THE "NEW DISEASE" strikes the Otter Creek Valley

In 1894, just a few Vermonters knew the pain and fear polio could cause. Within twenty years, the whole world would know.

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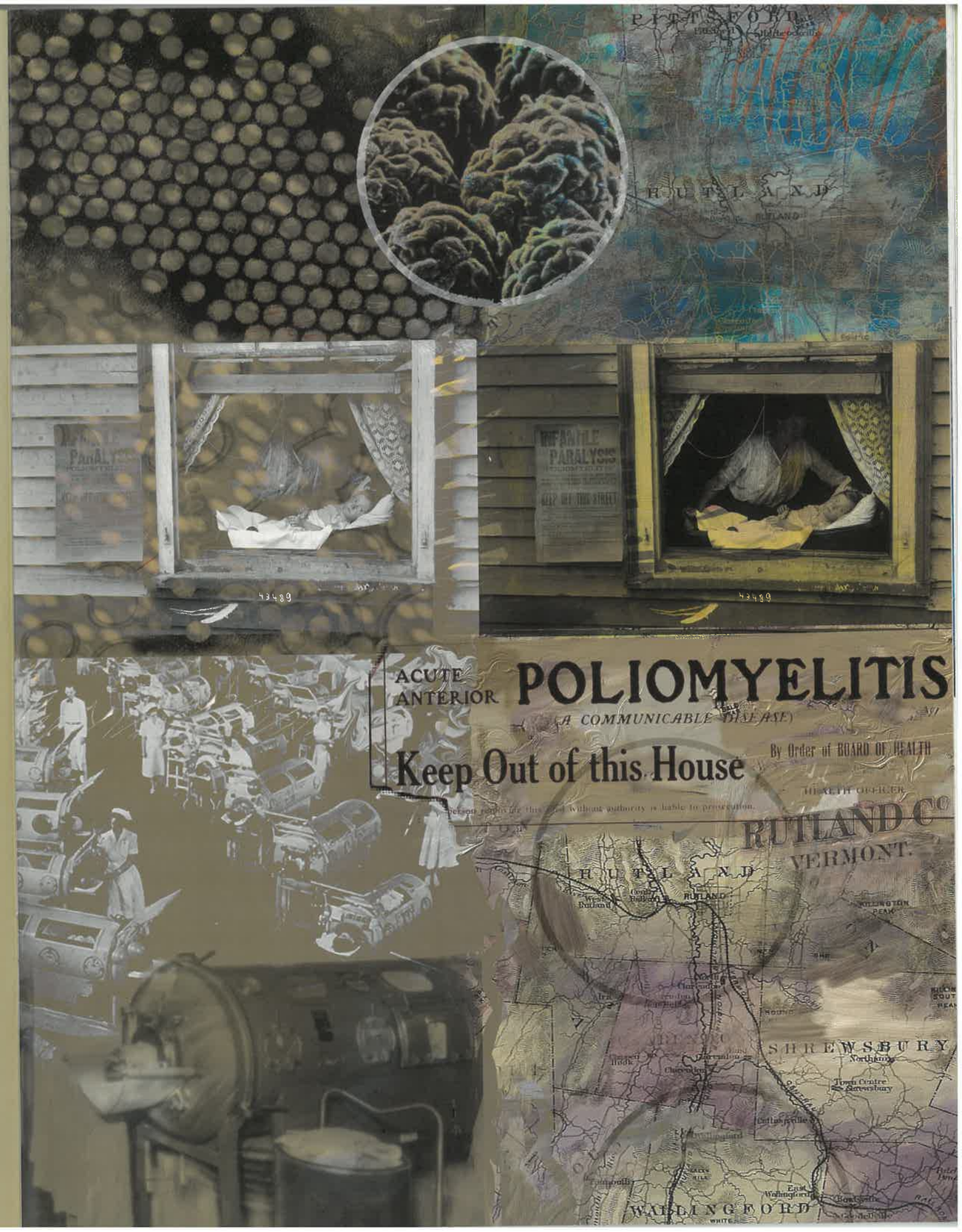
RAIN WAS SCARCE in the summer of 1894 in Rutland, and by late June the people of Vermont's second largest city were remarking on how hot the early summer seemed. By late July, though, talk had turned to other, more serious matters. First in the city, and then in outlying towns, villages, and farmsteads, children (some said a few adults, too) were coming down with summer colds that turned into something far more virulent.

Thirty-seven-year-old Charles S. Caverly, M.D., a graduate of the University of Vermont College of Medicine class of 1881, took notice of these first cases. Now solidly in his second decade of caring for patients in the Rutland area, Caverly balanced the work of a thriving medical practice with his duties as professor of hygiene and preventive medicine at the College. He had long been interested in the burgeoning field of public health and, only one year after becoming a member of the Vermont State Board of Health, he had become the Board's president, and its driving force.

POLIO VIRUS: COURTESY OF THE WORLD HEALTH ORGANIZATION; CHILD IN WINDOW, 1916: BETTMANN/CORBIS; POLIO WARD: W.H.O.; QUARANTINE CARD, IRON LUNG PATIENT: COURTESY OF THE NATIONAL LIBRARY OF MEDICINE.



NOW, CAVERLY BEGAN visiting his fellow doctors in Rutland, and corresponding with other physicians in the surrounding area. The facts he collected by summer's end were chilling. By his reckoning, 132 children and adults had been stricken with a disease that, up to that time, had been rarely seen. Ten of those patients had died. He presented his findings in the *Yale Medical Journal* later that year, and in the *Transactions of the Vermont State Medical Society*:

> *During the month of June 1894, there appeared in a portion of the valley of the Otter Creek, in the State of Vermont, an epidemic of nervous disease, in which the distinctive and most common symptom was paralysis. The great majority of the sufferers were children under six years of age… After a few weeks deaths were heard of, and during the latter part of July everyone was discussing the "new disease."*

The new disease, Caverly asserted, was poliomyelitis. To anyone familiar with the practice of medicine in the 20th Century — and especially to anyone who grew up from the 1930s through the 1950s — the notion that polio was so recently considered "new" seems at first absurd. But although isolated cases had been reported for centuries, there were no known epidemic outbreaks of the disease until the late 19th century. It was only in the 1860s that physicians had identified the distinctive spinal cord damage caused by what was then known as "teething paralysis" or "infantile paralysis." In fact, the term "poliomyelitis" was first used to describe the inflammation of the spinal cord's grey matter only twenty years before the Rutland epidemic. Most doctors spent their entire careers without ever seeing a recognizable case of polio, and it was considered a non-contagious disease, just an odd disorder affecting a few unlucky babies.

Then, seemingly without reason, the situation changed. As the Industrial Revolution transformed daily life in the western world, and infant mortality declined, polio flourished. The first wave of 132 cases seen in Vermont in 1894 was followed by more extensive summertime epidemics in Europe. By 1910 fear of polio was on the minds of every parent as summer — the disease's apparent preferred season — approached. The summer of 1910, waves of polio cases were reported across North America. And the disease seemed to scorn the new middle class drive for cleanliness and order, striking hardest not in the dirty slums, but in the heart of the new, spanking-clean suburbs. Gradually, over many decades of study, medical professionals began to realize that the endemic polio virus was highly contagious. It was carried only by humans and, through fecal-oral contact of less hygienic times, had been causing mild immunizing infections on a grand scale for thousands of years. Ironically, the move toward cleaner lifestyles fostered by the public health movement had eliminated this massive early immunization of much of the infant population, and set the stage for more damaging epidemics.

Of course, Charles Caverly knew none of this as he gathered his data in the summer of 1894. But the young doctor was, as medical historian John R. Paul, M.D., has noted in his *History of Poliomyelitis*, "the right man in the right place at the right time." Caverly presented medical science with its first large body of evidence on the nature of polio, and his carefully-compiled data on several cases of adults with the disease shattered the prevailing myth that polio affected only infants. Caverly did not find that polio was contagious — most of his cases were the only sickened individuals in their families. It would be years before it would be clearly understood that there were as many as 100 polio carriers for every presenting case of the disease.

CAVERLY WOULD CONTINUE throughout his career to spread the latest word on the nature of polio and its treatment. The pages of Vermont Medical Society publications contain his regular chronicles of later waves of the disease in Vermont in the summers from 1911 to 1917. By 1914, the state's seasonal toll of polio victims numbered over 300, and in July of 1917 Caverly, as president of the state Board of Health, ordered the closing of all county fairs. By 1914, Caverly found a private donor who funded periodic clinics throughout Vermont to provide follow-up therapy for children and adults who had lost the use of limbs to polio. "Indeed," he wrote in 1916, "the State of Vermont, I believe, is the first state or community where the after treatment of infantile paralysis has been systematically understood and carried out, as it was the first state to develop the disease in epidemic proportions."

Polio's effect on the American population was only beginning in 1916. From the 1920s to 1950s, larger and larger waves of cases followed. In 1946

(at left) Charles S. Caverly, M.D., College of Medicine Class of 1881. (below) One of the first Americans to contract polio, Sara Jones, meets one of the last, NFIP poster boy Tommy Woodward, on Mt. Mansfield, January 5, 1956.

more than 25,000 cases were reported nationally; by 1949 the number had topped 40,000; in 1952 it hit nearly 60,000. Spurred on by President Franklin Roosevelt, who had contracted polio in 1921, the National Foundation for Infantile Paralysis (NFIP) was founded in 1938 and became a model for successful voluntary health organizations. NFIP's "March of Dimes" campaign raised millions of dollars to help pay the high medical and rehabilitation cost of polio victims, and funded research into potential cures. There were setbacks: trials of polio vaccines in the 1930s had disastrous outcomes, and researchers turned away from the vaccine hunt for nearly two decades. But by the mid-1950s, Jonas Salk, M.D., of the University of Pittsburgh, was field-testing a live-virus polio vaccine. In April of 1955 the results of this test were hurriedly announced: the vaccine worked. Polio could conceivably be eradicated. The inactivated Sabin vaccine would follow in 1960. The last case of polio in the U.S. was reported in 1969. Today, World Health Organization efforts have succeeded in cutting the numbers of reported cases by 99%, with a goal of total eradication by 2005. Post-polio syndrome, a condition characterized by increasing muscle weakness and atrophy, continues to affect 10 to 40 percent of polio survivors.

IN 1956, THE NFIP decided to "close the circle" by having the March of Dimes national fundraising kick-off for the year begin in the state where polio first appeared epidemically. On January 5 of that year, camera crews from NBC's *Today* show came to broadcast a daylong slate of pageantry and gatherings in the snow on the side of Mt. Mansfield. The Dartmouth Outing Club constructed a large snow sculpture of Jonas Salk at Spruce Glen, a torchlight parade was held; and world-champion figure skater and polio survivor Tenley Allbright performed. Another prominent feature of the day was a dedication of a monument (shaped like 40-inch- wide granite dime) to the 132 original Vermont victims. Only one of the victims of the "new disease" of 1894 had survived to see all the celebrations. Sara Jones had been but two years old in the summer of 1894 when she came down with a high fever that left her legs paralyzed. For years she got around her family's North Ira farm, helping in the chores and housekeeping, by dragging herself on her hands and knees. In 1904 an orthopaedic operation on her feet (performed on her family's farmhouse kitchen table) allowed her to wear shoes for the first time. A year later, she received her first pair of crutches. Only in 1955 did she get her first wheelchair. Surprisingly, her original physician, 92-year-old Carol Ross, M.D., of Rutland, was also still alive to see the 1956 March of Dimes event.

But not so the original polio pioneer. In the fall of 1918, another new disease was wreaking havoc with lives across Vermont and, indeed, across the globe. Caverly had helped identify the first great epidemic of the 20th Century. He would be felled by the second. Early in the morning of October 16, 1918, in his Rutland home, Charles Caverly, M.D., died of Spanish influenza. VM

LEFT: COURTESY OF THE VERMONT STATE DEPARTMENT OF HEALTH; RIGHT: COURTESY OF THE VERMONT STATE ARCHIVES, SPECIAL THANKS TO GREGORY SANFORD AND CHRISTIE CARTER.