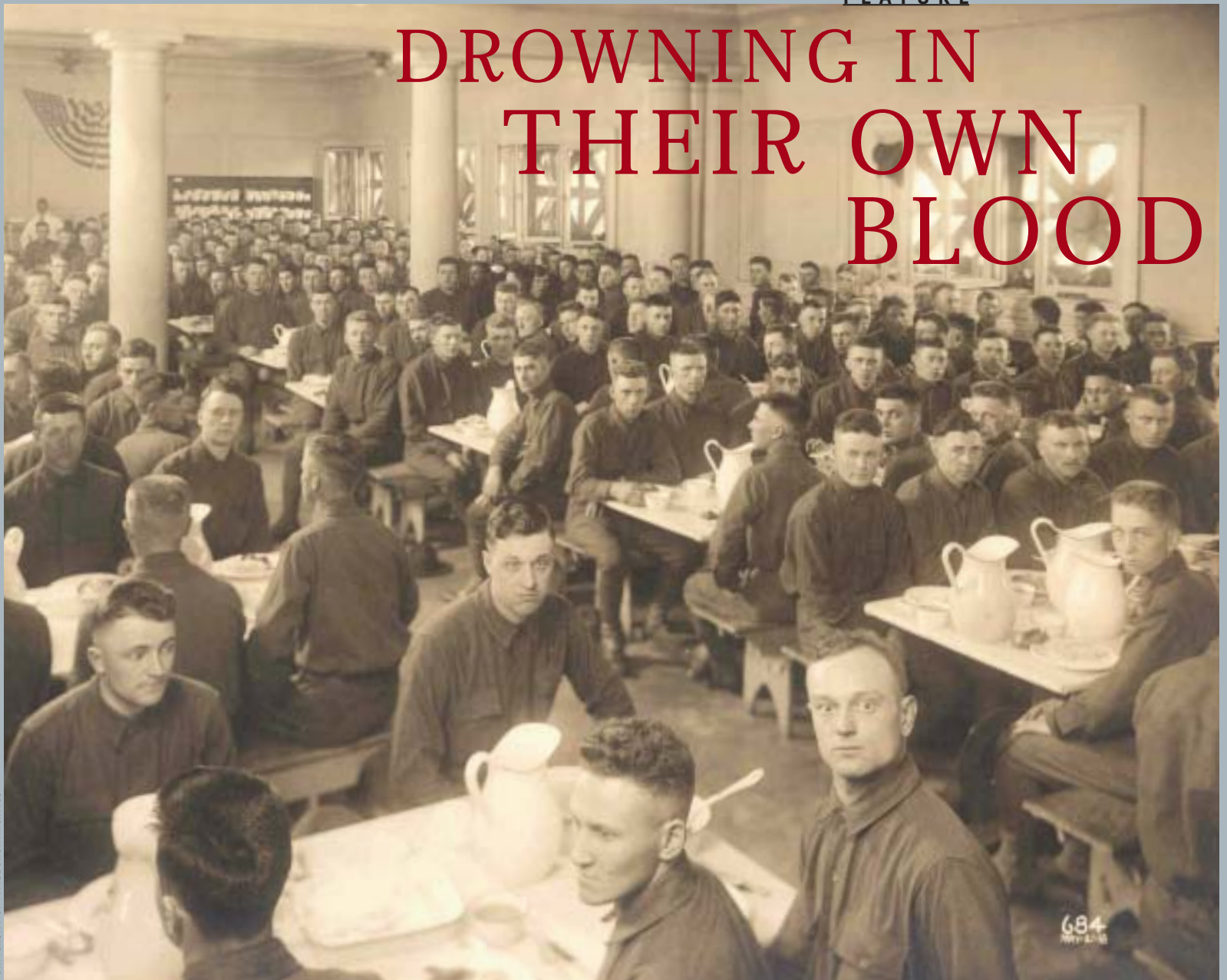


DROWNING IN THEIR OWN BLOOD



UNIVERSITY OF PITTSBURGH ARCHIVES

IT WAS FUNERALS ALL DAY
AND AMBULANCES ALL NIGHT
BY EDWIN KIESTER JR.

The student body was the very picture of robust good health in mid-September 1918. Indeed, all draft-eligible University of Pittsburgh male students had been pronounced physically fit for military service and conscripted into the Student Army Training Corps for the war in Europe. As the academic year began, the students were issued uniforms and officially sworn into military service.

A few weeks later the Oakland campus was transformed. By state order, the entire campus was placed under quarantine.

PHOTOGRAPHY | UNIVERSITY OF PITTSBURGH ARCHIVES AND
HISTORICAL SOCIETY OF WESTERN PENNSYLVANIA



The flu pandemic of 1918 seemed to come in with returning soldiers; but it also subsided just before victory was declared. P. 23: Students were conscripted into the ranks; many fell sick soon after. Men from throughout the Northeast were brought to Pitt. ABOVE: The community of Wall, outside present-day Monroeville, celebrates peace. RIGHT: In formation on O'Hara Street in Oakland.

Guards at Bigelow Boulevard and Fifth Avenue prevented anyone from entering or leaving. The football schedule was canceled—in a year when Pitt again expected to be national champions under Pop Warner—along with all other gatherings, indoors and out. The medical school, like the rest of the University, suspended classes. Sixty-three juniors and seniors performed emergency intern duty at hospitals. And the students who were presumably healthy in September were now coughing, wheezing, doubling over in pain, shivering with fever, dropping where they stood—and dying.

That was the horrifying fall of 1918, when a pandemic of the most virulent influenza anyone had ever known swept across the world. Eight million died in the preceding four years of ugly trench warfare. Striking in the closing months of World War I, the “flu” directly claimed nine million lives worldwide, according to the National Library of Medicine. In total, more than 20 million were lost to the pandemic, including deaths from pneumonia and other illnesses associated with the flu. Some 548,000 victims were Americans, 20,000 of them servicemen. Because of crowded quarters, unsanitary conditions, and the transfer of troops between

continents, the flu spread like wildfire among military personnel. Before it had fully subsided, more than 23,000 men, women, and children had been sickened in Pittsburgh, and about 5,000 had died. During the worst days, one Pittsburgher fell ill every 70 seconds, and someone died every 10 minutes.

The pandemic occurred almost 85 years ago. But those dreadful days still haunt many families and the few survivors still alive. My own father shook off the flu in a military camp, but my grandfather's lifelong aftermath was postencephalitic parkinsonism, which brings about tremors and rigidity associated with Parkinson's disease. An old colleague of mine died recently who'd been orphaned by the flu at age 5 and was brought up by two unmarried aunts. He was not unique. Seven hundred Pittsburgh children were orphaned by the pandemic.

On June 9, 2002, others remembered the flu victims at a simple ceremony in a sun-baked, overgrown field in Winfield Township, near Saxonburg, in Butler County. While a Ukrainian Catholic priest chanted prayers and lit incense, community members erected a new granite cross to replace the rotted railroad ties marking five mass graves from 1918. The graves were believed to hold

the bodies of 24 Eastern European immigrant miners buried hastily, to prevent further infection, with neither ceremony nor identification. Some had been simply wrapped in sheets and dumped because of the shortage of coffins.

Jonathon Erlen, a medical historian at the School of Medicine, helped a Saxonburg women's club prepare for the ceremony. “It was touching,” he says, “how people turned out to honor these poor unknown fellows who died in the prime of life and whose families back home may not even have been aware of their deaths.”

Pittsburgh and western Pennsylvania were late victims of the pandemic. Actually, its classic pattern of headache, fever, muscle pain, and raspy breathing was considered a regular visitor everywhere. Flu appeared every winter, like Santa Claus. People expected—even accepted—a few days of misery, including a few deaths among the very young and the elderly. So when the first European cases turned up in the spring of 1918, no one was terribly alarmed. But as the disease spread, and began to fell ostensibly healthy young soldiers on both sides of the war, its ravages could no longer be glossed over. Millions of Europeans were sickened, more than eight million in Spain alone, including King Alfonso XIII. (Because the first indications of a pandemic came from Spain, the disease was called “the Spanish Flu.” There's

little evidence that the flu originated in that country; it may instead have been brought by sailors from Asia. Still, the name stuck.)

The first US case turned up at Camp Funston (now Fort Riley), Kansas in March and leapfrogged through the civilian population. And then, as mysteriously as it had arrived, it disappeared.

As if it had merely taken a summer vacation, the flu returned in September, this time with a vengeance, roaring across Europe. The US Congress had declared war on Germany in April 1917, but the flu almost stopped the war in its tracks. German Major General Erich von Ludendorff was so short of manpower, he was forced to postpone the last grand offensive that was to win the war for Germany. The first American troops had gone into battle, and the commander in France, John J. Pershing, called for reinforcements. In vain. There were no healthy men to send.

Unlike previous flu strains, which targeted the very young and the very old, the 1918 version struck heavily among the 25–34 age group, devastating many young families as well as military personnel. The toll was particularly high among pregnant women.

And the students who were presumably healthy in September were now coughing, wheezing, doubling over in pain, shivering with fever, dropping where they stood—and dying.

They called the devastation “The Purple Death.” Victims became cyanotic—their faces turned as “blue as huckleberries,” one doctor wrote, then a darker, purple hue, sometimes accompanied by blisters. Victims complained of chills, headache, fatigue, pain from head to toe, and raging fever. Swaddled in blankets, previously healthy young draftees dropped dead while lined up for sick call.

When the flu ravaged Camp Devens, Massachusetts, where divisions were being assembled for shipment to France, the surgeon general of the army, William Gorgas, dispatched the country’s most prominent pathologist, William Henry Welch of Johns Hopkins, and a blue-ribbon team of physicians to investigate. Welch’s first autopsy, on a 19-year-old, left him aghast. “Gentlemen, I believe we are facing a new infection,” he told his colleagues grimly as he peered at the victim’s devastated lungs. “Or plague.”

Ordinary flu sometimes develops into pneumonia. The tiny air sacs in the lung, where carbon-dioxide rich blood is exchanged for the oxygenated variety, become inflamed and swollen. Breathing is difficult and labored. What Welch saw went dangerously further. The air sacs were being destroyed, leaking—pouring—blood into the lungs, filling them with fluid. Victims were drowning in their own blood.

Within a few days, half the 45,000 troops at Devens were ill. Bodies were “stacked like cordwood” outside the autopsy room, according to one description. The flu spread among Boston’s civilian population, then throughout Massachusetts and

beyond, moving south and west, advancing 100 miles a day. New York caught the flu, then Trenton. And then Philadelphia. Of all the flu-ravaged American cities, the City of Brotherly Love was hardest hit. More than 3 percent of its residents died within a few weeks. At the peak, 300 Philadelphians were dying each day.

How the flu came to Pittsburgh is uncertain. One version says a soldier from Blawnox, who was home on emergency leave, fell ill, was confined to the military cantonment hospital at Point Breeze, and the disease spread from there. Pittsburgh’s first flu death was recorded on October 5. (It is possible flu deaths had occurred earlier, because doctors were not yet required to report flu cases.) Four others died that week, 22 more the next. City health department Director William H. Davis sought to be reassuring, declaring that the flu was mostly of the mild variety and had already peaked. Still, he urged anyone with a cough to stay home.

The industrial suburbs and small nearby communities were hit harder. My own hometown of Turtle Creek had so many cases that local residents frantically built and equipped a 70-bed hospital in 48 hours—and filled it up. In the mining hamlet of Unity, population 1,000, 500 fell ill, including the only doctor.

Adolph Koenig, Allegheny County medical supervisor, warned, “There is a danger that some small, isolated settlement might be completely wiped out before help could reach them.” By October 10, Davis called the situation “very grave.”

As cases mounted across the state, Pennsylvania Deputy Health Commissioner B. Franklin Royer enforced a draconian anti-contagion program. He ordered all public gathering places closed, including saloons, movie and vaudeville theaters, dance halls, poolrooms, swimming pools, and skating rinks. Restaurant diners could eat but not

LEFT: HISTORICAL SOCIETY OF WESTERN PENNSYLVANIA, RIGHT: UNIVERSITY OF PITTSBURGH ARCHIVES



THESE FEATHERS WEREN'T RUFFLED

Almost everyone had opinions about treating the flu, but not everyone had clout. One of the city’s social leaders decided that what the hospitalized victims needed were eggs to rebuild their strength. “I cannot think why this has never occurred to me before,” she wrote the executive committee of Shadyside Hospital, “but I do believe it would be an excellent idea for the hospital to have chickens.” The committee had its hands full at that point, but was loath to refuse one of its most generous benefactors. They agreed to purchase the chickens if she would furnish the coops, which the good citizen did. The patients had their fill of fresh eggs and probably some clucking and squawking as well. —EK

YET JUST ACROSS THE STREET

The Western Pennsylvania Institute for the Blind was surrounded by the barracks of the Student Army Training Corps in 1918. When the flu arrived in the neighborhood, the institute’s medical officer immediately issued a total quarantine. Children were not allowed visitors and could no longer go home for weekends. The school was flu-free until students went home for the Thanksgiving holiday, after which 15 cases occurred, and the school closed. —EK



drink nor “congregate.” Churches could hold services, but anyone with a cough or visible illness was to be turned away. Trolley operators were instructed to keep all windows open at least six inches. The trolleys were to be swept, mopped, and fumigated after each trip. Schools remained open. Pittsburgh’s 112,000 pupils were supervised by 64 doctors and 18 nurses and were said to be safer in classrooms than in public.

Pittsburghers at first complied with the restrictions, then began to chafe under them. After all, many wage earners were still going to work and were as likely to be exposed to disease there as in taverns afterward. Some protested that the open-windows rule allowed noxious infected air inside. Further, open trolley-car windows brought Pittsburgh’s autumn rains onto the passengers. Dampened passengers slammed the windows shut.

The problem was, no one knew what had caused the flu, how to treat it, or how to stop it. (Not until 1933 did scientists discover a flu virus.) There were a thousand explanations and a thousand home remedies. Slice red peppers into half-inch strips and eat them in a sandwich twice daily to burn out coughs, colds, and fever, it was said. Sprinkle sulfur in

your shoes each morning to become immune to infection. Sixty years later, in an oral history interview, Pittsburgher Benjamin Green recalled how children were equipped to fight off the disease: “Everybody went to school wearing these little flannel bags with camphor in them. Foul smelling. The more foul smelling, the better. You’d pull it out and say, ‘Mine smells worse than yours.’”

Physicians emphasized keeping the bowels open, getting plenty of fresh air, and going to bed at the first symptom. They dosed patients with quinine, coal tar products, gum camphor, and opium. Koenig ordered sheets hung between patient beds, certainly no barrier to passage of a virus, and recommended that everyone wear a gauze mask over nose and mouth. The Pittsburgh Red Cross dutifully ordered 10,000 masks, but flu rates in cities where masks were worn and where they were not amounted to the same.

Royer’s edict shut down Pitt, Duquesne University, and Carnegie Tech. At all three campuses, the Student Army Training Corps (SATC) was walloped by the flu. The Pitt infirmary was quickly overwhelmed; so the army commandeered Elizabeth Steel Magee Hospital, first occupying a floor and eventu-

When armistice was declared, people poured into the streets, rejoicing. An official celebration followed—as did a spike in flu cases.

ally 300 beds. Soon, St. Francis and Mercy Hospitals were taken over, too.

The military combined morbidity and mortality figures for student-soldiers for all campuses, so exact totals for Pitt are unclear. But figures were, generally, astronomical, doubling and even tripling day by day. One report shows 1,392 flu cases in a detachment of 7,000. At one point, 673 of Pitt’s SATC contingent were hospitalized. Of those whose cases developed into pneumonia, 99 died, a mortality rate of 44 percent. Three student-soldiers died in a single day at Magee, along with their physician, W. L. O’Hagan (MD ’07). Many other physicians treating flu victims were themselves stricken, including, for a time, health department Director Davis. One group of 11 physicians was directed to establish a new convalescent hospital; all were patients before the hospital opened.

Physician ranks were already thinned because many doctors had entered military service, including 58 of the medical school’s part-time faculty. Health authorities urged specialists to suspend their specialty practices to treat flu victims.

Davis mobilized hospitals into a single consortium to house the ill. Yet neither hospitals nor specialists helped much. Koenig had been placed in charge of recruiting physicians. (Sadly, “for all his medical skill, he could not save his 20-year-old son, Eugene,” wrote Kenneth A. White in the *Western Pennsylvania Historical Society Magazine*.)

Other key personnel were in short supply, too. Drug prescriptions increased up to 800 percent, and pharmacists intermittently had to stop filling them; pharmacy students normally counted on for part-time assistance were either ill or quarantined. Overwhelmed morticians simply let bodies pile up, partly because harried doctors hadn’t time to file death certificates. At one point, 33 bodies awaited burial at a cemetery because grave diggers were ill. Family members dug graves and buried loved ones themselves.

As October wore on, the shortage of facilities turned acute. The courthouse annex in downtown Pittsburgh was turned into an emergency hospital. Churches, convents, even fraternity houses became convalescent facilities. Tent hospitals were set up on city playgrounds. With one-

Florence Marcus of Shadyside Hospital, who was a nursing student in 1918 and later became an MD, recalled in 1991: “Hundreds of sufferers arrived at the hospital by ambulance. . . . I remember one family. The whole family died on the way in—except one little boy. We all felt dreadful about it.”

“It was funerals all day, and ambulances all night,” wrote Katherine Anne Porter in her magnificent novella set during the pandemic, *Pale Horse, Pale Rider*. “Everybody is sick at the present time and you’re almost out of style if you’re okay,” one Pittsburgher wrote a relative at the flu’s height. “I wish this terrible ‘Spanish’ would disappear. It is some menace.”

Then, around October 25, Pittsburgh’s siege began to lift. Although deaths continued, new cases steadily declined. Pittsburgh Mayor E. V. Babcock decided that the state’s more stringent regulations against crowding could be relaxed. The restrictions, including the quarantine, were lifted on November 9.

Two days later, on November 11, armistice was declared. Thousands of Pittsburghers poured into the streets, rejoicing. An official

possible causes, prevention, bacteriology, and pathology. It contains few surprises but does question a few myths about the spread of the disease—that cases increased in cold or rainy weather (not true) and that the ban on crowding in public places was valuable (dubious).

Sixty years later, Pittsburgh added a footnote to the flu story. Although scientists have never been able to identify the exact virus responsible for 1918, they did conclude that it jumped from animals, and that the pandemic might be traced to influenza in swine. A new “swine flu” popped up in 1976, so a crash program was launched to develop and stockpile a human swine flu vaccine. In September, the first human cases appeared. Amid fears of a new pandemic, President Gerald Ford ordered a national inoculation program.

Inoculations had scarcely begun when the first reports of death subsequent to swine flu shots came in—from Pittsburgh. Three elderly persons who had been vaccinated died a few days later. Authorities called the deaths coincidental, but the news caused an uproar. The media labeled the office that had administered the shots a “death clinic.” Allegheny County Coroner Cyril Wecht (MD ’56) ordered a halt to inoculations in the county. Nine states followed

suit. A few weeks after that, the vaccine was blamed for an increase in Guillain-Barré syndrome. The flu caseload that winter, as it turned out, was nothing out of the ordinary.

Pittsburgh may draw attention again in the pandemic realm. Since 1918, scientists have successfully isolated each new flu virus as it appears and developed vaccines against it. Pitt virologist Julius Youngner is continuing research on a simple, nasal-spray flu vaccine, which preliminary tests show might stave off any future pandemic. If Youngner succeeds, there’ll be less need for ceremonies like the one last June in Butler County, so thoughtfully put on by the women of Saxonburg. ■

Kris Murawksi contributed to this story.

Slice red peppers into half-inch strips and eat them in a sandwich twice daily to burn out coughs, colds, and fever, it was said.

third of students absent either because of illness or because parents feared exposure, the Pittsburgh schools were finally closed.

The area’s economic base came to a standstill, along with public services. Some firehouses had only one man available. Coal production was cut in half. Steel mills banked furnaces or operated with skeleton crews. Stores and offices emptied.

The desperate quest for some treatment, any treatment, went on around the clock. The medical school assigned two of its most respected scientists, Oskar Klotz and W. L. Holman of the Departments of Pathology and Bacteriology, to set up a flu laboratory to investigate the cause of the disease, its mode of transmission, and possible treatments. Their work first focused on Pfeiffer’s bacillus, historically found in many flu cases. The frustrated scientists concluded that Pfeiffer’s piggybacked on the flu, but wasn’t the cause.

Scientists elsewhere strove to develop a vaccine to protect those not yet exposed. The most popular serum was made from victims’ blood. Doctors were dubious, but the effort answered the call to “do something.” The Red Cross ordered 10,000 doses, and Carnegie Steel Corporation announced plans to inoculate all workers.

city celebration followed. The two mass gatherings apparently caused a new spike in flu cases. The horrors of the past weeks, however, were quickly shouldered aside with newfound jubilation.

But neither the city nor the country could be considered back to normal. An official tally of the flu’s ravages in the nation’s 46 largest cities showed that Pittsburgh was among those suffering most. The 1918 death rate was 25.4 deaths per 1,000, more than double that of the year before. Only Baltimore and Nashville had a higher per capita rate. Including the nearly 4,600 Pittsburgh fatalities, more than 35,000 died in Pennsylvania.

Six months after the plague was officially over, members of the medical school faculty produced a 293-page report on their clinical and research observations of the flu’s run in Pittsburgh—a remarkable piece of work, considering how stressed they’d been during that awful period. Edited by Oskar Klotz, of the Pfeiffer’s project, the report analyzes treatment,

LAST DANCE

Among many instances of the flu’s introduction to a community and its swift spread, the experience of Masontown, south of Pittsburgh, was typical. A dance was held in the town and musicians were brought in from other communities. One musician fell ill and was subsequently hospitalized. Within a few days, flu had swept completely through the town. —EK