneer in the scientific appraisal of Freud.

Conclusion

The task of selecting concepts for a course in normal psychology for medical students led Watson into the first phase of his engagement with psychoanalytic concepts and abnormal behavior. Watson's strategy was to explain Freud's phenomena behavioristically in terms of normal psychology. Watson (1916c) wrote a popular article about Freud's theory of dreams in which he explained Freud's concepts in terms of William James's (1890/1950) theory of habit. Watson also learned about psychoanalysis directly by conducting research on Freud's method of dream interpretation and Jung's association method.

During his initial phase, between 1910 and 1916, Watson was most enthusiastic about psychoanalytic methods as tools for psychological research. During his second and most creative phase, between 1916 and 1920, Watson absorbed Freud's work on the emotions, and he also absorbed the Russian work on classical conditioning. He then transmuted these ideas through his own creativity into a behavioristic theory of emotion. Specifically, Watson absorbed Freud's ideas about the unconscious and transference and then transmuted these ideas, using classical conditioning as a catalyst, into a theory of emotional development. Freud emphasized a sexual etiology for neurosis. Watson added the emotion of fear to Freud's framework of the etiology of neurosis, thereby producing a theory whose developmental foundation was psychodynamic. By eliminating references to Freud's unconscious and substituting the concept of conditioned emotional responses that an infant could not verbalize, Freud's psychoanalytic theory of the emotions was transformed into Watson's behavioristic theory of the emotions.

I have reconstructed a path from Freud's concept of transference to Watson's validation of that concept in the laboratory through a simplified analogue study with Little Albert's rabbit according to the following plausible sequence. Freudian transference was understood by Watson to be primarily sexual and to occur during psychoanalytic psychotherapy when emotions were displaced from parental figures onto the psychoanalyst. Watson lacked the tools and professional training necessary for research on the transferences of psychotherapy. Instead of Freud's concept of transference as currently understood, Watson relied on an earlier definition of transference, one no longer used in psychoanalytic thinking, that was equivalent to the more general concept of displacement. In displacement, emotions were transferred or displaced from one object to another. When Watson described the transfer or generalization of fear from the rat to the rabbit in the experiment with Little Albert, his original muse was more likely Freud's concept of displaced affect or transference than Pavlov's concept of stimulus generalization.

Watson was by no means a closet Freudian. He was, of course, a behaviorist. Cultural factors, in addition to Freud, contributed to Watson's framework for research and theory about the emotions. Nevertheless, the Freudian influence on his work on the emotions was significant and continuous throughout the period of his academic career between 1910 and 1920.

During Watson's third and final phase of engagement with psychoanalysis after 1920, an attack on psychoanalysis was a foil for the competing framework of behaviorism. In his popular book *Behaviorism,* Watson (1924) called psychoanalysis "voodooism" (p. 18). Unfortunately, the ghost of the antagonism between behaviorism and psychoanalysis that Watson created continues to haunt the psychological landscape today.

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