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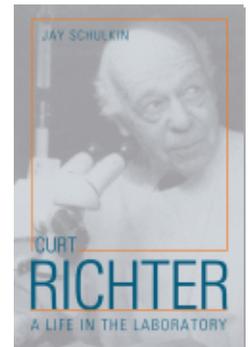
Curt Richter

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CHAPTER 1

Origins and Orientations

EARLY INFLUENCES

Curt Richter's *vita*, as written by him for his dissertation, reads: "Curt P. Richter was born February 20, 1894, in Denver, Colorado. He attended the Public Schools in Denver up to the time of his graduation from High School in 1912. The next three years he spent in Germany, chiefly in Dresden. During the greater part of this time he attended the Dresden Technische Hochschule. In 1915 he returned to America and entered Harvard, where he graduated in 1917. During the last year at Harvard he acted as Student-Assistant in the department of Philosophy and Psychology. The next two years were spent in the Army. In January he entered Johns Hopkins University" (Richter 1921).

Curt Richter's parents were newly arrived from the Saxony region of Germany when Richter was born. His father, an iron manufacturer, died in a hunting accident while Richter was still quite young. Newspaper reports said that he was killed by a friend; the headline in the paper read: "P. Richter, Iron Manufacturer, Suddenly Slain by Discharge of His Companion's Gun" (Chesney Archives).

Curt Richter remained an only child. The letters in his file in the Chesney Medical Archives at Johns Hopkins indicate that he was close to his mother throughout her life. She was a strong woman who ran the iron factory after her husband's death. Richter recalled that he took care of himself early on, spending long periods alone. Years later, an interviewer noted that "he [Richter] says he was very close to his mother" (Roe interviews, American Philosophical Society Archives, 1952).

Richter received support from his mother, who appears to have been helpful during the early period of his career and during his divorce from his first

wife, Phyllis Greenacre, who became a noted psychoanalyst. This early period was a trying time for Richter, and he turned to his mother for sympathy and encouragement. In the early 1930s, feeling the dual pressures of running a laboratory and going through a divorce, he wrote his mother (in one of many letters to her during this period), “I feel all tired out.” Of the divorce and his estranged wife, he told his mother, “I will fight her to the end.” In other letters he wrote further about the strain of running his laboratory and staying on top of things in the laboratory. He needed rest. He admitted, in a bout of existential angst, “I don’t know what to do” (Chesney Archives, 1930). This correspondence reveals that Richter shared very personal aspects of his life with his mother. He often signed the letters, “with love.”

The early experience in his parents’ factory never left him. As Richter described in an autobiographical essay, he grew up “learning about tools and machines” during the long hours that he spent in the factory. He described this activity as “play” and himself as fascinated by all kinds of gadgets; he had begun to experiment at a young age (Richter 1985). Moreover, as Richter recalled of his childhood, “I spent a lot of time working on locks and clocks—taking them apart and putting them back together again.” Richter called this his “play period,” and it was interrupted by the shock of his father’s death, resuming only after 1919 (Richter 1985, p. 359).

By all accounts, Richter was gregarious. His high school class portrait depicts him as a participant in many activities. Richter formed a key relationship in high school with the head of his school, Dr. W. Smiley, who had attended Harvard and who took a special interest in Richter. Richter commented: “We formed a close relationship that undoubtedly had much to do with my going to Harvard” (Richter 1985, p. 361). Curt Richter, in need of a father figure, perhaps found one in Dr. Smiley. He would find another some years later at Hopkins.

In Denver, Richter attended public schools and, by his own admission, was never a good student. He excelled in sports, a proficiency that would last a lifetime. Years later, he would be a legendary tennis player at Hopkins, and he was known for his general athletic prowess, including for vaulting over fences when in his seventies (Stellar 1989). Growing up in the West, he worked on farms in the summer and loved hunting. He would later be fearless in the laboratory; for example, he caught wild rats in Baltimore and brought them into the laboratory (see chapter 4).

After graduating from high school, Richter, following what he remembered from childhood to be his father’s desire, enrolled at an engineering school in

Germany. He remained at the Technische Hochschule in Dresden for three years, from 1912 to 1915. During this period, Richter had an opportunity to get acquainted with relatives and to spend time with his grandmother in the town from which both of his parents had emigrated. At the engineering school, Richter again excelled in sports. He recalled that “the track season later in the spring and early summer gave me an opportunity to shine as an American” (Richter 1985, p. 363). But war was on the horizon, and the culture shifted. Being an American now rendered Richter vulnerable to abuse in Germany. He described one incident: “Four burly Germans approached me with raised canes and started shouting ‘spy’” (Richter 1985, p. 365).

Reflecting later on his experience at the engineering school, Richter said, “Looking back on my work at the Hochschule, I have come to realize how much I learned that has helped me in the running of my Laboratory of Psychobiological Research. Certainly, the experience gained from making the many charts and graphs used in mechanics helped me in many ways in working up results in my biological studies” (Richter 1985, p. 365). On the other hand, he lamented that he was not allowed to do his own experiments at the school, and he still had not taken any courses in biology.

Soon after Richter’s return to the United States, he entered Harvard College on the recommendation of his high school mentor, Dr. Smiley, with whom he was still close. At Harvard, by Richter’s own admission, he remained a mediocre student. He failed several subjects. His grades were so bad that he was put on probation. Richter said that he excelled in no particular subject until he took a course in genetics, followed by one on the philosophy of nature with E. B. Holt (a student of William James), who throughout his career retained James’s sense of psychobiology and his philosophy of nature (see Holt 1931/1976, 1937). Holt came to Richter’s defense by writing a letter (dated February 24, 1917) to the assistant dean of Harvard College, Mr. Little, which stated that Richter was “a man of marked ability” and that in Germany Richter had not been exposed to the American method of taking exams, which could account for his poor grades. Holt described Richter as “a very able chap” and expressed an interest in having Richter as his assistant the following year.

Richter (1985) noted that Holt introduced him to Freud’s writings; perhaps this included Freud’s work on the biological basis of drives. Maybe Richter’s career-long interest in the biological embodiment of the concept of drive (McHugh and Slavney 1998) was kindled by this early reading of Freud. Holt was obviously an important person for the young Curt Richter.

Richter noted in the Roe interview that he “got a good grade in a course with Perry”—a student, biographer, and major exponent of the work of William James (Perry 1935)—and that Holt’s course “stimulated me to sign up for a short experimental course on insect behavior, given by Professor Robert Yerkes. This course, though short, made me feel that at last I had found something that really interested me. Further, Yerkes thought that I had done quite well and gave me an A in this course, the only A that I ever managed to get during my two years at Harvard, or for that matter, elsewhere” (Richter 1985, p. 369). I could find no correspondence between the two men, and Richter said very little about Yerkes in his autobiographical material, but Yerkes’s sense of the importance of the biological basis of behavior (Yerkes 1913) and the study of instinctive behaviors (Yerkes 1930), in addition to the relationship of biology to medicine (Yerkes 1921), no doubt influenced Richter for a lifetime.

Richter described his time in Cambridge as “very interesting but not a happy time”; he was in “mild depression much of the time” (Richter 1985, p. 369). This is not surprising because he often was not doing well in school. Through Holt Richter was introduced to L. J. Henderson (Roe interviews, American Philosophical Society Archives). He had the “good fortune to be invited to have lunch with L. J. Henderson” (Richter 1985, p. 369). He had a great deal of contact with Henderson and said, “Henderson stimulated me more from the physiological side” (Roe interviews, American Philosophical Society Archives). Henderson, a colleague of Walter Cannon’s at Harvard and the founder of the Society of Fellows, was very interested in promoting a culture of research within the medical community (Henderson 1935, 1970) and was a basic physiologist with broad interests. An early exponent of the experimental method in physiology and medicine,¹ he wrote an introduction to Claude Bernard’s important book on the subject.

Richter noted that his war service was an uneventful tour of duty in the States, highlighted by a visit from Professor Henderson, who “brought me a number of books” (Richter 1985, p. 370). Henderson must have seen the promise in Curt Richter.

J. B. WATSON

On the advice of Yerkes, Richter descended on the city of Baltimore and the Johns Hopkins University. John Watson, the noted behaviorist, had already moved from the Psychology Department at Hopkins to the Phipps Psychiatric



FIG. 1.1. Curt Richter as a young boy (1905), young man (1912), and young scientist (1930). *Source:* Alan Mason Chesney Medical Archives, Johns Hopkins Medical Institutions

Clinic (a part of Hopkins Hospital) when Richter arrived in 1918. Richter knew little about Watson, although he had read Watson's book on animal behavior while still an undergraduate at Harvard (University of Akron Psychology Archives, August 1963). Reflecting on his time as an undergraduate at Harvard, Richter recalled, "Yerkes recommended that I read a book, *Animal*

Behavior, by John B. Watson. After having read only snatches here and there, I became convinced that I should try to work with him. . . . I must point out here that at that time, and for a long time later, I had no idea about what Watson meant by 'behaviorism.' For me 'behaviorism' simply meant 'behavioral.'" (Richter 1985, p. 369).

Richter recalled Watson's uttering these words: "I want you to know that I am only interested in getting a good piece of research. You do not have to take any course or attend any lectures. You are strictly on your own" (Richter 1985, p. 371). From that meeting, Richter took away a great feeling of excitement.

Watson, however, had a missionary zeal for behaviorism, the objective measurement of behavior, and, in particular, of reflexive behaviors and conditioning (Boakes 1984; O'Donnell 1985; Benjamin 1988). He believed behaviorism could reform the world, setting psychology straight and firm within "positive knowledge" (positivism). Behaviorism, for Watson, clarified psychologists' thinking. Watson's earlier work was much more rooted in biology than was his later, more well-known material on the study of behavior. His intellectual drive was rigor; his desired goal was scientific respectability. Watson was on an ideological mission to legitimate a science.

Watson had been a graduate student at Chicago,² writing a thesis entitled "Animal Education," and he was influenced by J. R. Angell (known for a biological and functionalist perspective) and Henry H. Donaldson (who had been a student at Hopkins) (Watson 1930; Angell et al. 1896; Boakes 1984). In fact, Donaldson wrote an important book that influenced Richter's later research, *The Rat* (Donaldson 1915), which provided normative data on the growth curves of rats and revealed the effects of domestication on end-organ systems (see chapter 4).

While Watson was a student at Chicago, he learned from Donaldson something about what he called "exactness in research" (Watson 1930/1961). And Donaldson influenced some of the work of Richter, namely, his research on the effects of domestication. In an interview, Richter said, "I knew Dr. Henry H. Donaldson quite well. He wrote a well-known book, *The Rat*. . . . Several times a year I met with him" (University of Akron Psychology Archives, 1963). This book was an intellectual point of contact for Richter. Years later, toward the end of Richter's life, he drafted some notes for a paper that he never finished, which was to be a defense of the use of the common rat in animal experimentation.

Watson also provided Richter, in their short time together at Hopkins, with the intellectual freedom that was of the highest value for Richter in that cul-

ture of research, with its emphasis on the measurement of behavior. Richter sought in his study of behavior some objective measurement; there was, at the time, no ideology of behavioral analysis remotely close to the Richter concept of research.

Outside of the laboratory, Watson was a legendary party animal both during his time at Hopkins and thereafter (Buckley 1989). Watson would recall being particularly close to both Richter and Karl Lashley (Watson 1930/1961). Richter had a real fondness for Watson personally. He spent time socializing with Watson and visited him in New York for many years after Watson moved there and went into the advertising field. Richter said that Watson and his second wife “entertained almost every single night. I don’t see how they took it. No matter how late it was, he stayed up. He was always up on deck the next morning” (University of Akron Psychology Archives, August 1963).

Most importantly, Watson provided Richter the freedom for inquiry that he required and reinforced Richter’s enthusiasm for science. Johns Hopkins was now his home.

A CAREER SET IN MOTION

Richter’s dissertation, “The Behavior of the Rat: A Study of General and Specific Activities” (Richter 1921), planted the seed for a career in research. It was an attempt to study spontaneous and self-generated behaviors. In contrast with Watson’s work, in which behavior was understood as externally caused, Richter’s thesis highlighted internally generated behavioral control systems (Rozin 1976a). Richter began with a description of the history of the rat, explained why the rat was a good model for laboratory study, and proceeded to demonstrate how to measure laboratory rat behaviors. He began his dissertation with the bold assertion that “this investigation concerns itself with the general question of finding out how a certain organism, the rat, ‘works.’”

His committee included Knight Dunlap, chair of the Department of Psychology, who several years previously had published a book on psychobiology. Dunlap, along with Baldwin, had been instrumental in bringing Watson to Hopkins, and Dunlap took over the position of department chair after Watson’s departure to the Department of Psychiatry at the Phipps Clinic (Pauly 1979). Dunlap’s book on psychobiology contained virtually nothing on the behavioral component of biological regulation. This would await the work of Richter.

Let us put Richter in perspective: as his career continued at Hopkins, he was a researcher, not a university professor in the current sense. He occasionally

taught courses to medical students, usually with someone else. For example, for the Psychobiological Course in 1927, Richter lectured on drive, affect, sleep, and dreams. Adolf Meyer, with whom he was teaching the course, lectured on personality, different views of psychobiology, thinking and memory, sex, and social behavior (Meyer files, Chesney Archives).

In a letter to Meyer dated August 16, 1930, Richter outlined what he called his general topics of investigation. They included skin resistance and psychogalvanic reflex, the pituitary and the third ventricle, spontaneous activity, voluntary and reflex grasping and hanging, anxiety attacks, the experimental production of various emotion states, and depression. Many of these issues would be common avenues of inquiry throughout his career, but some of his interests, such as ingestive behaviors and the effects of domestication, were not listed here.

Meyer was the most prominent figure in launching Richter's career. Just as his high school teacher had been pivotal in orienting the bright but not traditional academic to Harvard and had acted as a concerned parental guide for Richter, Meyer would also be fundamental in directing Richter's career. Who was Meyer?

ADOLF MEYER AND THE PHIPPS CLINIC AT JOHNS HOPKINS

In an obituary for the American Philosophical Society, Eliot Stellar wrote: "Curt acknowledged the debt he owed Watson even though Watson left Hopkins less than two years after Curt's arrival. It was Adolf Meyer who became the mentor and main supporter of Curt's research" (Stellar 1989). Stellar went on to acknowledge Meyer as the father of psychobiology.

A Swiss-born neurologist, Adolf Meyer studied with some of the great minds of the nineteenth century, including Hughlings Jackson. Meyer was the first head of the Phipps Psychiatric Clinic, which opened in 1913 as part of the Johns Hopkins Hospital (Harvey et al. 1989). In Meyer's view, a psychiatric clinic should include both an outpatient and an inpatient population and foster both teaching and research. The clinic's aims were to help people through both educational and therapeutic methods and to undertake laboratory research inspired by the clinic.

Before arriving at Hopkins, Meyer had held various positions in the United States, including that of clinical director of Worcester State Hospital, which was part of Clark University in Worcester, Massachusetts. Meyer was an erudite intellectual with a background and serious published works in compara-

tive neuroanatomy. Throughout his career he taught classes in both comparative anatomy and psychobiology. Meyer emphasized whole-body activity and its long-term study and understood psychobiology as “the missing link” between “ordinary physiology and pathology . . . dealing with functions of the total person and not merely detachable parts” (Meyer 1915, p. 861).

Meyer also understood psychobiology “that takes life as it is without splitting it into something mental and something physical” (Meyer 1935, p. 94). This assertion is reminiscent of the position of James, as well as that of other pragmatists including Dewey and Mead (J. E. Smith 1978), and is very much in contrast with Watson and other behaviorists who had come to dominate psychology by this time. In other words, Meyer’s psychobiology reflected an interest in “organismal function and behavior” (Meyer 1935, p. 94).

At the beginning stages of planning for the Phipps Clinic (generously endowed by Henry Phipps), the design for the Psychological Laboratory was set in motion by the selection of Watson as its head. Watson prided himself on an expertise with laboratory construction that dated back to his Chicago experience, and he was fairly involved from the start of the project, even with the electrical wiring of his own laboratory.

Once installed in his new post, Watson—behaviorism’s celebrated ideologue—was overzealous in his intellectual stance that all behavior was subject to modification. Meyer became critical of Watson, although this criticism went both ways (Leys 1984; Leys and Evans 1990). Meyer was interested in functional psychobiological adaptation, not ideological dogmatism. The psychobiology he envisioned did not dismiss the inward turn of Freud or Wundt (see, for example, his correspondence with Titchener in Leys and Evans 1990), but helped to put it in perspective.

Watson and Meyer, as Leys (1984) points out, were on a collision course. Watson was having an extramarital affair with his young associate, a brash act for which he would be fired from Hopkins. Meyer apparently had an interesting stance with regard to Watson; on the one hand he seemed to support him intellectually, and on the other hand he was dead set against retaining Watson (Leys 1984; Buckley 1989). Edward Titchener, no friend to behaviorism, nevertheless berated Meyer (Leys and Evans 1990) for not supporting Watson. What Meyer cared about was a broad palette on which to paint psychology; several approaches coexisted, and perhaps most important were the adaptive regulatory responses and adjustments that had to be made for viable long-term health. Meyer’s motives for not defending Watson no doubt in part reflected

his distaste for the narrowness of the study of behavior that Watson paraded as the only scientific approach within psychology.

With the loss of Watson, Meyer was looking for a new head of the Psychological Laboratory. Yerkes, one of Richter's key teachers at Harvard, applied for the position, but Meyer turned him down (Buckley 1989). Instead, Meyer passed the reins to Curt Richter, who was already working independently in the laboratory, ostensibly under the guidance of Watson. Richter was somebody safe, somebody Meyer probably thought he could influence and control, somebody who would not challenge his perspective, and somebody who could set up the laboratory. In a letter, Meyer told Watson that "Yerkes offered himself as a helping hand." A little later in the same letter, he wrote, "I trust Richter will make safer contact" (Chesney Archives, April 12, 1921).

Meyer promoted a cultural context in which patients were studied over a long period. Long-term activity charts were kept on patients and included information about hygienic medicine and real-life adaptation. Meyer was a whole-body physiologist, classically trained in neurology, who had a vision of psychiatry as the treatment of the person. Perhaps Meyer's recognition of Richter's similar orientation led him to turn the key to Watson's laboratory over to Richter. Meyer did this despite the fact that Richter lacked any substantial publications and despite the fact that Watson was nominally Richter's advisor and had told him that generating good research would be enough. The laboratory was renamed the Psychobiology Laboratory.

RICHTER'S REFLECTIONS ON MEYER

In a talk titled "Reminiscences," which Curt Richter gave to Hopkins residents in the 1973/74 academic year, he described the richness of the world that Meyer created at Hopkins and how great a benefactor he was (Richter files, Chesney Archives). Richter says of Meyer, "He was always very friendly, supported all my research generously; as far as I remember he never refused a request for anything that I wanted to do. I saw a great deal of him. He popped in the lab at almost any time of the day." This relationship continued over a very important period of Richter's career, the first twenty years.

Richter was surprised to learn that Meyer helped introduce the domestic rat to the United States as a suitable laboratory animal. Richter further noted that "until about 20 years ago I hadn't really understood Dr. Meyer's enthusiastic support of my laboratory." Of course, Richter championed the rat as an

ideal laboratory animal. Although Meyer did not mention Richter's work in his reviews, Richter was essential for Meyer's view of research because he represented the study of cyclical behaviors, long-term total self-regulation, and broad-based behavioral understanding.

Richter's gratitude to Meyer was expressed in a 1937 festschrift at the Phipps Clinic celebrating Meyer's seventieth birthday and his twenty-fifth year as director of the clinic. Richter said, "The place of my laboratory in the working organization of the Phipps is difficult to describe along orthodox lines. As I look back over its development I am sure it could never have flourished anywhere else except under Dr. Meyer's broad and tolerant point of view and aided by his guidance, encouragement and constructive criticism" (Richter 1938e, p. 81).

In his early years, Richter reached out to Meyer, and Meyer reciprocated as a scientific parent might; it is clear that Richter saw him as a father figure. In letters to Meyer, Richter asked for counsel and support and told Meyer about his trips and about what equipment and funds he needed.

Clearly, Richter looked to Meyer as his confidante, for intellectual guidance, and for practical advice and help. He saw Meyer as an all-purpose, friendly figure who had Richter's interests at heart. And those interests furthered the development of the Phipps Clinic as a place for the patient, a place to be educated, and a place for research.

The Phipps Psychiatric Clinic was Meyer's baby, his home, and Richter described Meyer as "at heart a Swiss hotel-keeper. Everything in the Phipps had to be watched over carefully as a good Swiss hotel-manager would do" (Richter files, Chesney Archives, 1974). Richter was the fortunate benefactor in every possible way, and Meyer set the stage by putting Richter in position as head of the laboratory and supporting him through the first twenty years of his long career.

In some of their correspondence during this early period, there is clearly some tension between Richter and Meyer (in part having to do with Richter's divorce). The young Curt Richter also felt some pressure from his dependent relationship with Meyer, his chief. In a letter from Richter to Meyer dated August 26, 1929, he stated:

I am writing to tell you what I would like to do next year and to offer a concrete plan which I hope will serve the purpose of helping us to arrive at a constructive working agreement and thereby bring to a close what has been for me a very

unhappy period. I am glad to state at once that I should like to withdraw my resignation and assume all of my old responsibilities along with others concerned with the working out of the course in psychobiology. The latter responsibility I assume willingly and gladly since during the summer my resistance to giving a course of this kind has largely disappeared. I feel that now I can undertake this work with confidence as well as with enthusiasm. I may also state at once that I will give you my word that I will take care of the settlement of marital difficulties and the associated complications in a way that is in harmony with your own personal wishes and the interests of the Phipps clinic. (Meyer files, Chesney Archives)

Richter wanted to mend fences with Meyer, to let Meyer know that he was eager to teach the course, and to put his “difficulties” (issues about his marriage) behind him. Meyer controlled Richter from a power position. Meyer, the “Swiss innkeeper” of the Phipps, wanted neither scientific nor personal scandal. Hopkins had a history of removing individuals for having extramarital affairs (e.g., Peirce, Baldwin, Watson). In fact, Meyer would ask prospective faculty, “Do you consider marriage as a contract binding for life at all possible? . . . Would you consider yourself justified to intrude between married people: in other words what is your attitude towards adultery and flirtation with married persons?” (Meyer files, Chesney Archives).

Meyer, perhaps having had enough of Watson’s partying and rough ways, sought safety and calm and was puritanical in orientation. Richter was safe because he needed Meyer and was under his control. Later he remembered Meyer with affection and gratitude.

When asked about his experience with Meyer, Richter said that he had “all the opportunities I could ask for.” When asked about how much he had had to do with the psychiatric patients, he said, “During Dr. Meyer’s time, I spent a lot of time in the clinic. After Dr. Whitethorn came in, a real change took place in Phipps. . . . The patients were turned over to individual doctors—they no longer were seen by everyone” (Roe, second interview, American Philosophical Society Archives, 1962). He went on to describe the high degree of interaction he had had with patients when Meyer was chief. These were important experiences because they exposed Richter to clinical issues. During World War II Richter kept doing clinical work with galvanic skin measurement and assessment of brain damage (see chapter 5), but his integration into the culture of the Phipps as a daily affair changed with the departure of Meyer.

Richter, in a presentation and subsequent publication entitled “A Biological Approach to Manic Depressive Insanity,” noted that “a person who has well-organized habits of work, a wide range of interests, and accessible outlets, would be able to take care of the excess of energy in a well-organized way. Such a person was Roosevelt” (Richter 1930a). Meyer, commenting on Richter’s paper, asserted that “we are dealing with a number of systems, and not one unitary system underlying the activity/inactivity; this is the work that stems from Richter’s thesis. The total organism in adaptation to its surroundings is under study” (Richter 1930a, pp. 621–22).

Meyer set the rich and varied intellectual context for the clinic. A close reading of *The Collected Papers of Adolf Meyer* (1951) reveals great intellectual acumen—he was so well read, so much the European intellectual in the United States. But he was in the United States, and though Hopkins was modeled on German research institutions, the United States was less constrained by the straitjacket of tradition. Richter noted in an unpublished essay that Meyer went on a boat trip to Boston from Baltimore “chiefly to hear a lecture by William James. That was really the high point of his life” (Richter files, Chesney Archives). The influence of the legacy of this American classical pragmatist on Meyer was apparent to Richter.

MEYER, RICHTER, AND AMERICAN PRAGMATISM

While he was at Worcester, Meyer had interacted with James, who, along with C. S. Peirce and John Dewey, had influenced him. He liked what he called their “instrumentalism.” Indeed, Meyer was impressed with his new country and its sense of pragmatism. “It was the work of American thinkers, especially of Charles S. Peirce, of John Dewey and of William James, which justified in us a basic sense of pluralism, that is to say, a recognition that nature is not just one smooth continuity” (Meyer 1951, 2:28; see also Leys 1984; Leys and Evans 1990). It was in American pragmatism and its biological adaptation, problem solving, and whole-body activity (Schneider 1946/1963), that Meyer located psychobiology (Klerman 1979).

Meyer’s interest in “organismal total function,” was passed on to Richter, and he found a compatible philosophical approach in American pragmatism and his new country. Meyer no doubt saw in Richter a shared piece of the Old World from which he had emigrated and the expression of the German language, but also the newfound freedom, the “roll-up-your-sleeves” pluralism of the country in which he now found himself. Perhaps Meyer looked at the young

Richter and saw the outward expression of this point of view. As Meyer put it, “The factors at work in the development of a psychobiological conception had much support in American thought. Pluralism and pragmatism were liberating factors in throwing off dogmatic dualism” (Meyer 1931/1957, p. 47). A little later in the same paragraph, he described “William James’ clear vision of the significance of the pragmatism of Charles S. Peirce and the instrumentalism of John Dewey, and the healthy encouragement given to natural spontaneity of thought and work in the American environment” (Meyer 1931/1957, p. 47).

Invention and experimentation predominate in a pragmatic orientation. Pragmatism is a philosophy of experimentalism (Dewey 1916) and represents “the open air and possibilities of nature” (James 1907/1958, p. 45). This open sensibility was an important theme in many of the pragmatists’ conceptions (Dewey 1925/1989) and is consistent with what Richter called “free research” (Richter 1953f). Free research is close to open-ended, unencumbered inquiry, something dear to the pragmatists and certainly to Richter.

C. S. Peirce can be credited with creating the first psychology laboratory in the United States, which he did at Johns Hopkins in the 1870s (Cadwallader 1974). The laboratory spirit of Peirce and his pragmatism (1877, 1898/1992) meant that the universe could be opened through experiment (J. E. Smith 1978). Scientific inquiry was rough and ready, biologically grounded in human and animal problem solving. A persistent feature of this orientation, at least for James, was that “pragmatism is uncomfortable away from facts” (James 1907/1958, p. 54). Richter was also uncomfortable away from experiments and the facts derived from experiments.

Meyer oriented his psychobiological perspective to that of American pragmatism. One inquirer put it this way: “I had long been puzzled—since I first met Adolf Meyer and recognized the similarity of his teachings to those of James and Dewey—how it happened that a Swiss had embraced pragmatism, indeed had found in it his natural voice” (Lidz 1966, p. 323; see also Leys 1984). In the cultural air breathed by Richter and his immediate predecessors, evolution and Darwin figured prominently. The great *Principles of Psychology* (James 1890/1952) was rich in biological perspective, functional utility, and evolutionary conceptions. Dewey had no less of an influence, and one of his early works, at the turn of the twentieth century, was *The Influence of Darwin on Philosophy* (Dewey 1910/1965). Dewey received his degree at Hopkins and was one of its first graduate students. Knowledge acquisition was now linked to adaptation; the intellectual generation immediately before Richter had

struggled to incorporate the new insights of Darwin into current thinking. These insights swept across Europe and reached the United States. By the end of the nineteenth and early twentieth centuries, the cultural milieu was ripe for the acceptance of the first biological revolution, a conception of biological adaptation. Richter inherited a pragmatism that was tied to the version of nineteenth-century biological thinking that permeated Harvard and later Hopkins through Meyer. These concepts were perhaps implicit for an engineer bent on exploring the biological basis of behavior, and Richter relied on this sense of pragmatism to discern how things worked. Richter never doubted the validity of the scientific method.

THE ROE INTERVIEW

In 1949, the psychologist Anne Roe contacted Richter for her 1953 book *The Making of a Scientist*. Roe, a Ph.D. psychologist and the wife of the noted evolutionary biologist George Gaylord Simpson, interviewed scientists for the book. Roe had received a grant to look at the “personalities of scientists in different fields” (November 22, 1949) and to determine their “life history.” The psychologists she interviewed included Karl Lashley, B. F. Skinner, Donald Lindsey, Stanley Smith Stevens, Jerome Bruner, and Ernest Hilgard. Roe approached Richter about being a subject, and he replied, “You may count me as a guinea pig” (letter to Roe, American Philosophical Society Archives, December 1949).

The interviewees were questioned extensively about their life histories and were given Rorschach tests. In her summary statement (American Philosophical Society Archives, March 1952), Roe referred to Richter as “always a poor student in any sort of formal instruction . . . who thinks, I am sure correctly, that under the present set-up he would never have gotten anywhere.” A little later she wrote, “The only argument [is] whether or not he was a psychologist rather than a zoologist or something else.” She also noted that “[Richter] himself feels his closest professional contacts are not with *psychologists*, although it was they who put him in the National Academy.”

Richter and Roe’s relationship would be long-lasting, and from their correspondence it is evident that they were friendly with each other. Both Roe and her husband, like Richter, had grown up in Denver, and in some of their discussions they reminisced about the old days in that city. Roe noted in her summary that she had actually met Richter in 1924 in Denver.

Roe commented about Richter's life, his parents, his two marriages ("his present wife, obviously a southerner") and his children (he had three, two with his first wife and one with his second), his athletic prowess, the importance of his high school teacher, his authoritarian father, his German background and experiences, his love of free play and the permissiveness of his mother in letting him engage in just that, his experiences at Harvard and in the army, his arrival at Hopkins and his relationship with Watson, and, of course, the importance of Meyer to the development of his scientific sensibility and the origins of his scientific career. In fact, Richter said of Meyer that he was "the greatest scholar I had ever come into contact with. He had a great fund of information and high ideals of tolerance" (Roe interviews, American Philosophical Society Archives, March 1952).

Roe also wrote about the results of Rorschach tests of Richter, which indicated that he was detached, not particularly orderly, a bit stubborn, and "conventional but not impulsive about it." Of course, she would realize just how much he could reach out, because they would have a long-term relationship. The interview would continue after Roe received a grant from the National Institute of Mental Health to look at changes in the scientists since the first series of interviews. She wrote to Richter on October 1, 1962, and said "no tests" this time. She wanted to know about the productivity of the scientists in the ensuing years. When she asked, "Are you still working full-time?" he responded, "Oh sure, I'm emeritus for three years now, and they are letting me stay on for five, possibly ten years." In fact, he would stay much longer than that. In this interview, he mentioned his doctoral thesis and his recent trip to Princeton, where he had spent a year. Roe asked him questions about graduate students, and he suggested that many of them did not work very hard and that money was being wasted on them (letter to Roe, American Philosophical Society Archives).

Richter wrote to Roe, "This is to tell you how much I enjoyed your visit" (November 20, 1962). In a letter dated June 16, 1970, he told her, "It was such fun to see you and George again. I regretted so much that we couldn't have more time together."

The information on Richter in the Roe interviews was quite consistent with his autobiography. Anne Roe also sent him a copy of what she wrote about him, and he obviously felt comfortable with it. Their letters included many references back to Denver, the local high school, and their earlier years. Richter enjoyed his connection to Roe's husband, George Gaylord Simpson, one of the leading evolutionary biologists of his time. They met on occasion at the Ameri-

can Philosophical Society in Philadelphia, to which Simpson was elected in 1936 and Richter in 1959.

THE AMERICAN PHILOSOPHICAL SOCIETY:
THE STUDY OF PRACTICAL PHILOSOPHY

C. S. Peirce, the preeminent pragmatist, defined the meaning of a concept by its broadly conceived practical consequences (Peirce 1878). Founded in the eighteenth century, the American Philosophical Society, with its emphasis on the practical implications of discovery, was a forerunner of this American pragmatism. The society was the first American intellectual society and was devoted to “promoting useful knowledge.” Its orientation was toward invention. Richter surely was at home in this world.

A sense of experimentalism has always run through American inquiry. The work and thought of Jonathan Edwards, Benjamin Franklin, and Thomas Jefferson are just a few examples. Inventions and methodological innovations have always been part and parcel of epistemological advances (Schneider 1946/1963; J. E. Smith 1978). Curt Richter, too, was grounded in invention and experimentation.

By all accounts, Richter enjoyed his membership in the society, which was founded by Benjamin Franklin, its first president; its third president was Thomas Jefferson. The legacy of Franklin, a precursor to what would become American pragmatism, surely was a comfortable fit for Richter. Inquiry was the dominant mode—a laboratory state of mind.

With selected individuals, Richter carved out a rich social life. By all accounts, he enjoyed the aristocratic role of the gentleman scientist, a class of individual belonging to the “right” social clubs. For Richter, those clubs included the American Philosophical Society, the National Academy of Sciences, and the Hamilton Street Club (an elite social club in Baltimore), which provided him with colleagues and social status.

Richter maintained a long relationship with the psychologist Leonard Carmichel, a physiological psychologist (whose students included Carl Pfaffmann) who would become the president of the American Philosophical Society and the secretary of the Smithsonian Institution. Richter was on familiar terms with Simon Flexner, the leader and one of the founders of the Rockefeller Institute and one of the founders of the Institute for Advanced Studies at Princeton. Richter lived in a rarified world of science. He warranted it, and he had the good fortune to experience it.

RICHTER'S APPROACH TO RESEARCH

Richter was never oriented toward experimental design or statistical analysis. He was always oriented to measurement, to biological adaptation and the engineering design of animal biology, and to the recognition of individual differences. He said of himself that he thought in terms of instruments. With his colleagues, he emphasized the evidence of rhythms (J. Wirth and T. Moran, pers. comm., August 2002), rather than debating the concept of biological rhythms itself. Richter always had a nose for what to investigate.

Richter was intellectually close to Claude Bernard, who enunciated a philosophy of experimentation and of applying the method of simple experimentation to the study of physiological regulation (Holmes 1974, 2004). Bernard noted that a "created organism is a machine which necessarily works by virtue of the physico-chemical properties of its constitute elements" (1865/1957, p. 93). Richter took this to heart and extended it to organismic biology. What Richter did not embrace was the logic of statistical design and probabilities. There was little of statistical prowess in Richter's concept of experimentation. He worked with a relatively small number of subjects and followed them over a long period. Richter invented machinery for measurement and was a surgical genius.

Richter explored phenomena, and, remarkably, he stayed interested in several core research focuses over his career of more than sixty years. He developed some research tools that he used for the duration of his career, but he would continue to expand the range of his surgical skill. Richter often thought with his hands, with his laboratory construction, or with his surgical innovations.

His style of research was innovative, artful, esthetic, and playful. And he was always anchored to a sense of behavioral adaptation. He described himself as "scavenger-like" in his approach to science, using the resources that were available, expanding the tools for research.

CONCLUSION

Richter entered a rich intellectual milieu in which the culture of research was prominent. He was less comfortable in the world of ideas than in the world of instruments. He let others take their positions while he remained steadfast to what he discovered in his laboratory. Of course, he presupposed some ideas

critical to his research. He did not take it as his task to argue for his ideas. He was fortunate; the ideas that he inhabited and inherited were rich, and his ingenuity and scientific fearlessness (in the sense that he was unafraid to explore a wide variety of biological phenomena) were quite extraordinary. He was lucky that he emerged when he did.

Coming to Hopkins in the second decade of the twentieth century, Richter was in the perfect place for a career in the nascent field of behavioral biology, or psychobiology; the Phipps Clinic was a unique setting for a unique investigator (McHugh 1989). Richter was a craftsman and, as such, was comfortable in the laboratory. Richter was also an inventor who was temperamentally close to functional explanations. Richter's sense of adventure and his effort, two key themes of his life and work, paralleled the pragmatic thread throughout his career.

In his autobiography, Richter characterized himself as having had his research gene released. This is a striking metaphor, revelatory of his concept of himself and the nature of his studies. Innate structure, genetically endowed, was the formidable intellectual concept that guided almost all of Richter's research.

Adolf Meyer set the stage for Curt Richter; the link to pragmatism and broadly conceived behavioral adaptation and self-regulation became an important part of Richter's scientific investigations. Meyer must have seen in Richter the great scientist that he would become, the artisan laboratory inventor and experimentalist.

Curt Richter has been called the "compleat psychobiologist" (Rozin 1976a) for his scientific ingenuity, artistry, and discovery. As Rozin put it, "Richter truly deserves the title, the compleat psychobiologist. . . . for the range and richness of his approach" (Rozin 1976a, p. xvii). His scientific range encompassed the fields of psychobiology, behavioral endocrinology, and behavioral medicine. His discoveries included the regulation of spontaneous behaviors, homeostatic and nutrition selection, wild and domesticated rat expression, and neurological discovery and invention.

Richter inhabited a world of ideas not to be engaged theoretically, but to be demonstrated in the laboratory. It was the laboratory demonstration that captured Richter's imagination, the challenge of generating new instruments and inventing new ways to measure behavior. Curt Richter, oriented as an engineer to build artifacts of ingenuity, found his niche as an experimentalist. The field was new, and the time was ripe to begin a scientific harvest that still yields results today.