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Activity for Body and Mind

The Career of Nora Staael Evert, Physical Therapy Pioneer

Born in 1904 in northeastern South Dakota, Nora Staael Evert lived a life in extraordinary motion through her work as a teacher of physical education and modern dance up until the Japanese attack on Pearl Harbor of 7 December 1941. Then, as news of the attack spread and the United States entered World War II, the teacher changed direction in mid-stride to become part of the nation's first generation of professional physical therapists. Her career switch gave her the chance to help injured soldiers and also put her on the front lines of America's war on polio during the 1950s. Staael's wartime education not only shaped her career but also paralleled fundamental changes in American medicine.¹

Nora Staael Evert's story begins on a farm near Veblen, South Dakota, just a few miles south of the North Dakota state line, where her father, Christian Staael, and his brother Anton homesteaded in 1892. The men spent their first winter in a dugout and in 1893 built a small frame house a few yards away. There, the brothers lived as Danish bachelor farmers until 1894, when Christian married Mary Mikkelsen of Aberdeen, South Dakota. Six children followed in short order. The fifth, Nora Bothilda Staael, was born on 2 December 1904.²

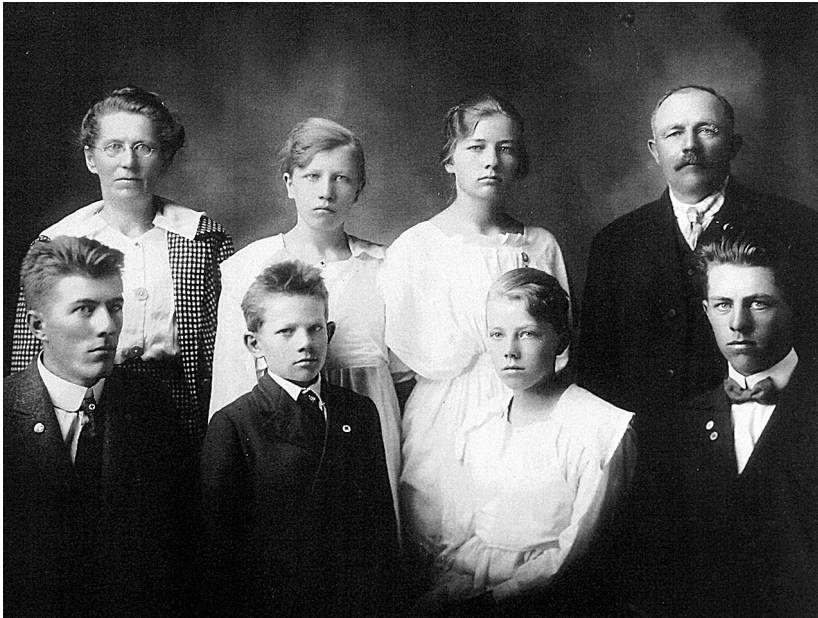
1. This article is based on a series of interviews with Nora Staael Evert conducted by JoAnne Rubie at Evert's home in Missoula, Mont., in 1994 and 1995. Transcripts of the interviews are located in the Northern State University Archives and Special Collections, Beulah Williams Library, Northern State University, Aberdeen, S.Dak. (hereafter cited as NSE interviews). For a longer treatment of this topic, see David J. Grettler, *Nora Staael Evert: A Life in Motion* (Aberdeen, S.Dak.: Northern State University Press, 2014).

2. *Veblen Advance*, 1 June 1950; NSE interviews, p. 1; telephone interview with John Evert, Missoula, Mont., 20 May 2005; Staael family gravestones, Palestine Lutheran Church Cemetery, Veblen, S.Dak.; Veblen, Marshall Co., S.Dak., in U.S., Department of the Interior, Office of the Census, *Thirteenth Census of the United States, 1910*, National Archives Microfilm Publication T624, roll 1484, p. 5A.

Nora Staael grew up strong, tall, blond, and extraordinarily athletic. By the age of eighteen, she could milk eight cows in forty minutes and had the big, muscular hands of a dairy farmer. Those hands, and that strength, would play an important part in her career as a physical therapist. Decades later, her husband, John Evert, related that while teaching physical therapy at the University of Montana in Missoula, a seventy-year-old Staael would demonstrate the power of the human frame by lifting the biggest student in class—usually a football player—out of his seat with one hand.³

The tiny town of Veblen had no high school, and in 1918, Nora Staael and her older sister Helen traveled one hundred miles to Aberdeen to attend Northern Normal and Industrial School, now Northern State University. There Nora Staael enrolled in the “pre-normal” program, an accelerated high school curriculum that prepared students for col-

3. Telephone interview with John Evert, Missoula, Mont., n.d., 2005.



A young Nora Staael appears in the front row, second from the right, in this family photograph.

lege work in the school's teacher education, or "normal," program. She was an above-average student and did best in classes with some kind of physical or artistic activity such as physical education, penmanship, and drawing.⁴

Staael stayed in a dormitory her first year on campus. Just thirteen years old, she was terribly homesick. Wiry, weighing perhaps seventy-five pounds, she was also tough. In her second year of high school at Northern Normal, Staael met Edwina Jones, a new instructor in the physical education program who had just graduated from Oberlin College in Ohio, the first college in the United States to admit both women and African Americans. Jones was exactly the kind of teacher that Staael wanted to become. She cared deeply about her students and engaged them on multiple levels. Jones also enjoyed the outdoors and took her students on long hikes that became lessons in architecture, natural history, and geography.⁵

Jones's gymnastics class proved to be Staael's favorite, although she also played basketball and participated in track and field. Staael finished high school in the fall of 1922, passed the state teaching examination, and landed her first teaching job in January 1923. The Veblen school board offered her ninety dollars a month to teach in the same one-room school where she had been a student. Many of her thirty pupils spoke only Norwegian. She walked the two and a half miles to school every day in every kind of weather. That winter, a blizzard blew so hard that it drove snow into the pages of books in the students' desks. The following June, Staael quit and returned to Northern Normal to attend college.⁶

To save money, Staael crammed three quarters of classwork into just two quarters. Her second year in college was even busier, especially after she took a second part-time job. In the fall of 1924, she took her first class in "aesthetic," or modern, dance. Photographs and college yearbooks of the time make it clear that Staael also played girls basketball,

4. Grade transcript, Nora Bothilda Staael, Northern Normal and Industrial School, Aberdeen, S.Dak.

5. NSE interviews, pp. 1–2; telephone interview with John Evert, Missoula, Mont., 9 June 2005.

6. NSE interviews, pp. 2–4.

captained the soccer team, and ran track for Northern Normal. Her best events were the high hurdles and javelin. In 1924, she won first place at a national javelin meet and was elected best woman athlete at Northern.⁷

Finding the money to stay in school, however, remained difficult. In 1925, Staael borrowed fifty dollars from her older brother Soren but lost it when the small bank in Aberdeen where she had deposited the money failed. Her fortunes improved significantly when she took a full-time job as Aberdeen's only physical education instructor for girls in junior high school. The job paid thirteen hundred dollars a year when she started, a good wage for a single woman in 1925.⁸

Staael knew she was fortunate to be working in Aberdeen. Only one or two other cities in South Dakota offered physical education classes for young girls. In 1926, Staael's responsibilities expanded to include supervising all elementary and junior high "gym" classes in the city, and by the following year, she was teaching eight classes of seventy students each. She knew every child by name and walked quickly between schools because she liked the exercise and needed to save money on transportation. Inspired by Jones and remembering her own experiences as a youngster far from home, Staael added after-school and weekend programs to keep the students moving and having fun. On weeknights, she led programs in gymnastics and modern dance. On Saturdays, she led "tumbling and stunts" in the morning and folk dances at night. Twenty-five years later, when Staael began directing the Physical Therapy Department at the Kabat-Kaiser Institute in California and overseeing the treatment of three hundred crippled children every day, she already knew how to organize multiple activities for large numbers of students.⁹

Staael graduated from Northern Normal in 1929. Still teaching students across Aberdeen, she was honing skills that would shape her later career as a physical therapist. Above all, she believed in a life in motion—physical activity for both body and mind. If students could

7. *Pasque* [yearbook] (1925), p. 89.

8. NSE interviews, pp. 4, 6; interview with John Evert, Missoula, Mont., 6–8 May 2006.

9. NSE interviews, p. 4.



Staael, holding the ball, posed with other members of the women's basketball team from Northern Normal and Industrial School in this 1924 image.

not agree on a game to play, Staael had them make up their own game on the spot with a random assortment of balls, ropes, and gymnastic equipment. All movement was good.¹⁰

In 1931, at the age of twenty-six, Staael left Aberdeen for New York City. Her destination was Columbia University Teachers College, where she enrolled in a new master's program in physical education, with an emphasis in dance. She had visited the school a year earlier with Jean Spiers-Helgeson, another Northern Normal teacher, mentor, and friend. At Columbia, Staael worked with Spiers-Helgeson's mentor, Dr. Jesse Feiring Williams.¹¹ A physician who also held a degree in physical education, Williams believed that physical education was more than just "educating the physical" in order to improve athletic performance. Schools needed to teach Americans how to care for and develop their bodies through activities ranging from basic hygiene and simple calisthenics to instruction in advanced topics in public health and sanitation. Williams argued that people needed to be educated *through* the physical to goals beyond mere physical health. The business of education, he noted, was to avoid the extremes of the "brainless Hercules" or the "Socrates with a headache." Instead, society needed more citizens who embodied the "unity of the physical, mental, and spiritual in individual life."¹² When Staael graduated with her master's degree in 1932, there were more than three hundred graduate students in Columbia's physical education program.¹³

Staael wanted to teach college but graduated into a tight job market. The Great Depression was in full swing, and college enrollments had been dropping since 1930. She later recalled seeing only one job in physical education advertised in the nation that year. It was at Sweet Briar College, a private liberal-arts college for women in central Virgin-

10. Grade transcript, Nora Bothilda Staael; NSE interviews, p. 10.

11. Obituary of Nora Staael Evert, *Missoulian*, 15 Apr. 2003; NSE interviews, pp. 5–6.

12. Williams, "Cultural Aspects of Physical Education," *Journal of Health and Physical Education* 3 (Nov. 1932): 21.

13. Williams, "Education through the Physical," *Journal of Higher Education* 1 (May 1930): 279–82; R. Scott Kretchmar and Ellen W. Gerber, "Jesse Feiring Williams: A Philosophical and Historical Review," *Journal of Physical Education, Recreation & Dance* 54 (Jan. 1983): 16–17, 19–20; Obituary of Jesse Feiring Williams, *Journal of Health, Physical Education, Recreation* 37 (Dec. 1966): 79.

ia. According to Staael, she got the position because she was the only candidate who refused to take the job for less than the advertised annual salary of eighteen hundred dollars. Harriet Rogers, an administrator at Sweet Briar, asked Staael during her interview if she would take the job for twelve hundred dollars a year, a figure that other candidates had readily agreed to accept.¹⁴ Years later, Staael asked Rogers why she

14. NSE interviews, pp. 7–9; Meta Glass, Sweet Briar College president, to Staael, 10 June 1938, Northern State University Archives and Special Collections; *Briar Patch* [yearbook] (1937), pp. 159–60.



Staael is pictured here as a young faculty member at Sweet Briar College, where she taught dance and physical education.

had hired her at the higher salary. “Nora,” Rogers replied, “I hired you because you believed in yourself.”¹⁵

By 1938, Staael was earning two thousand dollars a year with the promise of a two-hundred-dollar raise the next year. The position allowed her to teach both physical education and dance. She spent Christmas and other vacations studying modern dance with professionals such as Doris Humphrey, Charles Weidman, and Martha Graham. During the summer, she helped on the family farm in South Dakota. After seven years at Sweet Briar, Staael wanted a change. In 1939, she took a job at St. Cloud State Teachers College in Minnesota, where she taught for just one year before accepting a position in modern dance at the University of Texas in Austin.¹⁶

Staael was in Texas late in 1941 when she heard the news from Pearl Harbor upon returning from a Sunday drive with a friend through the wooded hills west of Austin. Her roommate, Gertrude Mooney, met her at the door of the duplex where they lived and told her that the Japanese had bombed the United States Navy base at Pearl Harbor. “We all asked, ‘Where is Pearl Harbor?’” she later recalled.¹⁷ Staael and the rest of America quickly learned the details about the crippling blow dealt to American forces at that military base in Hawaii Territory, a group of islands that was not yet a state in 1941. Classes at the University of Texas essentially stopped. Anxious students and distracted teachers simply did not know what to do. Pearl Harbor, Staael said, “tore us all apart for a while.”¹⁸

Staael tackled that malaise in her typically straightforward manner. She put her tap-dancing students into action, sending them around to each women’s gym class on a mission to raise funds for the war effort. Fifteen faculty taught women’s physical education at the University of Texas at Austin, an indication that there were a large number of classes. Staael’s students urged everyone to “Quit drinking Coke. Buy a plane.” Students collected money and bought war bonds. Staael had one student draw the outline of an airplane, and each day she and her classes

15. NSE interviews, pp. 7–8.

16. *Ibid.*, pp. 7–9.

17. *Ibid.*, p. 10.

18. *Ibid.*



Work on the family farm near Veblen occupied Staael's summers in the late 1930s and early 1940s.

colored in sections as the bonds accumulated. "I don't imagine that we were very accurate in our mathematics," she recalled, "but we bought several planes in our way of doing things."¹⁹

Staael, however, wanted to do still more. Her two older brothers, Soren and Paul, had enlisted in the armed forces during World War I. One of her friends, Louis Stranahan, enlisted in the United States

19. Ibid., pp. 10–11.

Merchant Marine the week after Pearl Harbor.²⁰ Suddenly, organizing students to buy war bonds was not enough. “I decided that I had to be a part of the war effort,” Staael later recalled. “Our lives had changed.” In the spring of 1942, she applied to the new physical therapy program at the Mayo Clinic in Rochester, Minnesota. One more of her siblings, younger brother Ernest, enlisted in the navy while she was attending the Mayo Clinic course.²¹

Physical therapy was emerging as a new medical specialty that sought to treat disease, injury, and deformity through physical manipulations and exercise rather than drugs or surgery. Before she could attend the Mayo Clinic training, though, Staael had to fulfill an obligation she had made to teach that summer at Baylor University in Waco, Texas. She taught on Saturdays and Sundays that summer in order to finish early.²²

A second event strengthened Staael’s growing conviction that she ought to join the war effort. She regularly attended the annual meeting of the National Physical Education Conference and had organized an afternoon session on modern dance with several of her female students from the University of Texas for the April 1942 conference in New Orleans. That evening, she treated those students to a riverboat cruise on the steamer *Capitol*, an outing she had planned and paid for before Pearl Harbor. United States Army personnel packed the ship, and new wartime restrictions meant the blacked-out vessel had to proceed with the curtains down. “There were many Army people, so my students could be there and be a part of the crowd,” Staael recalled. “I talked to the Captain who was in charge of the army group and he said, ‘Sure. There will be no hanky panky.’”²³ The professionalism of both her students and the soldiers impressed Staael greatly; everyone, it seemed, was becoming part of the war effort.²⁴

20. Ibid., p. 10.

21. Ibid., p. 11.

22. Ibid.

23. Ibid.

24. Ibid. See also “Showboat Trip on the Mississippi River,” *Journal of Health and Physical Education* 13 (Mar. 1942): 180; Frederick Way, Jr., *Way’s Packet Directory 1849–1983: Passenger Steamboats of the Mississippi River System since the Advent of Photography in Mid-Continent America* (Columbus: Ohio University Press, 1983), p. 71.

The theme of the 1942 National Physical Education Conference was “National Fitness through Health.” The war permeated every aspect of the meetings. “Never before in the history of the country,” conference organizers noted, “has health, physical education, and recreation had the significance that it has today. . . . For the past twenty-five years we have sought to establish sound physical, social, and emotional health in boys and girls in preparation for a happy and useful life in a *peaceful democratic society*. Today we are seeing the same goals in a *democratic society at war*” (italics in original).²⁵

The keynote speaker was Dr. Robert L. Sutherland from the Hogg Foundation of Mental Hygiene (now Health) at the University of Texas at Austin. Staael may, or may not, already have met Sutherland on the Austin campus, but she would not have mistaken the import of his address, in which he called for “conserving the total fitness” of the nation’s “human resources” during the war. Conference organizers further suggested that participants read a number of timely publications, including *Education and the Defense of American Democracy* and *Education and the Morale of a Free People*.²⁶

There was dual emphasis on national morale and developing the nation’s human resources in April 1942. In the five months after Pearl Harbor, the war had gone badly for the Allies in Africa, Asia, and Europe. German troops continued their assault on Russia. German General Erwin E. Rommel was on the offensive in North Africa, and German U-boats were sinking American merchant ships along the eastern seaboard. The news from the Pacific was even worse. By April 1942, the Japanese had taken the Philippines, the Dutch East Indies, and Singapore.²⁷

American educators also knew that the United States was woefully behind European countries in paying attention to physical fitness. In 1939, Jesse Feiring Williams published an article in the *Journal of*

25. Laurentine B. Collins and Vaughn S. Blanchard, “Working Conference at New Orleans: National Fitness through Health, Physical Education, and Recreation,” *Journal of Health and Physical Education* 13 (Mar. 1942): 178.

26. Ibid., p. 186.

27. C. L. Sulzberger, *The American Heritage Picture History of World War II* (n.p.: American Heritage Publishing Co., 1966), pp. 147–48, 197, 222–28.



This photograph promoting the modern dance program at the University of Austin featured Staael.

Higher Education summarizing the state of physical education across the country. Few teachers were trained in the discipline, and most Americans became fit only through incidental work and leisure-time activities. Both of these opportunities declined during the Great Depression, while European countries launched aggressive public health

and fitness programs. Williams surveyed a number of American education journals from 1933 through 1935 and found that only 1 percent of articles promoted physical education. The other 99 percent, if they mentioned the topic at all, chronicled the results of athletic competitions and various ways to improve posture and hygiene. “War invariably affects all areas of education,”²⁸ Williams wrote, predicting that war in Europe would expose America’s lack of preparation in developing its human resources. He agreed with J. R. Sharman, who wrote in his 1937 *Modern Principles of Physical Education*, “Wars have created important influences on physical education in America and Europe. Both the German and the Swedish systems of gymnastics were the direct outgrowth of military reverses in these conditions. . . . Apparently the current emphasis in Germany on physical education, outings and recreation, which has brought forth slogans such as *Kraft durch Freude* . . . has much the same motive.”²⁹

Both Sharman and Williams chose to single out Germany’s *Kraft durch Freude* (KdF) movement. The German phrase means, literally, “Strength through Joy.” The KdF movement was a large, state-operated leisure and recreation program created in 1933 by the new Nazi government to promote the advantages of national socialism. By 1938, one in three German workers was able to spend time outdoors and away from home. They traveled, at state-subsidized rates, to second- and third-tier resorts and tourist destinations across Germany and Italy. These trips stimulated local economies in rural areas of both countries and increased the demand for consumer goods and services that German industry was happy to meet. Another fruit of the KdF movement was the people’s car, the Volkswagen.³⁰

The KdF was designed to weaken labor unions by helping German workers identify more fully with the state. The Nazis were concerned about working-class opposition to the coming war—a hard lesson from the First World War. By making lower and middle class workers the

28. Williams, “Health and Physical Education: An Analysis of Trend and Emphasis in Professional Periodicals,” *Journal of Higher Education* 10 (Dec. 1939): 492, 494.

29. *Ibid.*, p. 494.

30. Richard Grunberger, *The 12-Year Reich: A Social History of Nazi Germany, 1933–1945* (Boston: Da Capo Press, 1995), pp. 197–99, 202.

obvious beneficiaries of a “socialism of deeds,” the German government saw its chance to unify the country, stimulate the economy, and improve the health and productivity of all workers, especially those who would become soldiers of the Third Reich. “A soldier is not a member of a solidarity [union], wrote one Gestapo official, “but rather a comrade engaged in noble competition based on noble performance.”³¹ Strenuous physical training drills performed to the tune of approved Nazi martial music became the preferred work break in factories across the Reich.

The United States, however, had no such vision for the health and physical education of its workers, much less its future soldiers. That fact became apparent after Pearl Harbor. The country lacked national fitness plans and had allowed both its armed forces and military medical corps to shrink after the World War I. The army nursing corps, for example, had dropped from 21,460 nurses in 1918 to not quite 1,500 by 1939. Most of those nurses were caring for the thousands of wounded veterans from World War I still in American military hospitals.³²

It was against this backdrop of American lack of preparedness for war that the Mayo Clinic had initiated its new program in physical therapy in June of 1941, euphemistically calling it the “Six Months’ Emergency Course . . . During the Present National Emergency.” Dr. Frank H. Krusen, chair of the hospital’s new Physical Therapy Department and the author of a new textbook on the subject, directed the training. Staael joined the second class in July 1942. Students attended class forty-four hours per week for twenty-five weeks. Another six months of clinical training followed the classwork, and students could be fully certified after one full year of training.³³

Health professionals began recognizing physical therapy as a disci-

31. *Ibid.*, p. 199.

32. U.S. Army Medical Department, “The Army Nurse Corps: More than 111 Years of Selfless Service to Our Nation; Embracing the Past—Engaging the Present—Envisioning the Future,” <http://history.amedd.army.mil/ANCWebsite/about.html>; Congressional Research Service, “American War and Military Operations Casualties: Lists and Statistics,” Table 1, <https://www.fas.org/sgp/crs/natsec/RL32492.pdf>.

33. NSE interviews, pp. 11–12; “Curriculum for Six Months’ Emergency Course Offered at the Mayo Clinic Section on Physical Therapy during the Present National Emergency” (1942), Northern State University Archives and Special Collections.

pline in the late nineteenth century in Sweden and Great Britain. In the United States, physical therapists were known as “reconstruction aides” early in the twentieth century. They formed their first professional group, the American Women’s Physical Therapeutic Association, in 1921. Members changed the organization’s name to the American Physiotherapy Association by the 1930s and renamed it the American Physical Therapy Association by the late 1940s.³⁴

Staael’s class notes from the Mayo Clinic program give insight into the state of physical therapy education in 1942. Students spent two-thirds of the eleven-hundred-hour curriculum practicing specific skills in clinical labs. The rest of their time they spent in the classroom, where the single most important subject was anatomy (twenty-five hours of theory and one hundred seventy-five hours of lab). Students spent another one hundred seventy-five hours applying physical therapy techniques in internal medicine, neurology, orthopedics, and surgery.³⁵

Instructors taught only a handful of academic subjects: twenty-five hours each of chemistry and physics and fifteen hours of psychology. Students studied specific therapies much more intensively, taking in seventy hours of instruction in electrotherapy (using electricity as a medical treatment), sixty hours in therapeutic massage, and thirty hours in fever therapy. Fever therapy used electrically heated blankets, radiant energy, and hot baths to raise body temperatures to therapeutic levels.³⁶ Occupational therapy to help people recuperate from illness by performing ordinary activities accounted for only five hours of class, the same amount of time spent on “ethics and administration” and radiology, or the use of x-rays to diagnose and treat disease.³⁷

Because of her summer teaching commitment at Baylor University, Staael missed the first two weeks of the Mayo program. “It wasn’t easy,”

34. American Physical Therapy Association, “APTA History,” <https://www.apta.org/History/>; Ellen Woods, “Opportunity Out of Adversity: Physical Therapy’s Unique Legacy,” *PT: Magazine of Physical Therapy* 10 (July 2002): 48–49.

35. “Curriculum for Six Months’ Emergency Course,” n.p.

36. Frank H. Krusen and Earl C. Elkins, “Fever Therapy by Physical Means,” *Journal of the American Medical Association* 112 (1939): 1689–96.

37. “Curriculum for Six Months’ Emergency Course,” n.p.

she remembered. “We sat for eight hours per day taking notes. It was just didactics.” Adding to the difficulty was Staael’s decision to move away from her training in physical education and dance into an entirely new field. Most of the other students were nurses who had at least some medical training. Although she had received a solid education at Northern Normal and at Columbia, just learning a new medical vocabulary was daunting.³⁸

Staael, however, already had the discipline of a professional dancer and the experience of a college professor, combined with a farm girl’s common sense and familiarity with animals. She finished all of her coursework on time in December 1942. Staael and her entire class then traveled to the United States Army’s McCloskey General Hospital in Temple, Texas, for an additional six months of practical training. She and her classmates saw their first military patients—mostly men injured during training. By the end of 1943, Staael and her class had completed the equivalent of two years of classroom and clinical work.³⁹

When Staael entered physical medicine in 1942, the field was facing two wars. The first was the obvious “present national emergency.” Penicillin, plasma, and other improvements to battlefield care brought thousands more wounded—and more gravely wounded—soldiers home than ever before. By 1945, more than 57,000 army nurses were tending 671,000 casualties in military hospitals across the United States and around the world.⁴⁰

The second war fought an older and more insidious enemy: polio. Poliomyelitis is a highly infectious viral disease spread through contact with infected human feces, often via unwashed hands, shared objects, or contaminated food and water.⁴¹ The disease is more likely to spread in summer, when warmer temperatures increase both the rates of infection and virulence. Most of the people infected (72 percent) show no symptoms. About 24 percent develop minor symptoms (fever, sore

38. NSE interviews, p. 11.

39. *Ibid.*, pp. 12–13.

40. U.S. Army Medical Department, “Army Nurse Corps,” Congressional Research Service, “American War and Military Operations Casualties,” Table 1.

41. David M. Oshinsky, *Polio: An American Story* (New York: Oxford University Press, 2005), p. 8.

throat, upset stomach, flu-like symptoms) but have no paralysis or serious effects. For 1 to 5 percent of the people infected, the virus crosses from the gastrointestinal tract into the central nervous system. In less than 1 percent of the cases, paralysis results, usually of the legs. Because polio can strike young children, it often was known historically as infantile paralysis.⁴²

Polio led to the first and most critical debate in physical medicine. The question was simple: What was the best way to treat paralyzed patients, especially children? By 1943, America had fought large-scale polio outbreaks every summer since the first epidemic in New York City in 1907. In the late 1940s and early 1950s, polio crippled more than thirty-five thousand people a year in the United States.⁴³

The conventional treatment for polio was to immobilize affected joints and limbs to prevent further deformity. Polio was believed to be a disease of the nerves that let stronger muscles, especially those in spasm, pull against weakened ones to twist and deform limbs. Splints and casts prevented further damage. Children, unable to keep still, had to be immobilized in these devices for up to two years. In severe cases, orthopedic doctors severed muscles and broke bones to arrest the horrible twisting of limbs. However, these standard treatments, including hydrotherapy and other warm-water treatments made popular by Franklin Delano Roosevelt in the 1920s—the nation's most recognizable polio patient after he became president of the United States in 1932—were largely ineffective. Some patients seemed to recover on their own, while others, after disease weakened their chest muscles and nerves, faced the dreaded iron lung. The iron lung enclosed the patient from the neck down and forced the lungs to breathe by systematically changing the air pressure inside the machine. Even patients with the strongest recoveries had to overcome the inevitable wasted muscles and limbs left flaccid by months of splinting.⁴⁴

42. Centers for Disease Control and Prevention, "Polio Disease—Questions and Answers," <http://www.cdc.gov/vaccines/vpd-vac/polio/dis-faqs.htm>.

43. Oshinsky, *Polio*, p. 16; Centers for Disease Control and Prevention, "Polio Once Caused Widespread Panic," <http://www.cdc.gov/features/poliofacts/>.

44. Naomi Rogers, *Polio Wars: Sister Kenny and the Golden Age of American Medicine* (New York: Oxford University Press, 2014), pp. xi–xii.

In 1942, when Staael attended lectures at the Mayo Clinic, she encountered a revolutionary and highly controversial treatment. Pioneered by Sister Elizabeth Kenny, the new strategy prescribed the application of hot packs to affected muscles and extensive manipulation of affected joints and limbs. Kenny was an outspoken Australian Army nurse who developed her techniques while treating Aboriginal children in the outback in the 1920s and 1930s. She saw polio more as a disease of the muscles than the nerves. Exercise, not immobilization, was the answer. Casts and splints only further damaged muscles, effectively preventing them from ever responding to nerve impulses, even those from any additional healing that might occur. Her treatments made some sense and, in some patients, brought impressive results. In fact, Kenny had no other option. Hot wraps and common sense were her best tools in the remote Australian bush.⁴⁵

Kenny was not an accredited nurse. She was self-taught and earned the military title “Sister” in 1917 after volunteering to treat wounded World War I soldiers. Now she was telling doctors in no uncertain terms how to treat their patients. Members of the public liked what they heard. They wanted a cure. Kenny’s feisty style and come-from-behind story also played well against a stuffy and clearly beleaguered medical establishment. With both professional reputations and male egos at stake, Australian doctors closed ranks and responded predictably. In 1938, physicians on the Queensland Royal Commission on Modern Methods for the Treatment of Infantile Paralysis declared that Kenny’s “abandonment” of immobilization was a “grievous error and fraught with grave danger, especially in very young patients who cannot co-operate in re-education.”⁴⁶

Kenny’s results were undeniable. Some patients made remarkable recoveries, and she renewed her attacks on splinting and casting. In 1940, she traveled to the United States to present her case to American doctors. Her first stop was the University of Minnesota medical school, but she found few polio patients there. The Mayo Clinic, however, had

45. Victor Cohn, *Sister Kenny: The Woman Who Challenged the Doctors* (Minneapolis: University of Minnesota Press, 1975), pp. 40–47.

46. *Medical Journal of Australia* (29 Jan. 1938): 5, 187–224. See also Cohn, *Sister Kenny*, pp. 20–21, 26–27; Rogers, *Polio Wars*, pp. 4–6, 9.

dozens of severely ill patients, and Kenny lectured there to fascinated audiences. Her regime of actively manipulating affected muscles caught on, and in 1942, the first Sister Kenny Institute in the United States opened in Minneapolis.⁴⁷

Staael embraced Sister Kenny's controversial methods and took them with her to Texas. Motion was her life, and Staael had already kept hundreds of children moving, from Aberdeen to Virginia and Minnesota to Texas. When she worked with her first polio patient at McCloskey General during the war, she knew exactly what to do. "Dr. James Scale told me," she later recalled, "to do what I did at Rochester. Then an orthopedic doctor came along and said, 'That's malpractice!' because he was used to splinting [and immobilizing] patients." Staael, however, continued to treat her patient with hot packs and strenuous physical therapy.⁴⁸

This incident is just one piece of a much larger revolution in American medicine, partly a response to what medical historian Naomi Rogers calls the "medical politics that lay at the heart of American medicine, even during its Golden Age."⁴⁹ Polio was a high-profile disease whose prevention and treatment cut across state and federal lines, prompted the formation of scores of powerful civic and private charities, and challenged an established medical hierarchy built upon male authority and privilege. Fueling these politics were a panicky American public, a president who struggled with the disease himself, and millions of dollars raised through the March of Dimes, established in January 1938.⁵⁰

Prior to the twin crises of polio and World War II, physical medicine was done by nurses working under doctors' strict supervision. Physicians focused more on immediate procedures than on lengthy recoveries, and physical therapies were rarely prescribed. Nurses did what they were told and received little training in the mechanics of human anatomy and movement. Staael and Sister Kenny, however, were part

47. Cohn, *Sister Kenny*, p. 161.

48. NSE interviews, p. 12.

49. Rogers, *Polio Wars*, p. x.

50. Cohn, *Sister Kenny*, pp. 124–25.

of a new generation of professional physical therapists who came from outside the medical profession. Kenny learned her craft in the Australian bush, while Staael came to her calling from physical education and modern dance. As many doctors might have viewed it, both women came to the party wearing overalls. That they both regularly told men what to do only compounded their error.⁵¹

The sheer volume of new polio and wounded veteran cases forced change. Children crippled by polio needed immediate care, and regular outbreaks through the 1940s and 1950s increased public pressure on the medical community. Wounded veterans needed help preparing for new jobs and new lives with disabilities. Occupational therapy, which accounted for less than 1 percent of Staael's training in 1942, was now a key part of helping patients meet a lifetime of challenges. The army recognized these needs and, in June 1944, commissioned physical therapists as a distinct medical specialty.⁵²

The growing field of physical therapy also benefitted from a uniquely American strain of populism that has always mistrusted medical authority. From eighteenth-century midwives to the panoply of patent medicines and home cures in the nineteenth and twentieth centuries, Americans have often preferred the cheap and practical to the costly and professional. Many of the tools and techniques of physical therapy today are essentially household items: hot packs, massages, and exercises using large rubber bands and simple weights. That physical therapy also diverted money from high-priced surgeons and hospitals was not lost on an increasingly frustrated nation. In February 1944, an editorial in the *Washington Post* cited professional jealousy as the number-one source of antagonism toward Kenny's work. Another woman wrote to her: "Just realize what is against you. First the fact that you are a woman, second anyone giving your treatment can't capitalize on it and get rich, third you lack a college degree and all that rot. (Just remember

51. U.S. Department of Veterans Affairs, "History—Department of Veterans Affairs (VA)," http://www.va.gov/about_va/vahistory.asp; Rogers, *Polio Wars*, p. 42.

52. Ellen Woods, "Opportunity Out of Adversity: Physical Therapy's Unique Legacy," *PT: Magazine of Physical Therapy* 10 (July 2002): 49–50; Steven Glaros, "A Look Back," *Physical Therapy* 84 (Aug. 2004): 694.

that the greatest healer of all Jesus Christ wasn't an M.D.). And fourth, the monied interests who are reaping a harvest from the manufacture of braces etc. are against you."⁵³

Staael also felt these professional and gender slights keenly. During her time at McCloskey General in 1943, she expressed her dissatisfaction with the required uniforms in no uncertain terms. The pleated outfits were not only clumsy-looking but had starched cuffs and collars that poked patients when they were being handled. Moreover, the women were required to wear what Staael called "dusting caps" made of organdy. Staael found the uniforms "ghastly" and, always handy with needle and thread, designed a new one. Her version did away with the cap and added a more functional belt. Other therapists soon adopted her way of dress. To make sure that hospital administrators could not reissue the dreaded caps, Staael bought up all of the organdy cloth in Temple, Texas, and sent it to her sisters in South Dakota as Christmas presents. Faced with a sudden shortage of suitable cloth, administrators at McCloskey General had no choice but to do away with the caps.⁵⁴

Following her training in Texas, Staael looked for a position that would take her closer to home and her parents, who were now alone.⁵⁵ Back north, she took a job clerking at a Montgomery Ward store. She was miserable, but on the eve of her first promotion, she received a call from her former professor, Dr. Frank Krusen, who still chaired the Department of Physical Medicine at Mayo Clinic. When he offered Staael a job, she immediately and gratefully accepted. Staael joined a staff of a dozen physical therapists at the "TOB," the Temporary Office Building that by 1944 had been "temporary" for nearly twenty years. She worked eight hours a day and until 1:00 p.m. on Saturdays for the starting salary of one hundred ten dollars a month—about five hundred dollars less per year than she had earned teaching at Sweet Briar during the depression.⁵⁶

By 1945, Staael was ready for another move. Dr. Krusen suggested the University of Illinois Research and Educational Hospital in down-

53. Quoted in Rogers, *Polio Wars*, pp. 189–90.

54. NSE interviews, p. 12.

55. *Ibid.*, pp. 12–14.

56. *Ibid.*, p. 14.

town Chicago. She interviewed there with Dr. Raymond B. Allen, a friend of Krusen who also knew Nora from the Mayo Clinic. She got the job and moved to Chicago. Although her pay had increased to one hundred twenty-five dollars a month at the Mayo Clinic, her new salary in Illinois was three hundred fifty dollars per month.⁵⁷

It was at the University of Illinois Research and Educational Hospital that Staael moved into her life's work: helping children with polio. The job was challenging and gave her the chance to collaborate with some of the most innovative minds in physical medicine. The Physical Therapy Department was particularly well funded because of the patronage of Bernard M. Baruch, the noted financier and adviser to presidents Woodrow Wilson, Franklin Roosevelt, and John F. Kennedy. Baruch's father, Simon, had served as a surgeon under Confederate General Robert E. Lee and passed a lifelong interest in physical medicine on to his son. Simon Baruch was especially interested in hydrotherapy and even wrote his own book on the subject, *The Principles and Practice of Hydrotherapy*, published in 1898.⁵⁸

Staael's experience as a teacher and coach made her an ideal therapist for sick and injured children, able to assess them quickly and act decisively. More importantly, she felt that she was a colleague, an equal in patient care—at least as far as professional protocol and gender roles would allow. In the late 1940s, when presented with a difficult stroke patient, an exasperated professor of surgery, Dr. Warren H. Cole, asked Staael for advice. The patient was a thirty-nine-year-old dentist who had not responded to anything or anyone since his stroke and refused to move even the unaffected areas. Her reply to Cole was characteristically simple and direct. "Why, I'd get him up." "How?" asked the doctor. "I don't know yet, but I'll figure it out." Staael then strapped the patient head-to-toe to a surgical cart and stood the cart upright between parallel bars in the hospital gymnasium. The patient, vertical for the first time since his stroke, began to shake all over, including his impaired right side. He also began to swear profusely, the first communication he had attempted in weeks. When Dr. Cole read the report of

57. Ibid., p. 15.

58. Ibid.; Baruch, *Principles and Practice of Hydrotherapy: A Guide to the Application of Water in Disease* (New York: William Wood & Co., 1898).

the patient's breakthrough to hospital staff members the next day, they broke into spontaneous applause. Asked why she had stood the patient upright, Staael simply replied that on the farm, the first treatment for any sick animal was always to get it up and moving. Staael, and the physical therapy profession, were both coming into their own as independent medical professionals who brought their own approved brand of physical medicine to patients.⁵⁹

Staael's drive and energy distinguished her among the other therapists at the University of Illinois Research and Educational Hospital. She became director of the entire physical therapy department and, by the late 1940s, could proudly note that almost all of her therapists had been specifically trained in physical therapy, not as registered nurses. Indeed, by 1949, the department had grown so large that administrators turned it over to a full-time physician. She resigned and moved to Salt Lake City, Utah,⁶⁰ perhaps motivated by the same advice she later gave to young therapists to "go to the inner land of the United States where polio patients were still without good therapy."⁶¹

Work proved elusive in Salt Lake City, however. There were no hospital positions open, and few physicians referred patients to private practice. Staael dabbled in real estate and then received a job offer from Dr. Leonard Huddleston, an orthopedic physician who had seen her work in Chicago. Huddleston was starting a physical therapy department at the new Kabat-Kaiser Institute in Santa Monica, California. With no ties to Utah, Staael immediately left for California.⁶²

Staael needed every bit of her experience and training in California. The polio epidemic was at its height, and she oversaw the treatment of hundreds of patients every day. Most of the children were in pain, and all of them were scared and bored. But the facilities were excellent, and Staael had Huddleston's full support. The physician was keenly interested in a particular therapy called proprioceptive neuromuscular facilitation, or PNF. This method was the brainchild of Dr. Herman Ka-

59. NSE interviews, p. 16.

60. *Ibid.*, pp. 21–22.

61. *Ibid.*, p. 25.

62. *Ibid.*, p. 23.

bat, a German neurologist and anatomist working in the early 1900s.⁶³ Like Kenny, Kabat emphasized the fundamental connections between muscles and nerves. Treating one treated the other, and physical manipulations of joints and muscles could improve and, in some cases, even restore nerve function. This form of therapy was essentially what Kenny had discovered on her own in Australia a decade later.

Unfortunately, PNF did not always work for polio patients. Some, especially children, responded wonderfully, while others declined so much that they required the iron lung. Staael and Huddleston, however, had no time for naysayers. They quickly plunged into aggressive treatment regimens for most patients. The facilities at Kabat-Kaiser, funded by the noted industrialist Henry J. Kaiser, were superb. The Kabat-Kaiser hospital was designed for children, with a school and a large heated pool for and recreation.⁶⁴

63. Susan Adler, Dominick Beckers, and Math Buck, *PNF in Practice: An Illustrated Guide* (New York: Springer Verlag, 2003), pp. 1–2; Herman Kabat, “Studies on Neuromuscular Dysfunction XIII: New Concepts and Techniques of Neuromuscular Reeducation for Paralysis,” *Permanente Foundation Medical Bulletin* 8 (July 1950): 121–43.

64. NSE interviews, p. 24.



In this 1950 photograph, Staael accesses a patient chart at Kabat-Kaiser Institute in Santa Monica, California.

Staael left Kabat-Kaiser in 1953, in part because the hospital's emphasis had changed considerably, "from basically polio to mostly neuromuscular disabilities of one kind or another."⁶⁵ Staael wanted to work "where they still had a lot of polio patients and very little therapy."⁶⁶ She found such a place in an advertisement in the newsletter of the American Physical Therapy Association: Missoula, Montana, population twenty-two thousand.⁶⁷

Staael lived and worked in Missoula for the rest of her life. She worked at Crippled Children's Center at Memorial Hospital⁶⁸ for a year until resigning in 1954 to start her own private practice. The circumstances surrounding that abrupt resignation reflect her professional background and no-nonsense personality. Staael quit after the hospital board of directors summarily dismissed Bob Antonick, one of her favorite assistants. Antonick was a large, powerful man who used to hold children upside down to "walk on the ceiling" after they tired of standard exercises. Staael appreciated his creativity and willingness to treat each patient as an individual and was troubled that he had been dismissed by the board without the input of physicians or other hospital professionals. She quickly, and perhaps publicly, criticized those directors as mere "civilians," the most derogatory term she could muster. Antonick went on to get his master's degree in physical therapy from Stanford University.⁶⁹

Staael returned to hospital practice in Missoula at the Northern Pacific Hospital in 1958. The field of physical therapy was still changing. The Salk vaccine for polio in 1954 saved thousands of children from the disease, and the Sabin vaccine, licensed in the United States in 1961, effectively ended America's polio epidemic. Staael retired temporarily in 1963 because of a rheumatic illness but returned to work in physical therapy in 1967 when the University of Montana asked her to join its pre-physical therapy program. Eventually, she created the Nora Sta-

65. Ibid., p. 25.

66. Ibid.

67. Ibid.

68. Betsy Cohen, "Pioneer of Physical Therapy at UM Dies at 98," *Missoulian*, 15 Apr. 2003.

69. NSE interviews, pp. 30–31.



During her time in Missoula, Staael had the opportunity to work with children such as the girl pictured here at Northern Pacific Hospital.

ael Evert Endowment and was instrumental in helping the university achieve American Physical Therapy Association accreditation for its program.⁷⁰

Staael had a full life apart from her medical career, designing her own home, knitting clothes for sale, and fashioning equipment for patients with disabilities. In 1974 she was selected to join the Distinguished Alumni of Northern State, where she also underwrote a summer research stipend for faculty and a scholarship for students in memory of her parents.⁷¹

Staael officially retired from the University of Montana in 1979 but continued to serve into the 1980s as a guest lecturer for the university, where a state-of-the-art physical therapy clinic named for her was

70. Obituary of Nora Staael Evert, *Missoulian*, 15 Apr. 2003; Grettler, *Life in Motion*, p. 67.

71. Obituary of Nora Staael Evert; "Nora Staael Evert estate," n.d., Northern State University Foundation files, NSU Foundation, Northern State University.

dedicated in 2000. Its foyer was decorated with a black-and-white photograph of Staael from her days as a dancer. The name and the image are still in place at the Nora Staael Evert Physical Therapy Clinic, also known as the University of Montana Physical Therapy Clinic. In 1980, Staael married physician John A. Evert, Jr., of Missoula. She died 12 April 2003 at the age of ninety-eight after a long illness.⁷²

Ralph Waldo Emerson famously wrote, “All history is biography.” If true, then Nora Staael Evert’s personal war on infirmity writes one small slice of American medical history in the post-World War II period. By 1945, treatments that began with the “unusual mixture of disabled male veterans and athletic young women” had matured into an entirely new medical profession staffed by specially trained physical therapists.⁷³ The subsequent war on polio in the 1950s and 1960s secured those gains and further integrated professional physical therapists into American medicine.

72. Grettler, *Life in Motion*, p. 67; Cohen, “Pioneer of Physical Therapy at UM dies at 98”; University of Montana School of Physical Therapy and Rehabilitation Science, “University of Montana Physical Therapy Clinic,” <http://health.umt.edu/physicaltherapy/umpt-clinic/>; Obituary of Nora Staael Evert.

73. Rogers, *Polio Wars*, p. 42.

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On the cover: In 1897, South Dakota Senator Richard F. Pettigrew (bottom, center) visited Honolulu (top) and other points in the Hawaiian Islands as part of a fact-finding mission. In this issue, Michael J. Mullin examines Pettigrew's stance on the controversial issue of Hawaiian annexation.

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