

Walter Clement Alvarez: Physician • Researcher • Columnist

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Abstract

The American Medical Writers Association (AMWA) currently bestows 3 awards in honor of 3 of its members: Harold Swanberg, MD, the founder of the Association; Walter Alvarez, MD, in retirement, a nationally syndicated health columnist; and John McGovern, MD, a philanthropist who supported initiatives in biomedical communications. However, the details of the lives of these men are unknown to most AMWA members. Accordingly, this biography describes the life and accomplishments of Walter Alvarez to recognize his achievements and to contribute to the history of the profession and of the Association.

Introduction

Walter Alvarez was an accomplished researcher and physician. As a gastroenterologist, he was the first to identify what is now called Alvarez syndrome, a medical disorder of unexplained neurotic abdominal bloating, and Alvarez-waves, or painless uterine contractions that occur throughout pregnancy.¹ He was among the first to call attention to food allergies,² brought worldwide attention to what would be called psychosomatic medicine,^{2,3} and was an early supporter of LGBTQ+ rights.² Despite these achievements, however, what he did in retirement is what caught AMWA's attention.

The Alvarez Family

Walter Alvarez was a remarkable man with a remarkable lineage. His father, Luis F. Alvarez, was born in Spain, orphaned early, and taken by a relative to Cuba at age 13, where he completed high school. He next went to San Francisco where he learned English, graduated from medical school, and started a family.⁴ He eventually became a government physician in rural Hawaii and was later appointed to run a new hospital for patients with Hansen

disease (leprosy),⁵ where he developed an early diagnostic test for the disease. He also became the personal physician to Queen Lili'uokalani of Hawaii.⁶

Walter's sister, Mable, was a renowned artist whose paintings were exhibited nationwide and are held in private collections around the world.⁷ His brother, Milton, became a businessman in the southern Philippines, in a Sultanate of the Islamic Moro people. He was so well liked that when the Sultan died, he was offered the position of Sultan (he declined).³ His brother, Harold, became a Professor of Dental Surgery at the University of California Medical Center in San Francisco and had a successful private practice.³

Walter's son, Luis, was one of the most notable nuclear physicists of the 20th century. He made the first precise measurements of neutrons; invented the cyclotron, ground-controlled radar (which allows planes to land in poor visibility), the transponders that identify airplanes in flight, and a stabilizing optical system for cameras; analyzed the Zapruder film of the Kennedy assassination; received the Nobel Prize in physics; and—probably most importantly—invented the stroboscopic golf-trainer that helped President Eisenhower improve his golf swing.⁸

Walter's grandson (Luis's son, also a Walter) was a geologist and professor in the Earth and Planetary Science Department at the University of California, Berkeley. He studied the phenomenon of “geomagnetic reversals,” which occur when magnetic poles trade places, and was able to estimate the dates of these reversals—over the past 100 million years.⁹ In 1980, he and his father proposed the “Alvarez hypothesis,” which postulated that an asteroid hitting the earth ended the age of dinosaurs 66 million years ago.¹⁰ Their hypothesis was confirmed in 2010.¹¹

Growing Up in Hawaii

Walter Clement Alvarez was born in San Francisco in 1884,

the son of Luis F. Alvarez, MD, and Clementina Alvarez. An older brother had died of diphtheria at the age of 4, making Walter the oldest of his 4 siblings: Milton, Florence, Mabel, and Harold.³ When he was 3, the family moved to Hawaii, where his father was a government physician in rural Oahu caring for migrant workers in the sugar cane plantations.^{3,4}

Walter and his siblings grew up in relative isolation. His mother taught him to read, and he remained a voracious reader throughout life. He often accompanied his father on medical rounds in the countryside. On these trips, he encountered the *kahunas*, the shamans who could put spells on people that actually resulted in death.³ He would remember this phenomenon when he began to investigate why his patients had symptoms for which he could find no medical cause.

One day, his father had to operate on a field worker who had lost his hand. The operating theater was the front lawn of the Alvarez house, and the operating table came from the kitchen.³ Walter assisted in the surgery—at age 7. He credits those experiences with his decision to become a doctor.²

After 8 years in Oahu, the family moved to Honolulu, where Walter's father ran a new experimental hospital for treating leprosy.^{2,12} In Honolulu, Walter had access to better schools. Still, much of his education came from extensive reading on a wide variety of topics in the local library.³

After graduating from high school in Hawaii in 1901, Walter returned to San Francisco, where he enrolled in Cooper Medical College (later to become the Stanford University School of Medicine).^{2,13} He was only 17, but at that time, medical schools required only a high school education to matriculate.³

Private Practice

Walter began his internship and his research career in a San Francisco hospital in 1906 (he was there for the great earthquake). In his first published article, he confirmed the recent discovery of *Treponema pallidum* as the cause of syphilis.¹⁴ Some 25 causes of syphilis had been proposed, so his diagnostic confirmation of *T. pallidum* was important. The article was published in the *Journal of the American Medical Association* when he was just 22 years old.

In the early 1900s, patients were routinely “purged” with laxatives before surgery to clear their bowels, even though the process weakened and dehydrated them. When no one could tell him why purging was done, he spent weeks in the library researching the practice. He concluded that its origins were the cleansing rituals that many preliterate cultures used to prepare someone for an ordeal, such as an initiation rite. He also found no evidence that it was effective. In one of his earliest publications, he made the case that purging was harmful and should be stopped.¹⁵ The article is credited with reducing the practice worldwide.²

Walter married Harriet Skidmore Smythe in 1907.¹⁶ Later that year, their first daughter, Gladys, was born,¹⁷ and Walter took over his father's medical practice, which was now in a remote mining camp in Cananea, Mexico (Figure).¹⁸ As in Hawaii, he was again living among indigenous people who held different beliefs about health, sickness, and healing. When he noticed that many of his patients expressed strong emotional reactions and exaggerated symptoms that seemed unrelated to organic causes, he made a point to spend time with the local *curanderos*, or traditional healers, learning how they understood and treated their patients. With this understanding, he could provide better medical care by helping patients suspend prescribed cultural reactions: “I can't listen to your heartbeat if you continue to wail.” His patients could now stop the expected wailing because “the doctor said so.”³

After 2 years, however, he was ready to return to San Francisco and so accepted an offer to open a practice with his former teacher and mentor, a gastroenterologist named Dr Schmoll.² Their practice soon became the most prestigious in the region (according to Walter, perhaps with understatement, because they were so successful in treating millionaires for gout and in diagnosing syphilis with the new Wassermann test).²

During this period, he began taking notes on his patients who reported abdominal pain or discomfort but in whom he could find nothing physically wrong. Other physicians had given these patients an undefined diagnosis of “auto-intoxication” and often put them through one or more exploratory surgeries. Walter remembered the *kahunas* and the *curanderos*. He was also aware that “confession of a sin made to a physician can be just as effective...as a confession made to a priest,” and noticed that abdominal symptoms often disappeared when patients resolved some issues in their lives. In 1912, he gave his first lecture on what later would be called psychosomatic medicine, and he continued to investigate this mind-body relationship throughout his career.²

Walter was a gifted diagnostician. Without modern testing, physicians actually had to look at and listen to their patients, and the best physicians were masters of careful observation. To show interns how important this skill was, Walter interpreted a chest radiograph picked at random. His observations: the



Figure. Walter Clement Alvarez, age 23. Used with permission of Mayo Foundation for Medical Education and Research

radiograph was of a woman about 50 years old, who was tall, slender, and frail. She was Catholic and had had several children. She had had tuberculosis and possibly a mild case of polio as a child and, at some point, pneumonia. She probably had high blood pressure, arteriosclerosis, and arthritis. Finally, she quite likely hunted pheasants with her husband or brother and had been thrown from a horse. (His explanations for each observation are in his autobiography.² Sherlock Holmes, move over.)

During this time, he learned one of his little “diagnostic tricks”: “When you can’t identify the cause of a patient’s discomfort, ask the spouse.” (!)

After 3 years, Dr Schmoll’s mental health began to decline (he was eventually institutionalized), and Walter left the practice. In 1912, he accepted a position at Harvard University, working with Dr Cannon, a renowned gastroenterologist, researching the anatomy and physiology of the bowel (OK, he studied flatulence in rabbits. But the research was far more important than the subject implies).¹² During this period, Walter also introduced the term “irritable bowel syndrome.”¹⁹

While in Boston, Walter decided he needed access to a broader range of the scientific literature. Already fluent in English, Spanish, and French, he could also understand Italian from his study of Latin, but he could not read German. So, for the next 4 years, he studied until he could easily read technical articles in German.² (This period coincided with WWI, but his studies were unrelated to the War. Walter does not mention either WWI or WWII in his biographies.) Walter explained his enthusiasm for learning by citing the Greek origins of the word: en-theos, the “God within.”³ This drive to expand his knowledge was lifelong. When insulin was discovered, he visited the Canadian scientists, Drs Banting and Best, who had discovered it. He made a point to meet Sir Alexander Fleming, the discoverer of penicillin, and when he became frustrated at how to care for his gay and trans patients, he sought out Dr Alfred Kinsey, the pioneer in research on sexuality and gender issues.³

When the family returned to San Francisco in 1915, in addition to Gladys, they had 3 more children: Luis (1911), Robert (1913), and Bernice (1915).²⁰

Back in San Francisco, Walter ran a highly successful medical practice from 1915 to 1925, spending a half day at his office and the other half conducting research at the University of California, Berkeley.^{2,18} Although he was primarily a clinician, by 1919, his reputation as a basic researcher led to his election to membership in the American Physiological Society, the Society for Experimental Biology and Medicine, the American Society for Pharmacology and Experimental Therapeutics, the American Society for Clinical Investigation, and the American Roentgen Ray Society.¹³

Also, in 1919, he turned his full attention to statistics,²¹ which he regarded as essential for doing research. Later, he

was instrumental in establishing the statistics department at Mayo Clinic.²

Walter eventually parted ways with other physicians in the San Francisco County Medical Association over their opposition to “much-needed workman’s compensation laws” and was looking for a new opportunity. As luck would have it, at a conference, he sat next to a member of the board of directors of Mayo Clinic, who immediately offered him a position at the Clinic, which he took in 1926.²

His Career at Mayo Clinic

At Mayo Clinic, Walter got his wish: he could continue his research, see patients, and support his family. Eventually, his worldwide reputation as both a researcher and a clinician in gastroenterology led to his presidency of the American Gastroenterological Association in 1928.² From 1937 until he retired from Mayo Clinic in 1951, he was also editor-in-chief of the *American Journal of Digestive Diseases*, which later became *Gastroenterology*.²²

Walter was an early advocate of health education.²¹ In 1932, he proposed that the Clinic create a museum of medicine to help patients and the public understand the human body and its ailments and treatments. The museum continues today as Mayo Clinic Heritage Hall.

In his second autobiography, he recalls that “Two of my most grateful patients were notorious gangsters, who, strange to say, I came to like.” One, “a well-known citizen of Chicago” from whom Walter removed a painful gallstone, begged Walter to “commit some crime so that through his friends he could ‘get me off.’” The other kept asking if there wasn’t someone Walter wanted “bumped off,” which would be done without charge!

In his 25 years at Mayo Clinic, Walter published nearly 350 scientific articles.²¹ Several times, he ran afoul of the young editors in the Division of Publications run by the legendary Maud Mellish. He tells about how they tried to make his writing more scientific by using more technical terms, such as replacing “hiccup” with “singultus,” and adhering to arcane rules of grammar when he wanted to write less formally. They also wanted to soften some of his more challenging conclusions. “Fortunately for me...the Editors-in-Chief Maud Mellish and later Richard Hewitt always came to my rescue; they chased away the young ladies with the blue pencils...”² (Dr Hewitt was President of AMWA in 1955.)

Retirement, Sort Of

In 1950, Walter turned 65, retired from Mayo Clinic, and moved to Chicago. Within 6 months, however, he agreed to be the editor-in-chief of *Geriatrics* and *Modern Medicine* and would remain so until he retired again, 25 years later, at age 90.

Walter continued to write after he retired. As a journal editor, he had written hundreds of editorials. In Chicago, he continued this practice as a newspaper columnist, gaining fame as “America's Family Doctor” for his practical and understandable columns on personal health.²³ His columns were soon syndicated in hundreds of daily and weekly newspapers throughout North America and in several countries.^{17,24} These columns, the 17 books he published during this period, and his “reassuring clinical wisdom and compassion” made him a beloved and world-famous physician.²⁵

In his editorial office in Chicago, Walter hired a young woman just out of college to become his editorial assistant. Kelley Williams would spend the next 14 years editing his writings, producing weekly syndicated television and radio programs, and helping to coordinate his many professional activities and lectures at scientific conferences. She even suggested the wonderful title for his first autobiography, *The Incurable Physician*. Walter, in turn, mentored her in medical writing and broadened her understanding of medicine and of life. In 1987, Kelley became President of AMWA, where she helped develop the core curriculum that was the backbone of the Association for many years (Kelley Williams, personal communication, June 28, 2020).

Walter wrote on a wide range of topics, among them, the use of a psychological evaluation when diagnosing illness, the use and misuse of tranquilizers, the use of hypnosis in treating asthma, the activity of obese girls, the effects of glue-sniffing in children, office treatment of behavior disorders, depression, psychotherapy, sleep disturbances, and suicide. During this period, he became the most widely read and respected physician of the 20th century. At the peak of his activities, he had 12 million readers²⁴ and received more than 100,000 letters a year asking for medical advice.² His books and editorials in *Modern Medicine* and *Geriatrics* were enjoyed by thousands of physicians.

Throughout his professional life, Walter was interested in the genetic determinants of disease, especially psychiatric disorders (Box 1). In part, his interest stemmed from his colleagues who did not routinely take thorough family histories of their patients and so missed many diagnoses. Also, in the early 1900s, the “nature vs nurture” debate was in full swing, and “nurture” was more popular among some physicians, who were quick to blame parents for the mental health issues of their children. (One section of Walter's essay on heredity is titled “The Taboo Against Even Mentioning Heredity.”²)

Walter believed he never adequately understood his patients who had questions or concerns about their sexual lives or gender identity. Medical schools seldom addressed the topic, which was considered taboo and was accompanied by much incorrect information. Walter did what he always did in

Box 1.

Early in his career, Walter became interested in genetics and the effects of heredity on health. He relates a story told to him by an elderly doctor who had attended Walter's lecture on the topic. A census taker had knocked on the door of a shack in the course of his duties, and the door was opened by a girl who appeared to have a developmental disability but was nevertheless able to communicate. When the man asked if her father was in, she replied, “Naw, he's in the penitentiary.” When he asked if her mother was in, she replied, “Naw, she's in the state hospital.” Asked if she had a sister, she said, “Yeah, she works in the red-light district.” Did she have a brother? “Yeah, he's at Harvard Medical School.” The man, stunned, said, “You mean your brother is a Harvard professor?” “Naw,” she said. “He's no professor. He has two heads; he's in a bottle of alcohol.”

such cases: he sought the best information he could find. He became good friends with Dr Alfred Kinsey, who had just completed his landmark surveys, *Sexual Behavior in the Human Male* and *Sexual Behavior in the Human Female*. (Kinsey's research was funded in part by the Rockefeller Foundation, where the research department was headed by Dr Alan Gregg, for many years a prominent member of AMWA.) Walter accepted the variety of gender identities as natural differences, not as moral failings to be punished or “cured,” and had great sympathy for his patients and the fear, guilt, anxiety, and discrimination they experienced.²⁶ He sought to educate his colleagues and the public on the natural biological realities and on the unjust social consequences of sex and gender identity (Kelley Williams, personal communication, June 28, 2020).

His Legacy

In 1975, Walter retired for the second time. His wife had died in 1973, and he eventually moved back to San Francisco to be with his children and grandchildren. He died there in 1978, but not before hiring yet another editorial assistant and writing until his death (Kelley Williams, personal communication, June 28, 2020).

Walter kept a diary for most of his life. Before writing the *Incurable Physician* (published in 1963),² he read all 62 volumes of the diary to prepare. He published 2 autobiographies, in 1963² and 1976.³ The biographies include many of his editorials.²⁷ His second autobiography is filled with stories and anecdotes from his practice of medicine, which makes it quite engaging (Box 2 on next page). The stories make it clear that although “many physicians treat diseases, Alvarez treats people who have diseases.”²³

Box 2.

Walter tells a story about why physicians shouldn't jump to conclusions about their patients. One of his patients, a woman, was told by another doctor that her poor health was caused by not having children. "I know your type well. You doll yourself up in the morning, play cards in the afternoon, and live a stupid, indoor existence." Later, she told Walter that "I didn't bother to tell him that my husband smuggles whisky across the Canadian border. Most nights I sit in the car with him, watching out for hijackers, with a submachine gun across my lap."

For his achievements in educating the public about health and disease, AMWA created the Walter C. Alvarez Memorial Award in 1982 to "honor excellence in communicating health care developments and concepts to the public."²⁸

Walter's last column, written 4 years before his death at age 94, was titled "The folly of retirement at age 65."²⁹ He clearly knew of what he spoke.

Author declaration and disclosures: *The author notes no commercial associations that may pose a conflict of interest in relation to this article.*

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