

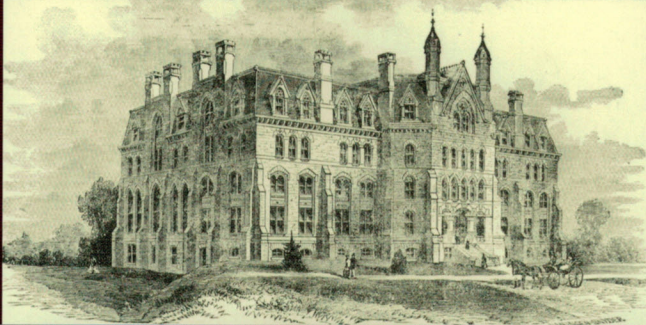
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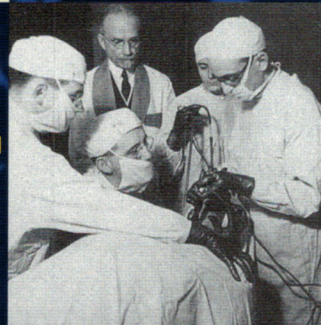
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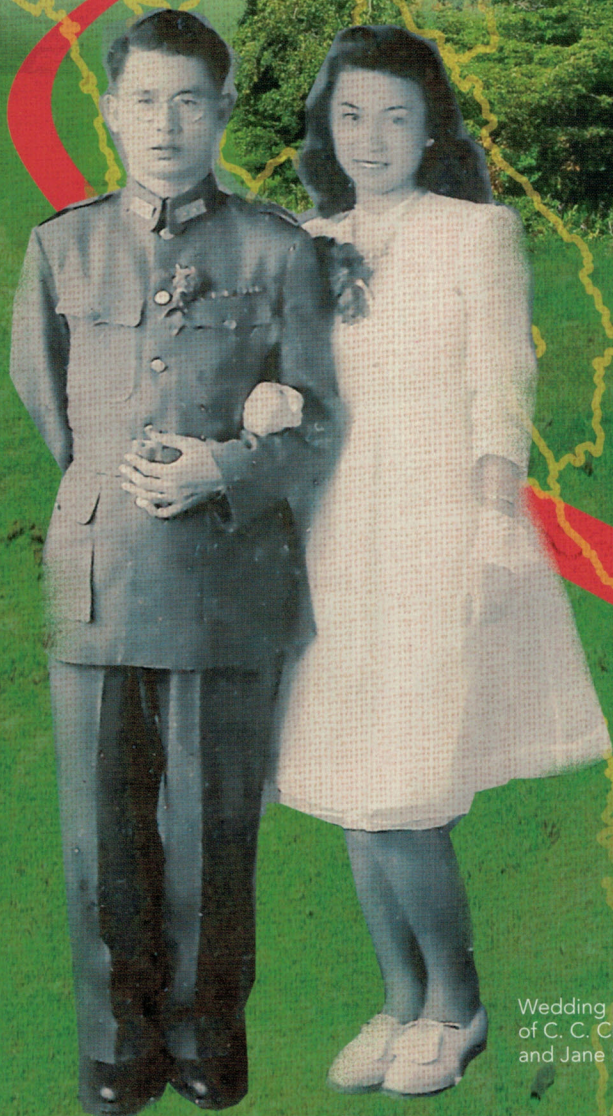
From Burma to Penn: A Family Saga



BURMA

FROM BURMA

20TH
GENERAL HOSPITAL



Wedding photograph
of C. C. Chu, M.D.,
and Jane Shek.

PENN

TO PENN: A FAMILY SAGA

By Art Carey

In the annals of Penn Medicine, I. S. Ravdin, M.D. '18, and Jonathan Rhoads, M.D., G.M.E. '40, are towering figures. Their achievements as surgeons, scientists, innovators, teachers, and administrators – and their remarkable work ethic – made them legends. Their contributions are immortalized in brick and mortar, steel and glass. The Ravdin Building and the Rhoads Pavilion are integral parts of the University's medical complex. Underlying their success as physicians was a deep devotion to the care and welfare of others, which was based, in turn, on a foundation of decency, generosity, and compassion, as manifested in humanitarian deeds both large and small.

Three members of the Chu family – Winston and his sisters, Jennifer and Janette – can attest. Theirs is a typical immigrant story in many respects. What's unique about it is that they were able to flee an oppressive regime in Burma and take advantage of the opportunities in America through their father's wartime friendship with Ravdin and later the kind intercession of his close colleague and protégé, Rhoads. Once here, all three Chus were trained at Penn and went on to successful careers – Winston as a plastic surgeon; Jennifer as a physician specializing in rehabilitation and electro-diagnosis; and Janette as a registered nurse.

Ravdin Builds a Hospital in the Jungle

The family's saga begins during World War II. After the Pearl Harbor attack, Ravdin, who had distinguished himself at Penn as a surgeon, researcher, and administrator, worked with the American Red Cross and the National Research Council to introduce albumin as a transfusable blood product for treating burn and shock patients. In 1942, the Army Medical Corps tapped him to supervise the 20th General Hospital in Assam, India.

The mission of the hospital, which drew doctors and nurses from Penn, was to provide medical care for troops engaged in building a road from Ledo, Assam, into North Burma. The goal was to restore land communication with China, where the invading Japanese had driven the Chinese government into the interior.

What Ravdin encountered when he arrived in 1943 was daunting. As he put it: "The . . . monsoon had begun the day before our arrival and where all before had been dust, now was mud. It was not possible to drive vehicles through



Penn surgeons Jonathan Rhoads (left) and I. S. Ravdin.

the area. There were no roads, nor fires, no provision for messes, no satisfactory quarters for women. Real work lay ahead."

Ravdin's task was to clear the jungle and build a hospital. This he and his staff did; in the end, the 20th General Hospital occupied 289 buildings and 162 tents. Constructed on high ground around a former polo field, bamboo "bashas" housed the hospital and its patients, nurses, doctors, and enlisted men. These native structures had dirt floors, sometimes covered with bamboo matting, and leaky roofs of palm leaves. There were no lights and very few outlets for water. In this area of heavy rainfall, malaria and dysentery were constants; leeches and mites were more dangerous than the snakes, tigers, and bears.

As a huge military installation sprang up at Ledo, the 20th General Hospital ministered to the American-Chinese forces



The entrance to the 20th General Hospital in Assam, India.

fighting the Japanese in Burma as well as the men constructing the Ledo road. In the 28 months the hospital operated under Ravdin's command, it admitted 73,000 patients.

Ravdin referred to the 20th General as a "league of nations" because it provided care to American soldiers, British troops with serious head, chest, and abdominal injuries, and the Chinese. In fact, more than half the patients were Chinese soldiers treated for the first time by modern Western medicine.

According to one admiring colleague, Ravdin, affectionately known as "Rav," exhibited the "tenacity of a bulldog" in obtaining necessary supplies and ensuring that conditions were livable for both patients and staff. Despite battle casualties and jungle diseases, the overall mortality rate was only 0.4 percent – no worse than for civilian hospitals. Ravdin was proud that his staff was able to employ modern practices such as antibiotics, and innovations such as air conditioning. He was determined to demonstrate that the surgery of war could be done with as much care and success as civilian surgery. The work of Ravdin and his staff was so excellent that the 20th General Hospital was regarded as one of the best hospitals in the China-India-Burma theater. In 1945, Ravdin was made a brigadier general, the first physician drawn from civilian life to achieve that rank.

Into the sphere of influence of this highly competent and charismatic man came a young physician named C. C. Chu. Born in what was then the Canton province of China in 1916, Chu Ah Chway (or C. A. Chway), as he was then known, was brought to Burma at an early age by his father, who was seeking a better life. Chway was only six when his father died, and because his mother remained behind in China, he was reared by an aunt and uncle. Burma was under British colonial rule at the time, and Chway attended the University of Rangoon medical school. When he graduated, the Japanese had invaded Burma, and the country was at war. Chway, who had adopted the simpler name C. C. Chu by now, joined the British army as a general medical officer.

As the Japanese advanced, the British forces withdrew to India. C. C. Chu was part of that retreat and had to slog

through jungles infested with leeches, mosquitoes, and other disease-carrying insects during the monsoon season. In Ledo, Chu reported to the 20th General Hospital, where he met and became friends with Dr. Ravdin, the hospital's executive officer and chief of the surgical service. In time, he joined Gen. Joseph Stilwell's American-trained Chinese army as it built the Ledo Road, moving across the top of Burma and southern China. Throughout the war, Chu continued to serve as a medical officer, tending to casualties at the Battle of Myitkyina, and eventually rising to the rank of lieutenant colonel. After the war, he kept up a correspondence with Ravdin, who had returned to Penn.

Under an Oppressive Regime

Winston Chu, the oldest of C. C. Chu's seven children, followed his father in becoming a doctor. The family was prominent in Burma, and C. C. Chu was the private physician to the prime minister of Burma and to the speaker of the House of Parliament. Chu made sure that all of his children were well educated. But in the 1960s, after a coup d'état, an oppressive socialist regime wielded power. One of its practices was to discriminate against ethnic Chinese. When Winston graduated from Rangoon's Institute of Medicine II, he was first in his class and won several academic honors. But instead of allowing him to pursue his ambition of becoming a surgeon, the government, which controlled all medical appointments, assigned him to front-line emergency medical training. The Chu family, because of harassment and persecution, was close to poverty.

"I never meant to leave Burma," Winston says. "But I wanted to be a surgeon, and if the government doesn't want you or like you, you're not going anywhere."

Dismayed by his son's predicament, C. C. Chu wrote a letter to Ravdin, appealing for assistance. At the time, Ravdin, who



A Chu family photograph, taken shortly before Jennifer Chu left Rangoon in 1973.

died in 1972, was incapacitated, so his wife, Elizabeth, forwarded the letter to Jonathan Rhoads, then chairman of the Department of Surgery.

"Through the kindness of his heart and a sense of international duty, he picked up the ball," Winston recalls. Specifically, Rhoads arranged a position for Chu in the Harrison Department of Surgical Research, which enabled him to come to the United States. But first, Winston had to win approval from the Burmese government, which made him run a gauntlet to obtain his certificate of identification (in lieu of a passport). There were numerous medical exams and negotiations with truculent officials. "I had to beg and borrow," Winston says, "and declare I would never return to Burma."

Winston arrived in the United States in 1971 and reported to the Hospital of the University of Pennsylvania, where he met Rhoads for the first time. After Winston had spent several months in surgical research, Rhoads asked if he'd like to become a surgeon. Chu jumped at the chance. After his surgical internship, Rhoads offered him a surgical residency. ("I was the only foreigner in the class," Winston says.) He completed his general surgical residency and then progressed to a plastic surgery residency. In between, he took a fellowship in head and neck oncology at the Fox Chase Cancer Center, where he studied head and neck oncology and won a prize for his research.

In 1979, Winston was board certified in surgery and plastic surgery and began practicing in Erie, Pa., where he has been ever since. During his 25 years of practice, he specialized in aesthetic surgery, although in the early years he did his share of trauma and cancer-related reconstructive surgery. In retirement, he has written a memoir titled *Reborn: Journeys from the Abyss* (Tate Publishing). The first abyss: Burma; the second, a life-threatening battle with *E. coli* septicemia.

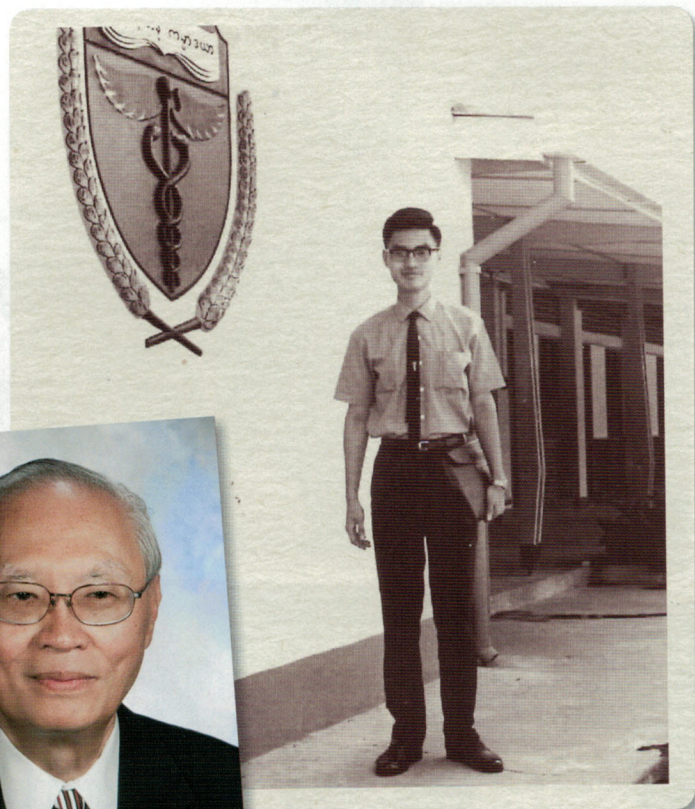
Although Winston never met Ravdin, he is deeply grateful nevertheless. He regards Rhoads, who died in 2002, as more than a friend.

"He was a mentor and benefactor who took a personal interest in the progress of my career. I consider myself extremely fortunate."

Rhoads Steps In Again

"My father was the kindest and most humble person I've ever met," recalls Jennifer Chu. "He always told us, 'Use your brain' and 'The sky's the limit.'"

She took those words to heart. After being selected by the government, she completed her training at the same army medical school in Burma that Winston attended and began her internship. But because she was sure she'd have to emigrate, she refused to accept her intern's salary; she knew she'd have to repay the government, just as her father had had to refund the cost of her medical education. Although born in Burma, she was considered a "foreigner" (read Chinese), and she encountered some of the same difficulties in trying to leave that her brother had. In fact, it took two and a half years



Winston Chu in front of the shield of Rangoon's Institute of Medicine II, from which he graduated; and Winston Chu today.

before she won permission to depart. Appointments to see immigration officials typically took three months. When the day arrived, papers were often misplaced or unready – and another three months would go by.

Finally, in 1973, her traveling documents were completed. She was permitted to use Burmese money to buy only five U.S. dollars and seven British pounds. The only belongings she was able to carry out were a suitcase filled with Burmese clothes and a pair of flip-flops. Fortunately, an uncle in Hong Kong paid her one-way airfare to the United States. There was a stopover in Hong Kong where she was able to purchase western clothes and shoes.

Once again, Rhoads paved the way. Jennifer came to Philadelphia with a work permit as a research assistant to Brooke Roberts, M.D. '43, an eminent vascular surgeon at HUP. She published a couple of papers with Roberts and in 1974 was accepted for a one-year rotating internship at Presbyterian Hospital.

After her internship, Jennifer returned to HUP for her residency in physical medicine and rehabilitation, a specialty not available in Burma. It was, she says now, "one of the best decisions of my life." The field required a deep knowledge of anatomy, and anatomy was her strong suit, thanks to her Burmese medical education. The chairman at that time was William Erdman, M.D., who chose her to be an attending physician when she completed her residency. He also allowed her a sabbatical leave for further training in electro-diagnostic medicine



Janette Chu (left) and Jennifer Chu display traditional Burmese wall hangings. Made of alabaster, they depict court musicians. The older photograph shows Jennifer at her 1972 graduation from medical school, with Janette on her left.



at the University of Uppsala in Sweden, where she became especially interested in the neuromuscular junction, which is crucial to her current work in pain care. In 1986, she and Robert J. Johnson, M.D., former chairman of anatomy at Penn's Graduate School of Medicine, published a textbook, *Electrodiagnosis: An Anatomical and Clinical Approach*. The book was placed on the suggested reading list of the American Academy of Physical Medicine and Rehabilitation and cited by the American

Association of Neuromuscular and Electrodiagnostic Medicine.

Jennifer often visited Rhoads in his office, initially to express her gratitude. When she kept returning, he asked her point blank why. Her answer: "I need to be mentored."

"I think he agreed to be my mentor because I jumped through all the hoops he set for me and not because I was some poor immigrant girl."

In time Jennifer and Rhoads became friends, and she was able to observe him at close range, which provided plenty of memories and anecdotes.

"We could converse on any topic, from academia to finances and daily life," Jennifer says. She remembers his gentlemanliness and how he would always rise from his chair and stand whenever she entered his office. She credits him for encour-

aging her to be a visionary, and she will never forget some of his pearls of practical wisdom. For example:

- "In politics dog eats dog. In academic medicine, it is the other way around.
- "Learn how to smell like a rose."
- "Do not get attached to only one thing."

Her last visit to Dr. Rhoads was about three weeks before his death, Jennifer recalls. "I had no idea of his impending demise, and as usual I went to visit him so that he could help solve my everyday problems. I noticed he was reading a medical record chart so old that the paper was yellow. I asked him what he was looking at, and he told me it was the chart of a patient he had operated on 50 years before when the patient was only 10 and suffering from burns. That same patient was returning to see him today, and he wanted to refresh his memory, he said. Such was the greatness of this man who understood the importance of connecting to people personally, even in his final hours. No wonder so many grateful patients returned to say goodbye to him."

In 2006, at age 58, Jennifer Chu retired from Penn Medicine to pursue her passion as an inventor and seek success as an entrepreneur in neuro-musculoskeletal medicine. At the time, she was an associate professor in the Perelman School of Medicine and director of the electro-diagnostic laboratories of the Department of Physical Medicine and Rehabilitation. Her latest invention, eToims (electrical Twitch-obtaining intramuscular stimulation: www.etoims.com) uses electrical current, applied non-invasively to skin to stimulate neuromuscular junctions or trigger points. What's unique about eToims is its ability to stimulate the trigger points of deep muscles where deep spasms occur. By evoking twitches that

continue spontaneously even without electrical stimulation, eToims fatigues the nerve and ends the cycle of nerve irritation at the site. The release of muscle spasms strengthens dormant muscles and relieves acute and chronic neuromuscular pain.

From Clerk to Nurse

Until recently, assisting Jennifer Chu in the enterprise was her sister Janette. She, too, left Burma, after being forced to leave medical school during the middle of her first year, because of the same discriminatory policies that induced her siblings to leave. In 1977, she arrived in Philadelphia.

Within three months, Janette was able to land a job, first as a clerk and later as an administrative assistant in the same place her sister worked, Penn's Department of Physical Medicine and Rehabilitation. At the same time, she decided to put herself through nursing school. Because she was working full time and attending school part time, it took Janette nearly eight years to earn her degree. She graduated in 1986 from Penn's School of Nursing and then worked as a surgical nurse at HUP for six years. After that, she was a clinical research nurse for nine years, in both inpatient and outpatient settings.

In 2001, Janette received a master's degree in health-care information technology from Drexel University. Employing that knowledge, she worked in Penn's Clinical Effectiveness and Quality Improvement (CEQI) department from 2001 to 2008 under Patrick J. Brennan, M.D., chief medical officer and senior vice president of the University of Pennsylvania Health System. In her years there, she assisted seven clinical departments with CEQI, patient safety, and regulatory projects. In all, Janette served HUP for more than 30 years. She credits her father for her achievements, citing especially his "wisdom, intelligence, and broadmindedness."

Jennifer Chu, on the other hand, attributes her long tenure with Penn Medicine to her beloved mentor, Jonathan. Rhoads. She tells this story:

"In 1988, the department had so much leadership difficulties that every faculty member left. I was the only remaining faculty member and I also wanted to quit." Even the timeline on current web site of the Department of Physical Medicine and Rehabilitation uses the words "The Department Disintegrates," and the search for a permanent chair took 11 years. As Jennifer remembers, she discussed quitting with Rhoads. "I told him I had never



Photo by Peggy Peterson

Jennifer Chu applies her stimulator to soothe a patient's nerve irritation.

made a bad decision and that I was convinced I should leave. Dr. Rhoads's answer? "This will be your first bad decision!"

Looking back, Jennifer says, "remaining with Penn Medicine was another one of my wise decisions. More recently, she was convinced once again of another of Penn Medicine's strengths – the clinical care it provides.

Jennifer had her first serious illness when she was 14 years old. She and her younger sister Julia became deadly ill with dengue hemorrhagic fever, and Julia died. Jennifer was hospitalized for more than a month. The experience marked her. "That was when I became convinced that I should become a physician, since I saw real suffering and patients screaming in pain throughout the night."

In December 2013, Jennifer became very ill from an enteric infection she had picked up on a visit to Burma. At first, she sought medical care at a local hospital close to her home and was immediately admitted on an emergency basis. But after 10 days, she had become progressively more ill, had gained 30 pounds due to gross fluid overload, and had undergone several tests when the diagnosis, she felt, was obvious. Even more: "If I were not my own patient advocate, I would have been more damaged." She was able to stop the hospital staff from adding unnecessary and potentially harmful medications into her IV drip – not once but twice. Janette stepped in and contacted Brennan, who arranged to have Jennifer admitted to HUP on a Sunday night. For a start, she needed two units of packed red cells to deal with her anemia.

"I am forever grateful to the UPHS," said Jennifer, acknowledging the "excellent" care she received. "Our organization is a superb machinery and seamless and flawlessly managed," she said, and she praised the ancillary staff as well. Because of her experience, she added, "I would never move out of Philadelphia."

After surviving what she called "my second brush with death," Jennifer feels prouder than ever to be part of Penn Medicine. To her mentor: "Dr. Rhoads, don't worry. Thanks to you, I'm carrying the baton now." □



Photo by Peggy Peterson