Academic Homeopaths Reinvented

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At the beginning of the twentieth century, the three top-tier homeopathic medical schools were Hahnemann Medical College in Philadelphia, the New York Medical College, and Boston University School of Medicine. Second-tier schools existed at Michigan, San Francisco, and Ohio State. Together, these six institutions developed scholarly research programs and graduated a number of talented doctors who kept homeopathy on the national map.

Once American homeopathy began to fade after World War I, and its professional societies withered, homeopaths at the universities had little choice but to adapt to the new world of American medicine if they aspired to an academic career. Thus, in the 1920s and 1930s, some prominent homeopaths began to make their mark in regular medicine. This chapter focuses on Roy Upham, Conrad Wesselhoeft, Lynn Boyd, and Thomas McGavack. It could be argued that others (e.g., surgeons, anesthesiologists, cardiologists, psychiatrists, etc.) warrant inclusion here, but these individuals can more easily be categorized according to their specialty and are better addressed in the appropriate sections.

Roy Upham: Promoter of International Homeopathy

Roy Upham (1879–1956) received his medical degree from the New York Homeopathic Medical College in 1901. He remained on the NYHMC faculty, first as an assistant professor and then later as professor of gastroenterology, directing that department for many years. He was a staunch advocate of homeopathy, being heavily involved in the American Institute, serving as its president in 1921. Additionally, he was one of the founders and first president of the *Liga Medicorum Homeopathica Internationalis* (LMHI) in 1925 – an organization that remains the premier international homeopathic organization today. An illustration of Upham's commitment to homeopathy is evident in a 1921 publication, where he wrote "Our school of scientific medicine has made a record of which we can well be proud and our flag should fly not in arrogant flapping but with a conscious satisfaction that the world may take notice of its standards," and he urged his colleagues to "let your light shine and you will give courage to every man who sees it" [1].

As homeopathy declined, Upham adjusted to the new order and earned a fine reputation in allopathic medicine, publishing, mentoring, and practicing at his alma mater. Upham's greatest legacy to his institution, and more widely to medicine, was endowing the gastroenterology clinic (later division of gastroenterology) at NYHMC in his mother's name. Thus was born the Sarah C. Upham Division of Gastroenterology at New York Medical College, as well as an endowed chair of gastroenterology and liver diseases in her name. As of 2011, the trust provided between $250,000 and $400,000 in support of the program [2]. Upham's philanthropy not only attested to his institutional loyalty, even after the school's abandonment of homeopathy, but also planted the seeds for future medical breakthroughs. As noted on the school's website, the division has nurtured some excellent science, for example, the work of Jerzy Glass on gastrointestinal hormones, Slomiany's discoveries in relation to gastric mucus, Rigas' breakthroughs in chemoprevention of colon cancer, and the role of a new hepatitis virus [3].

Even as Upham embraced regular medicine, he did not forsake homeopathy and was presenting talks as late as 1937, when he spoke at the LMHI meeting in Berlin on snake venoms and their application in treatment, including in seasickness. One minor measure of his recognition in public can be gained from an announcement in the *Montreal Gazette*, which singled him out from over 1,000 passengers who were arriving in New York on the steamship *New York*, referring to his participation at the Liga meeting in Europe [4].

Conrad Wesselhoeft: Physician in Search of an Identity

The Wesselhoeft family arguably represents one of medicine's longest dynasties, stretching unbroken for more than 200 years from the time of Goethe up to the present day.

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Its most recent scions are Conrad W. Wesselhoeft (born 1933), pediatric surgeon and clinical professor at Brown University [5], Robert Wesselhoeft III (1944–2007) of Tufts University, and Hadwig Wesselhoeft (born 1926), a pediatric cardiologist on the German side of the family. All have made enduring contributions to modern medicine. Conrad published several important articles on thoracic surgery in children [6], while Robert played a significant role in developing family medicine as an academic discipline, emphasizing patient-centered care and humanistic values. He became the first chief of family medicine at Tufts University Medical School, and his influence was felt by his many students who chose family medicine as a career. He also established training opportunities in Europe and Africa and a family clinic in New Zealand [7]. Hadwig Wesselhoeft spent some years in the United States before returning to Germany, and she has contributed a number of publications in leading journals of cardiology [8, 9].

These modern-day Wesselhoefts were preceded by at least four generations of Wesselhoeft physicians, of whom Conrad Wesselhoeft 2nd (1884–1962) is the focus here. He was the ninth physician in his family and, like all previous Wesselhoefts, practiced homeopathy. When Boston University School of Medicine (BUSM) opened its doors in 1873, 3 of the 17 founding faculty were Wesselhoefts. As far as this author is aware, no Wesselhoefts are currently practicing medicine, although two are now living in retirement [10, 11].

The dynasty began with the sons of Karl Wesselhoeft, a successful publisher in the city of Jena, Germany, in the late eighteenth century. The Wesselhoeft family was on friendly terms with Goethe, who often visited them at home and took a kindly interest in Karl's young son, William, born in 1794. After completing his medical studies in Europe, William Wesselhoeft (1794–1858) came to the United States, followed later by his younger brother Robert (1795–1852), where they embraced homeopathy. William was instrumental in establishing the first homeopathic teaching academy in Allentown, PA, and shortly afterwards moved to Boston, where he established a homeopathic practice. Robert also settled in the same town.

In 1842, the two brothers earned a measure of fame when Oliver Wendell Holmes attacked the popular Dr. Robert Wesselhoeft in his vilification of homeopathy as a form of quackery. Following this attack, Robert moved to Brattleboro, Vermont, where he and his brother opened the Wesselhoeft Water Cure, a hydropathic establishment, which grew into a most successful enterprise, although a leading Boston medical journal castigated hydropathy as "one of the last of the great medical farces being played for the diseased imaginations of semivaletudinarians" [12]. Nathaniel Hawthorne was to base his novel, *The Blithedale Romance*, on these events. In another story, *Rappaccini's Daughter*, he also immortalized Robert Wesselhoeft, about whom he had negative feelings due to Wesselhoeft's use of hypnosis on Hawthorne's wife without permission.

Robert Wesselhoeft had three sons, Conrad Wesselhoeft 1st (1834–1904), Reinhold, and Walter. Conrad practiced, published, and taught at BUSM, and among his patients were Ralph Waldo Emerson, Henry Wadsworth Longfellow, Harriet Beecher Stowe, Emily Dickinson, and Louisa May Alcott. Conrad too earned his day of literary fame as the dedicatee of Louisa May Alcott's novel, *Jo's Boys*. Reinhold was strongly attracted to a medical career, but was denied the opportunity. While serving in the Union Army at Ball's Bluff, his regiment was trapped on the southern side of the Potomac River. Attempting to escape capture, he drowned while trying to save a colleague who had been shot by Confederate troops. Walter's third son, Conrad Wesselhoeft 2nd (1884–1962), entered medicine and became one of the few Americans of his time to explore the scientific foundation of homeopathy [13] (Fig. 11.1). Later in his career, he acquired fame as an infectious disease specialist [14].

Fig. 11.1 Conrad Wesselhoeft. Expert in infectious disease (Image from the National Library of Medicine, in the public domain)

Conrad Wesselhoeft occupies a central place in any historical account of the intersection between homeopathy and conventional medicine. He began his career as a homeopath and later became a distinguished researcher and clinician in both schools. In his approach to medicine, he demonstrated exemplary objectivity and conducted some of the earliest, largest, and best (for the time) controlled studies of homeopathic remedies. Wesselhoeft provides a lens through which we can observe an individual who successfully practiced homeopathy and orthodox medicine at the highest academic level. Conrad Wesselhoeft journeyed from being an important contributor to homeopathy to a Harvard-based authority on infectious disease. After his death, he was saluted with obituaries in the *New England Journal of Medicine (NEJM)* and *Journal of the American Medical Association (JAMA)* [15]. The obituary in *NEJM* is quite comprehensive and speaks to Wesselhoeft's entire career, whereas *JAMA* restricts its tribute to Wesselhoeft the allopath, avoiding mention of his homeopathic affiliations.

Mary Kraft [16] has summarized the fascinating story of the Wesselhoeft family, remarking (as noted above) that Conrad was preceded by eight other Wesselhoeft doctors. Although Conrad's father, Walter, was a homeopathic professor of anatomy at BUSM, he was unconvinced about homeopathy's superiority, referring to himself as a mugwump in this respect (i.e., sitting on the fence). Reflecting on his life, Walter Wesselhoeft wrote in his memoirs: "I am glad and thankful to retire. My disapproval of the school and hospital (Boston University) were deep within me … On all my inward conflicts, on all my suffering and sacrifices on behalf of the cause I really had at heart … I now look without the heartfelt joy a long life of hard work … should bring" [17].

Notwithstanding his ambivalence about homeopathy, Walter Wesselhoeft overcame initial skepticism by his community and colleagues and built up a successful homeopathic practice, firstly in Halifax, Nova Scotia, and later in Boston. Moreover, and despite their professional differences, father and son shared coverage of each other's patients when one of them was away.

Walter Wesselhoeft bequeathed his inner struggle for his son Conrad "to bring together allopathy and homeopathy" – a burden to place on anyone's shoulders, but Conrad Wesselhoeft was ideally prepared to meet the challenge. His personal voyage in this regard will be described.

Wesselhoeft completed 3 years of undergraduate study at Harvard University, but before graduating, he entered BUSM. After a year there, he transferred back to Harvard in order to fulfill his father's charge that Harvard would expose him to the best allopathic training. He graduated in 1911 and then accepted an internship at the Massachusetts Homeopathic Hospital, where he studied homeopathy for treating diphtheria. For much of the next 15 years, Wesselhoeft continued his homeopathic research and for many years was a prominent figure in the homeopathic community.

Homeopathic Career

Wesselhoeft belonged to the American Institute of Homeopathy and in 1913 was appointed an assistant editor of the *New England Medical Gazette*, being promoted to full editor in 1917. He conducted substantial clinical research into homeopathy and it may well be asked how this was made possible. Such research was supported by the Evans Memorial Research Center, endowed through a bequest from Mrs. Maria Antoinette Evans, widow of a wealthy Boston businessman, Robert Dawson Evans. As briefly outlined in Chap. 6, Mr. Evans was fatally injured when thrown from his horse in 1909 and received terminal care at the Massachusetts Homeopathic Hospital. Mrs. Evans was so impressed with the care given that she made the bequest to establish a research program; the endowment was created in 1910 and research began in 1912. Wesselhoeft worked in the department of pharmacology at the Evans Memorial. Other research occurred at Evans, both homeopathic and allopathic, and there are two interesting accounts of the Evans program at the time. One of these accounts was provided by the neurologist James Putnam, who referred to plans for research into psychoanalysis, and another account by Elmer Southard reported on the significance of a homeopathic foundation for clinical research and preventive medicine [18, 19]. For several years, the Evans Building provided a base for Conrad's work, and it still stands today, home of the BU Department of Medicine, although the time has long since passed since any homeopathic research has been performed there (Fig. 11.2). In 2012, the Evans Memorial celebrated its first 100 years with a commemorative conference.

Wesselhoeft's reports on the treatment of constipation, malaria, scarlet fever, diphtheria, and digitalis will be described. In these papers, Wesselhoeft was candid about the problems bedeviling homeopathic practice and the profession's reluctance to deal with them. Because these issues are as relevant today as they were a century ago, they will be discussed in the following paragraphs, along with a review of Wesselhoeft's clinical career at Boston and Harvard Universities.

Constipation

One of Wesselhoeft's earliest trials was a placebo-controlled comparison of individualized homeopathy in 166 patients with constipation. Potencies ranged from the third to sixth, that is, these were low dilutions that would have been pharmacologically active. Recovery rates were the same in both groups: 78 and 66 % for homeopathy and placebo, respectively. He emphasized the power of suggestion in his series. Despite finding no difference, Wesselhoeft wrote, "This small experience with cases of constipation has far from led me to a state of therapeutic nihilism … I shall still console myself with the idea that the patients do better in other

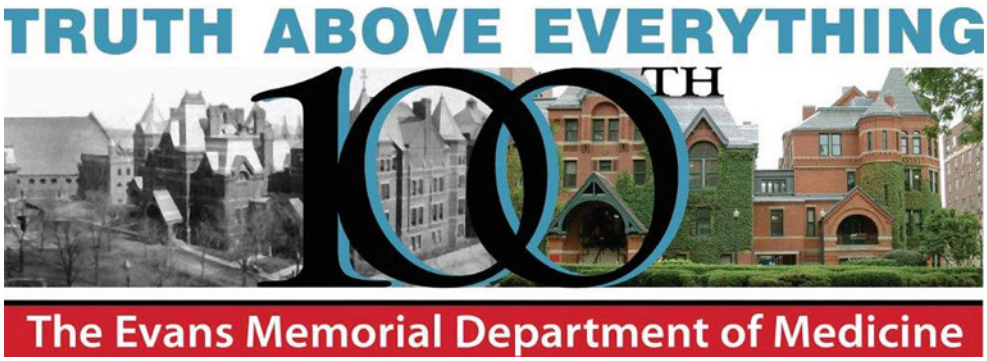

Fig. 11.2 Evans Memorial Institution. One of the earliest endowed university medical research units. Centennial celebrated in 2012 (Image by permission of Boston University School of Medicine)

respects under Homoeopathy until this is proved to the contrary, even if the constipation effectively takes care of itself" [20]. He believed that homeopathy had more widespread effects than simply the easing of constipation, but as he noted in his report, the absence of any other measures made it impossible to demonstrate.

Quinine for Malaria

In 1913, Wesselhoeft published a study of quinine's mechanism of action in malaria, one form of which is transmitted by the parasite, *Plasmodium vivax*. Wesselhoeft wished to ascertain whether the drug acted indirectly by stimulating host defense mechanisms or directly via action on the parasite. In so doing, he could potentially show if the mechanism of action was compatible with homeopathic teaching, which held that quinine worked indirectly through stimulation of host resistance, or "vital force," which is what his study did in fact show [21].

Scarlet Fever

In 1917, Wesselhoeft published an article on the effect of homeopathic belladonna to prevent and treat scarlet fever [22]. The paper began with some pertinent observations about two disturbing trends in homeopathy at that time. Firstly, he noted there was a drift away from careful experimentation into either formulaic uses of remedies without trouble being taken to individualize treatment – a state of clinical laziness or "cut and dried homeopathy" as he put it. Secondly, many homeopaths had turned their attention to the more remunerative practice of surgery (albeit with some considerable success as described in Chap. 4). Additionally, Wesselhoeft made a fundamental point that applies to all clinical research. He emphasized that clinical researchers need to be well versed in the nature and course of the disease under study, as well as being familiar with its relevant literature. He further stated that clinical research is the "final criterion of the efficacy of all therapeutic measures and is attended by many snares and pitfalls."

His scarlet fever paper assessed a time-honored homeopathic remedy, belladonna, given as open-label (i.e., not blinded) treatment for nurses about to be exposed to cases of scarlet fever on the wards. Ten of 26 (38 %) who received triturated belladonna 3X, two tablets twice a day, developed scarlet fever. The next year, another sample of 26 nurses received atropine 3X, with the same number (38 %) acquiring the disease. The third winter saw another sample of 28 nurses who received no treatment, of whom 10 (36 %) developed scarlet fever. Wesselhoeft concluded there was no evidence that the remedies prevented scarlet fever.

In the second part of his report, the author compared belladonna to no treatment in 227 established cases of scarlet fever. No differences were found between groups in the length of hospital stay or rates of complications. Wesselhoeft opined that belladonna may not be the best remedy for some cases and that he had good experience with *Mercurius corrosivus* 6X and *Lachesis* 6X. Despite his negative findings, Wesselhoeft concluded that he still preferred homeopathy, mainly because the alternative measures were quite toxic. He exhorted his colleagues to take these results as a challenge and pursue systematic evaluation of homeopathic remedies themselves.

A note of pessimism can be detected in some of these reports, primarily Wesselhoeft's remarks on the difficulty in assigning sufficient time to individualize the choice of remedy. Although he did not explicitly say so, he implied that a major limitation to the homeopathic method lies in its time-intensive history gathering for busy practitioners. He also alluded to unresolved matters of doctrine around high vs. low potencies and how remedies should be given (e.g., alternating the remedy each day or staying with one remedy) for which there was virtually no data but strong opinions. Regrettably, there was almost no response to these challenges by the homeopathic or allopathic communities.

Whooping Cough

Wesselhoeft wrote a thoughtful account of the homeopathic treatment of whooping cough in 1917 [23], in which he expressed vexation with homeopathic colleagues who had no interest in testing fundamental theories. One is struck by his comment that "… no comparative statistics

of any moment have been produced to show the relative efficacy of low potencies over high potencies, of the value of a particular repertory over another, of the value of alternating or combining over the single remedy." Remarkably, almost 100 years have passed since he wrote these words, yet there has been extraordinarily little progress on these still relevant questions. Wesselhoeft also drew attention to the unresolved matter of selecting the remedy based on the entire individual profile vs. choosing the remedy according to the peculiar disease features in that individual: a subtle but important difference. He also made the point that individualized homeopathy was simply impractical during epidemics. In his report, Wesselhoeft deplored Hahnemann's tendency to dismiss enquiry into the mechanism of action for remedies in favor of dogmatic assertion of natural laws – Hahnemann had little interest in how drugs worked.

In his whooping cough review, Wesselhoeft stated that he had been unable to make significant inroads when treating the disease, no matter what approach he used, but that he preferred homeopathy for its gentleness. He summarized and critiqued the main homeopathic sources of guidance for whooping cough and concluded that there were five principal remedies whose proving symptoms matched those of the disease: aconite, ipecacuanha, belladonna, cuprum, and magnesia. He tended to attribute his negative results to a lack of prescribing expertise. While this might have been a factor, one is tempted to think that his modesty was misplaced and that homeopathy was simply ineffective.

Mumps Orchitis

By the early 1920s, Wesselhoeft was moving away from homeopathy and began to publish in journals such as the *Boston Medical and Surgical Journal*, which was soon to become the *New England Journal of Medicine*. One such example was his account of mumps orchitis, in which he described the main forms of treatment, referring to homeopathy as one historical option of limited value. Specifically, he singled out pulsatilla, lead, and mercury as homeopathic approaches that had been used and referred to two different case series, one of which originated from his own hospital, showing no benefit for pulsatilla. All in all, the evidence favoring these three remedies was "meager" [24].

Digitalis for Heart Disease

Wesselhoeft obtained experience with digitalis in heart disease at both homeopathic and regular doses and expressed his view that the drug was generally more effective at material doses rather than high dilutions such as 30C. He did not, however, think it was necessary to push the dose so high as to produce side effects like nausea and vomiting. He recommended digitalis for heart disease caused by rheumatic fever but felt that it was contraindicated in heart disease caused by diphtheria, where it could make things worse: he described the different etiologies of heart failure as being responsible for the difference. In this scholarly review, Wesselhoeft describes the history of digitalis and its use in homeopathy; he reveals that the German homeopath Bernard Baehr was the first to recognize the peculiar affinity of digitalis for treating rheumatic heart problems in his 1859 essay *Digitalis Purpurea: Its Physiological and Therapeutic Action* [25] and that if conventional medicine had heeded Baehr's report, many years of delay could have been avoided in determining optimal use of the drug [26]. Wesselhoeft referred to Baehr's essay as "the second classic on digitalis, as Withering's was the first." (William Withering (1741–1799) had discovered that digitalis was the active ingredient in foxglove, a plant traditionally used by herbalists for heart failure.)

Appraisal of Hahnemann

In 1921, Wesselhoeft wrote an editorial arguing that Hahnemann's contributions had been grossly underestimated. Some of the reasons why this was so have been alluded to in Chap. 2. It was Wesselhoeft's opinion that many of the accepted therapeutic principles in contemporary medicine originated in Hahnemann's writings. Among these ideas, Wesselhoeft counted Hahnemann's clinical experimentation with quinine, the concept of small dose effects, vaccination, and use of the single remedy. Rather than seeing homeopathy as merely bringing about the disappearance of barbarous treatment practices, Wesselhoeft concluded: "The negative value of homeopathy to modern medicine … is only equaled by the enlightenment of medical thought through the principles of pharmaco-therapeutics propounded by Samuel Hahnemann" [27].

Some years after being branded as a homeopathic heretic, Wesselhoeft still acknowledged a role for homeopathy in diphtheria. In a 1924 address to the Bureau of Pedology (i.e., pediatrics) at the American Institute of Homeopathy, for example, he claimed that, in mild diphtheria, homeopathy was as effective as antitoxin, but that in severe cases, antitoxin was the treatment of first choice. Wesselhoeft qualified his opinion by saying that it was not on account of homeopathy's ineffectiveness: it was more a limitation due to the high level of homeopathic expertise necessary for this treatment to work and that, without such skill, the risk of failure was too great. With antitoxin, on the other hand, all that was required was competence in making the diagnosis [28]. From this standpoint, homeopathy suffered from the considerable drawback of not being a "user-friendly" treatment, and, as Wesselhoeft had pointed out elsewhere, homeopathy did not lend itself as a form of treatment during epidemics as it required the practitioner to spend time for thorough individual assessment of the patient.

Career in Regular Medicine

In 1920, Wesselhoeft resigned his membership of the American Institute of Homeopathy after being branded by some homeopathic colleagues as a heretic for advocating diphtheria antitoxin therapy over homeopathy. Shortly afterwards, he joined the Massachusetts Medical Society (in which he eventually served as president). Wesselhoeft repeatedly urged his colleagues to discard the old-fashioned language and concepts of homeopathy in favor of current medical concepts. Wesselhoeft practiced what he preached as he turned towards allopathy and became an authority on infectious disease. Among his later publications are papers on sulfonamides in scarlet fever [29], cardiovascular disease in diphtheria [30], the course of otitis media in scarlet fever [31], the treatment of scarlet fever and diphtheria [32], fatal equine encephalitis in humans [33], and nephritis in scarlet fever [34]. Some of his publications on immunity and infectious disease continue to be cited in the literature decades after his death [35, 36]. His report on sulfonamides for scarlet fever is instructive, since sulfa drugs had just been introduced into medicine and high hopes were attached to their role in treating infectious diseases like scarlet fever. Wesselhoeft and Smith's measured assessment found that the sulfa drugs were unhelpful for many aspects of the disease, but that sulfanilamide was indicated for septicemia and meningitis associated with the condition. In their report, the authors invoked the old concept of the host defense reaction in explaining the drug's action, similar to Wesselhoeft's earlier paper on quinine, tipping his hat to homeopathic thinking.

As a teacher, Wesselhoeft was well liked and well respected. One former Harvard student still vividly recalls Wesselhoeft's lecture on measles, in which the illness came alive as Wesselhoeft imitated the measles cough with his high, shrill voice [37].

A more practical side of Wesselhoeft is evident in a publication describing the design of a weighted retractor to facilitate smoother tracheotomy operation [38]. In a second paper, he described how a nephew had developed a hydraulic lift to assist daily function in patients coping with polio. Wesselhoeft adapted this device for wider use in his hospital, where it proved valuable in rehabilitating polio patients [39].

Homeopathy is barely mentioned in Wesselhoeft's later publications on contagious disease and this may be because ultimately he found it to be largely ineffective in this context. Another possibility is that he (or the journal editors) knew there would be little interest among readers, unless it was to berate homeopathy. Yet further, it is possible that Wesselhoeft desired to keep his hands clean of homeopathic associations, at least in public. Whatever the reason, one is left to guess about Wesselhoeft's true feelings towards homeopathy as he matured professionally. However, there is good evidence of continuing allegiance, since Wesselhoeft remained a consultant to the Brighton Homeopathic Hospital, where he was ultimately treated for his terminal illness in 1962. After his death, the hospital paid the following tribute: "It is with a sense of deepest loss and sorrow that the staff of the Hahnemann Hospital records the death on December 2, 1962 at this hospital of Doctor Conrad Wesselhoeft, a member of the Associate Staff.… The Hahnemann Hospital, while being one of his less[er] interests, was honored in having him on its staff and at all times he was a willing and dependable consultant. This hospital and staff have received much more than we gave from our association with Doctor Wesselhoeft" [40]. Thus, while the ink on his prescriptions reflected Wesselhoeft's practice of conventional medicine, a permanent place was reserved in his heart for homeopathy.

Was Wesselhoeft able to fulfill his father's almost impossible charge to bring together allopathy and homeopathy? Significantly, the Hahnemann memoriam quotes from a eulogy given by Paul Dudley White, former Harvard classmate, lifelong friend, and world-famous cardiologist. Such affection between the two who were so prominent in medicine, one exclusively in allopathy and the other in allopathy and homeopathy, was a rarity. Wesselhoeft united the two streams in another more personal way, as illustrated in a letter to his sister, Gertrude, dated July 12, 1940 [41]. In this letter, written to acknowledge birthday greetings from Gertrude, Wesselhoeft has this to say: "My big birthday present was to be appointed professor of communicable diseases at the Harvard School of Public Health." In the fall of that year, he would be given a similar appointment in the Harvard Medical School. Mindful of family tradition and expectations, he went on to write: "Can't you imagine what this means to the family after 100 years. Grandfather, Father and Uncle Conrad redeemed. I went out to the cemetery and stood before Mama's and Father's graves. I felt that I had to express my gratitude for what they had given me, for it was an inheritance that has enabled me to get up to this position – and I never aspired to it." He then expressed his disbelief that "I am a Harvard Professor – and the first one to have this title (i.e., in his specialty). My predecessors were assistant or associate professor." Wesselhoeft's father could rest content that his son Conrad had succeeded in "bringing together" the two worlds of homeopathy and allopathy.

Conrad Wesselhoeft was conspicuous in his bravery, as exemplified by multiple decorations in World War I: two Distinguished Service Cross (DSC) awards, the Silver Star with Oak Leaf Cluster, the Purple Heart, and *Croix de Guerre* (Fig. 11.3). (The DSC is the US army's second highest award; in Wesselhoeft's case, they were given for exceptional bravery in tending to the wounded close the front line during the Aisne-Marne and Verdun offensives in 1918.) His grandson, Conrad Wesselhoeft, epitomized his grandfather as follows: "Courage – both physical and intellectual –is at the heart of

Fig. 11.3 Conrad Wesselhoeft caricature (Image by courtesy of Conrad Wesselhoeft (grandson))

who he was" [42]. As a physician, few have come closer to the ideal image of a doctor than Conrad Wesselhoeft, "the great white-haired father who knew how the patient felt," according to Tenley Albright, a former patient of his, Olympic gold medalist, and famous surgeon [43]. Wesselhoeft's obituary in the *New England Journal of Medicine* described him as "deeply devoted to the truth as he saw it, and intolerant of anything resembling subterfuge or dishonesty…. His standards were high, whether in the accuracy of the statistics in his papers or in the wise, sympathetic and devoted care he gave his patients." One of his patients, Anne A. Ramsey, felt so positively about the care he gave her that she left an endowment to support a chair in medicine at Boston City Hospital in his honor. This endowed chair has been filled by some very distinguished doctors, including Franz Ingelfinger and Arnold Relman, editors of the *New England Journal of Medicine*. Conrad Wesselhoeft's life coincided with a biramous juncture in American homeopathy, which was poised to advance as a scientific discipline in American medical schools or to remain bogged down in old dogmas – unfortunately, the latter outcome prevailed. Homeopaths did not follow his pleas for controlled trials: resistance to science remained strong and many homeopaths were lulled into complacency by their lucrative practices including, as noted, the practice of surgery. While the factors behind homeopathy's disintegration are complex [44], after the end of World War I, the potential existed for

homeopathy to retain a presence in US medical schools, as Wesselhoeft himself noted in 1921. His drift away from homeopathy was inevitable in retrospect, for there was no longer a critical mass to support its best academicians.

Linn J. Boyd: From Homeopathic Philosophy to Cardiology

Linn Boyd (1895–1981) trained in homeopathy at the University of Michigan, graduating in 1918, and was then appointed an assistant professor of homeopathic medicine (Fig. 11.4). Thus, he began a productive and lengthy academic career, initially at Michigan until 1926 and then for the remainder of his life at the New York Homeopathic Medical College and Flower Hospital, which recruited Boyd to improve its clinical clerkship [45]. The reason for Boyd's departure from Michigan was allegedly due to hostility on the part of ultraorthodox homeopathic colleagues who objected to his use of animals in research [46]. Furthermore, it is probably relevant that Michigan was in the process of dissolving its homeopathic program, and the future for its young and ambitious faculty was bleak. At New York, between 1926 and 1959, he variously held appointments as professor of medicine and head of the department of medicine, pharmacology, and homeopathic therapeutics, director of the department of medicine, and director of the division of graduate studies.

Fig. 11.4 Linn Boyd. Cardiologist, homeopathic scholar, and editor of the *Journal of American Institute of Homeopathy* (Image courtesy of National Library of Medicine, in the public domain)

While homeopathy still remained a force in American medicine, Boyd made many important contributions. In the mid-1920s, the New York Medical College devoted 140 h to the teaching of homeopathy in years 1 and 2. Year 1 consisted of lectures by Drs. Atkins and Wilson on essential and characteristic actions of drugs based on provings in healthy subjects, on the sick, and in toxic poisoning. In year 2, Professor J.W. Krischbaum and Dr. C.E. Krischbaum taught pathogenesis and symptomatology of the various drugs [47]. Ten years later, these 140 h had been whittled down to a mere 32 h [45] as homeopathy was pushed aside at the college, which eventually dropped the word "homeopathic" from its name in 1936. (Of note, it took until 1985 for NYMC to sever its last formal contact with homeopathy, when the board of trustees voted to remove the image of Samuel Hahnemann from the school's official seal.) [48] Not surprisingly, Boyd's homeopathic output declined, but his productivity grew in other ways. During the years he was a card-carrying homeopath, he served capably as editor of the *Journal of the American Institute of Homeopathy* (*JAIH*), putting it on a self-sustaining footing and attracting submissions from the leading homeopathic researchers, as well as advertising from major pharmaceutical and homeopathic companies. He was a prolific publisher in the homeopathic literature and authored a book that is still regarded as a homeopathic classic [49], *A Study of the Simile in Medicine*, which Guttentag referred to as "one of the most important books concerning the history and the concepts of homeopathy." Boyd wrote this book as part of the terms by which the University of Michigan dissolved the homeopathic medical school, and he dedicated it to the Board of Regents of the University of Michigan. It seems unlikely that many of the university trustees would have taken the time to read Boyd's book, which must have surely constituted a poor trade-off for homeopathy in exchange for giving up a medical school.

Boyd was partly responsible for bringing Otto Guttentag to the United States and also for providing Karl Koetschau the opportunity to spend sabbaticals in his laboratory at NYHMC. Among Boyd's homeopathic publications are an introduction to Koetschau's scientific basis of homeopathy [50], a review of factors responsible for the recent progress in homeopathy [51], a study of *Chelidonium* as an anti-infective [52], a review on the place of *Cocculus indicus* in medicine [53], and an essay on homeopathy in

liver cirrhosis and the difficulty in finding effective remedies for that condition [54]. In 1922, at an early point in his career, Boyd published two articles on venom as a homeopathic remedy. The first paper provided an account of the action of lizard and snake venoms [55] and the second comprised a review on the effects of black widow spider venom, *Latrodectus mactans* [56]. His obituary makes reference to the fact that Boyd pioneered the therapeutic use of snake and spider venom for treating angina [57] and Boyd himself accepts credit for "human experiments … which lead medical science to the discovery that poison from the black widow spider, given intradermally at a dilution of 1:10,000 in saline, was a successful treatment for angina pectoris" [58, 59]. He was reported to have remarked that his discovery of this property was the result of over 10 years' research, that many doctors began to use *Latrodectus* for angina, and that black widow spider "farms" were proliferating in South America [60]. In making this statement, it is likely that Boyd was referring to homeopathic physicians since black widow venom has not been widely used in conventional medicine. Although Boyd claimed that he was inspired by Noguchi's work with cobra venom for malaria, it should not escape notice that in 1889 a homeopath by the name of Samuel Jones had proposed the poison might benefit angina pectoris [61], and Boyd was well aware of this literature, as well as allusions to venom in the regular literature.

Further studies were undertaken with bushmaster snake venom (*Lachesis lanceolatus*). *Lachesis* had earlier been proved in considerable detail by Hering, who was first to conduct meaningful medical research on snake venoms [62, 63], and he described the cardiac symptoms it produced. Boyd was among the first person to demonstrate that *Lachesis* had anti-arrhythmic properties, after having previously shown that it induced arrhythmia in cats with a normal heart beat [64]. Later, when given at a dose of 0.025 mg per kilogram to cats in which arrhythmia had been induced experimentally, the drug quickly and lastingly corrected this irregularity [65]. Boyd was at the forefront of research into snake and spider venoms for over a decade. Among his studies was the large proving he conducted on NYHMC medical students in 1927, in which he administered venoms and lactose control to 50 medical students. Although it is unclear whether this study was ever published, it received attention in the national press [66]. According to Swiderski [67], this proving study "left many of the participants in physical distress and mental depression." Boyd continued his proving experiments in readily accessible medical student samples and in 1935 conducted a study of lead, aluminum, and sulfur in 72 subjects [68]. Boyd was one of the first to publically call for human testing of all drugs that were to be developed for the market, saying that such studies would provide information that was unavailable from animal studies: he correctly predicted a time in the future when such testing would be made obligatory.

At the same time, others were exploring the effects of venom on pain, bleeding, cancer, and arthritis, but there seems to have been little interest in their cardiological applications until more recently [69]. Since Boyd was well known, particularly as a cardiologist, it is hard to believe that his peers would not have known of his work. In more recent years, a number of venom-derived drugs, such as tirofiban (Aggrastat) and eptifibatide (Integrilin), were developed in the pharmaceutical industry for treating acute coronary syndrome; Boyd may have been one of the earliest to recognize their potential for this condition, although by building on established homeopathic knowledge [70, 71] and following a somewhat different path.

Boyd's name appears many times in the allopathic literature over a 35-year period and his publications reflect broad expertise and productive collaboration with peers from different disciplines, including psychiatry, surgery, gastroenterology, trauma, and infectious disease. That he was not simply a "jack-of-all-trades-and-master-of-none" is clear by the fact that he received Fellowships of the American Colleges of Physicians, Cardiologists, and Gastroenterologists, the last of which was an honorary award. In 1924, while still an assistant professor of homeopathy, he published a study of 4,000 cases of aortic aneurysm [72], and in 1959, he was a coauthor of a publication from the NYMC obesity clinic on a double-blind trial of T_3 (a thyroid hormone) with an amphetamine and barbiturate combination in comparison to amphetamine and barbiturate alone [73]. He also published a double-blind trial of the antianxiety sedative meprobamate vs. placebo in older patients, to evaluate the potential of that drug for producing dependency and withdrawal [74]. His meprobamate study not only revealed his interest in the problem of addiction but also indicated a solid reputation as an addiction specialist. In response to a request from the US Congress, he was invited to serve on the Committee on Public Health of the New York Academy of Medicine with other distinguished colleagues to address the growing national problem of narcotic addiction and was a coauthor of the ensuing report [75]. He coauthored publications on the early use of cycloserine for tuberculosis [76], gastric secretions after gastric surgery [77], and a hematology report on vitamin B_{12} and gastric hematopoietic factor [78]. Other publications between 1948 and 1958 in the *New York State Journal of Medicine* covered topics such as coma and unconsciousness, sleep induction with salicylamide and acetophenetidin, serological tests for cancer, and, in collaboration with Thomas McGavack, tolerance studies of the antihistamine drug Thephorin.

Boyd was interested in peripheral circulatory problems and worked together with a surgical colleague in the study of frostbite and gangrene. He coauthored a report with Kurt Lange on the intravenous use of fluorescein sodium as a diagnostic test to help detect which patients needed

immediate surgery for gangrene or strangulated hernia, this being the first publication of its type. If the red fluorescein dye circulated round the body in 20 s, including through the gut or foot, then blood circulation was still present in the diseased area. If, on the other hand, there was absence of a green-yellow glow in the diseased region, this indicated that the blood supply had been shut off and that amputation of the foot or removal of the gut was indicated. The test, which was described by Lange and Boyd in 1942 [79], attracted much attention in the popular press [80] and was referred to 40 years later in the literature on predicting leg viability [81], which described the subsequent evolution of technical refinements to the Lange and Boyd procedure. In 1945, the authors wrote further on the prevention of gangrene from frostbite [82].

Perhaps it was as a cardiologist that Boyd was best known outside of his homeopathic work. Among his publications was a jointly edited textbook on clinical electrocardiography, which ran into several editions [83]. His journal publications included a double-blind placebo-controlled trial demonstrating antihypertensive effects for meprobamate in elderly hypertensives [84].

Boyd was a prolific translator who made contemporary German medical and homeopathic literature accessible to the English-speaking world. His output included translations of homeopathic works by Karl Koetschau (on dose effects), August Bier (on circulation), and Hans Wapler (on homeopathic philosophy), Otto Leeser's textbook of homeopathic *materia medica*, a pharmacological study of the biphasic effects of cocaine by Edward Rentz, a cardiology book on Roentgen diagnosis of the heart by Erich Zdansky, and a book by Max Neuberger on the historical study of the doctrine of the healing power of nature, which received a very positive review [85].

Boyd's name rarely appears in the homeopathic literature today – in fact, it is the name of William Boyd of the mustard-gas experiments and emanometer fame that receives greater mention, although his achievements fall well short of Linn Boyd's. With such productivity and scholarship, how could Linn Boyd have been "lost" to homeopathy? The truth appears to have been that, as in the case of Conrad Wesselhoeft, homeopathy may not have been ready for what Boyd had to offer. More specifically, Boyd fell casualty to the doctrinal infighting that took place in homeopathic circles, coupled with the old guard's reluctance to leave the safe bield of comforting dogma in favor of scientific questioning. There was also objection to Boyd's use of animals in experimentation. These factors reportedly caused Boyd to resign from the American Institute of Homeopathy, according to Otto Guttentag [86]. It was Guttentag's opinion that Boyd's loss was most unfortunate for the cause of American homeopathy. At least one of Boyd's promising students, Thomas H. McGavack, joined him in resigning and then, like Boyd, went on to a stellar academic career. Boyd therefore remains a somewhat neglected figure in the twentieth-century medicine. Like Wesselhoeft, he was one of the few who could move freely between homeopathy and allopathy. With the demise of homeopathy, Boyd and Wesselhoeft made impressive transitions. Indeed, had they been unable to do so, they would have been eased out of their faculty posts, as happened in New York to the traditional homeopathic clinicians, who were no longer wanted on faculty in the 1930s and 1940s [87].

Thomas H. McGavack: Embracing Homeopathy, Endocrinology, and Gerontology

Thomas McGavack (1898–1973) obtained a homeopathic MD degree from Hahnemann Medical College, Philadelphia (Fig. 11.5). In 1923, he was appointed to the faculty at the University of California, where he later headed the department of homeopathy. In 1936, he was appointed professor of clinical medicine at the New York Homeopathic Medical College, where he remained until 1957. He was then appointed associate chief of staff at the Martinsburg Veterans

Fig. 11.5 Thomas McGavack. Gerontologist (Image courtesy of National Library of Medicine, in the public domain)

Administration Hospital, West Virginia, where he practiced until retiring.

McGavack practiced and conducted research in homeopathy for the first two decades of his career. Boyd referred to him as one of those engaged in the modern scientific movement [49, p. 152]. In 1932, he authored a book entitled *The Homeopathic Principles in Therapeutics* [88] and was an active member of the American Institute of Homeopathy, serving as its president. Even after resigning, he continued to attend annual meetings of the institute and made an interesting comment at the 1937 conference when he warned the assembled group about the workplace risks of exposure to cadmium [89], which he had found to cause kidney and liver damage in rabbits [90, 91]. In 1941, the government announced federal standards concerning safe limits, and while there is nothing to suggest that this was connected to McGavack, it is evident that he showed an early concern about occupational safety.

McGavack turned his attention to other areas of medicine and became a well-known endocrinologist and gerontologist. His other publications concerned the detection of silica in the body, sickle cell anemia, clinical studies with diphenhydramine (Benadryl™) and other antihistamines, and books on obesity and cerebral ischemia. A literature search yields more than 30 peer-reviewed papers over a 35-year period. Many of his publications concerned the thyroid gland, including his textbook *The Thyroid* [92], which appeared in 1951 and was favorably reviewed by the *Journal of American Medical Association* and *British Journal of Surgery* [93, 94].

As a gerontologist, McGavack was considered to have "made major contributions toward the growth of the science of gerontology and particularly in interesting the medical profession in this major phase of health care" [95]. He received recognition from the American Geriatrics Society by an award of Fellowship, election to its presidency and board membership. In 1962, he was honored as the first recipient of the society's Edward Henderson Award for Research. He also served as council member of the International Association of Gerontology and was awarded Fellowship of the Gerontological Society. Many of his publications concerned geriatrics, including a paper in which he described an innovative program he had developed and implemented at the Martinsburg VA Hospital, for which he coined a new word: remocreaction [96], an acronym for remotivation, reassurance, recreation, rehabilitation, creativity, action, reintegration, and restoration. McGavack thought that it was important to strive for a wider understanding of rehabilitation than simply trying to return people to purposeful employment or activity in the community and that the creation of a different name would help promote his newer concept. McGavack's remocreaction program demonstrated that the hopelessness and passivity that often characterized the chronically ill could be reversed, even when the outlook appeared dismal. To implement his program, McGavack created a special inpatient unit where the emphasis was placed on multidisciplinary teamwork.

McGavack was a successful clinician, who included among his patients Ronald Reagan (before he became president), Jane Wyman, Danny Kaye, and Edgar Bergen. An endowment that he left to his undergraduate college, Hampden-Sidney, currently supports a chair in biochemistry [97].

Thomas McGavack had much experience in treating obesity and served as expert witness in a lawsuit by the US government against Republic Drug Company for illegal interstate shipment and false claims over their product, Unitrol, which they claimed was an effective appetite suppressant. The court found in favor of the libellant, for whom McGavack had served as an expert [98]. He treated over 5,000 patients with obesity and conducted several studies to assess drug efficacy. In the course of his career, he published over 300 articles and several books and served on editorial boards of numerous journals. He was the director of the New York Medical School Metropolitan Hospital Research Unit, where he worked mostly in endocrine and metabolic diseases, and later became the director of the Geriatric Research Laboratories at the Martinsburg VA Medical Center.

Harold Griffith, who never lost his belief in homeopathy as an effective method of treatment, wrote in 1930 that "today there is genuine curiosity and interest in some 'old school circles' about homeopathy." He enumerated the names of Bier, Boyd, Hinsdale, Boericke, Wesselhoeft, Koetschau, and others as "making it easier for us to talk about homeopathy in terms of modern science, and to offer some objective laboratory proof of our theories." He further commented that "of equal importance is the need for convincing clinical statistics of the effect of homeopathic treatment … and very few that are of value have been published." As he wrote these lines [99], homeopathy's trail in academic medicine was about to disappear, not to resurface for another 50 years, when a new homeopathic spring arrived, mainly in Europe and to a lesser extent, in the United States.

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