







"The desire to take medicine is perhaps the greatest feature which distinguishes man from animals."

> Sir William Osler (1849-1919)

For hundreds—perhaps even thousands of years, charlatans and frauds have preyed on the vulnerable, whether seeking wealth or a cure to a debilitating physical condition. Poverty and pain can send people to great lengths in trying to eliminate these maladies, sometimes at the expense of their own lives.

Common Marsh Mallow Used to treat inflammations and irritations of the urinary organs.

William Woodville, M.D., F.L.S., A Supplement to Medical Botany. London, 1794



George Washington died after more than nine pints of blood were let for a throat infection. Toology's history is not without its own share of quackery, from traveling lithotomists of the Middle Ages (though some were quite adept) to today's promises of increased virility or penis size with a simple mail-order drug or very expensive surgical procedures. The genitourinary system—essential to life with the production of urine as well as male reproduction and fertility—has been and always will be a target for quackery.

Prior to the advent of organized medicine in the United States, with formalized training, clinical testing and governmental regulation, four sects of medicine existed: allopathic, homeopathic, botanical and hydropathic. None was more effective than another. No system was in place for clinical testing of products, despite the fact that numerous advancements were being made in the field of medicine. Hundreds of herbal



treatments, patent medications and devices were available to treat nearly every ailment from back pain to ugliness to writer's block. Many were touted as treatments for "all that ails ya" despite the lack of evidence to support the claim. This era was a time when physicians could prescribe without examining a patient and patients self-medicated without ever seeing a physician.

It was the perfect environment for quackery to flourish in this country. And flourish it did, building slowly upon the ancient principles of herbal healing and eventually exploding into a deceptive world of fraud, abuse and sometimes death. In some cases, it still exists today.

Balancing the Elements: Bloodletting and Uroscopy

In the early days of medicine in Ancient Greece, healers—including Hippocrates and his contemporaries—believed that health depended on the balance of four bodily substances: blood, phlegm, black bile and yellow bile. Each substance was linked to an essential element and its qualities—black bile corresponded with earth (cold and dry), blood was akin to air (hot and moist), yellow bile to fire (hot and dry) and phlegm to water (cold and moist). The four humors were also associated with seasons: phlegm with winter, yellow bile with summer, blood with spring and black bile with autumn.

Diagnoses were made using these associations. For instance, a person with too much black bile (earth) was melancholic; a person with too much yellow bile (fire) was choleric. Diseases and disorders of the day were diagnosed by this supposed imbalance: For instance, a fever (hot and dry) was believed to be caused by an increase of yellow bile in the body. By generating more phlegm (cold and moist), the patient would heal.

Bloodletting was also a common means of restoring balance to the elements, often practiced by barber-surgeons. It was used to treat quite a few famous historical figures, including famed literati Geoffrey Chaucer and U.S. President George Washington, who ultimately died after more than nine pints of blood were let in order to treat a throat infection. The technique was often used to treat febrile illnesses; the pallor, drowsiness and drop in body temperature associated with blood loss was confused with a remedy for the condition.

The barber-surgeon came into existence in Europe during the Middle Ages. After it became illegal for the clergy to shed blood and the Black Plague wiped out the majority of university-trained physicians, the public began to rely on barbers for medical procedures because of their skill with a razor. In much the same manner as the traveling lithotomists of the day, some barbers went from town to town offering their services. King Henry VIII united the Fellowship of Surgeons and the Company of Barbers to create the Company of Barber-Surgeons in 1540. This association existed for more than 200 years. Bloodletting is still used today in the most extreme of circumstances-including the treatment of polycythemia vera, a bone-marrow disorder that results in the overproduction of blood.

Though the popularly recognized means of bloodletting was to cut and drain, dry bloodletting (including using leeches, suction cups to create a hemotoma or scarificators to produce multiple cuts) was also a popular treatment. Though originally prescribed by Galen to treat gout, arthritis and epilepsy (among other conditions), leeches have today found their way back into mainstream medicine, particularly in plastic surgery and limb reimplantation.

Uroscopy, or the visual examination of urine, was another way physicians of the time diagnosed disease. The importance of the examination of urine was known by Hippocrates and later repeated by Galen. Actuarius, court physician in Constantinople (1328-1341) wrote, "He who masters the two sciences of the pulse and the urine will possess almost all that is necessary for diagnosis and prognosis." Numerous volumes were written on the colors of urine. Though initially a highly respected medical art, uroscopy gradually deteriorated to the point of ridicule as it lent itself well to quackish antics during the Middle Ages. Traveling healers would have urine brought to them, make a diagnosis, prescribe treatment and leave town a few days later. Even physicians began to abuse the method, and pamphlets printed toward the end of the era—one written by a charlatan himself—exposed the tricks by which the gullible populace could be deceived.

In a pre-germ theory world, it all made sense, and these early theories held fast for thousands of years.





Patients had their servants bring a matula with a urine speciman in a wicker basket for diagnosis by uroscopy. (From Avicenna's Canon, Milan, Italy)



Healers have existed in nearly every society since the beginning of time.

Herbal Therapy: Quackish Cures or the Basis for Modern Medicine?

Galen pioneered the use of medicinal herbs to treat disease, and his legacy was the earliest form of pharmacology. Healers have existed in nearly every society since the beginning of time. Often a family trade passed down from one generation to the next, healing was a highly respected profession and trade secrets were often guarded fiercely. In every culture there were special individuals who spent their lives learning nature's secrets. Our knowledge of flora and fauna gradually grew, yet it took millennia before we began to understand the



According to legend, both male and female fertility is promoted by eating mandrake or by carrying the root as a charm.

> functions of the human body. Up through the Middle Ages and beyond, the sick relied on these healers to treat them—whether it

be with a simple herbal concoction or a more complicated herbal preparation mixed with a paste from poisonous snakes or ground up toads boiled at midnight under a full moon. Mandrake was used to treat impotence and was believed to work best if found near a gallows or other execution site. In many cases, these healers though now seen as ineffective—were the earliest of physicians, deposed later by trained physicians and apothecaries.

While herbal therapy has been an accepted part of mainstream medicine in most countries outside of North America, it has taken Americans decades to look at such treatments with less than a jaundiced eve. In the United States, herbal therapy has been viewed with, at best, great suspicion until the past decade or two as alternative and complementary medicine has edged its way into popular culture. The past 20 years have seen tremendous growth in this market-with hundreds of millions of dollars in sales for popular supplements such as ginkgo biloba, St. John's Wort, garlic and ginseng.1 Billions of dollars are spent on dietary supplements in the United States every year, despite the lack of regulation enabling the Food & Drug Administration (FDA) to review them.² In fact, 30 percent of Americans believe that the agency approves supplements for safety and potency.3 Yet a 2002 article in The Journal of Urology[®] showed a marked variability in dosage between manufacturers (and even individual lots) of popular supplements.4 Six individual samples of saw palmetto, for instance, were within a range of -97 percent to 140 percent of the stated dosage. Three of those samples contained less than 20 percent of the stated dose.

Other nations, particularly some European countries, have embraced herbal medicine as part of their roots and often it has been a part of a physician's medical training. In fact, many modern medicines were developed through the knowledge of the effects of herbs and their extracts: digitalis, derived from foxglove, has been used to treat heart problems since it was discovered in the 1700s; reserpine, derived from rauwolfia (dogbane) has been used to treat high blood pressure.

Charlatans, Pow-wows and Miracle Cures: The Patent Medicine in Europe and the United States

Ironically, very few patent medicines were actually granted a patent—either by the King during the colonial days or after the U.S. Patent Office was established in 1790.⁶ After all, when a patent was given, all ingredients needed to be disclosed to the public.⁷ Instead, to protect their products, most manufacturers simply registered the product's name with the Patent Office, leaving room to change ingredients or indications at will.⁸

The Marquis de Sade put it well when he said, "Only two things are required to accredit an alleged miracle: A mountebank and a crowd of spineless lookers-on." This was never more true than during the Golden Age of Quackery when the mountebank-the itinerant quack-was a constant presence in 18th century England and in the United States in the 19th century. Traveling from town to town noisily hawking their wares, these swindlers promised miracle elixirs, foreign body 'removal' and faith healing to suffering villagers and frontiersmen. Wagon trains moved across the countryside like circus caravans, decorated with advertisements and flashy presentations, which delighted crowds but displeased town fathers and the clergy. Many historians have equated the phenomenon with the arrival of a circus in an entertainment-deprived town.

One popular traveling medicine show of enormous popularity was that of the Kickapoo Indian Medicine Company. Complete with Indian chiefs, music and other theatrics appealing to the public's curiosity about the West and the American Indian (not to mention the miracle curing of the planted shill in the audience), these shows enjoyed immense success. Indians



were presumed to be natural physicians with an intimate understanding of natural means to cure ills, so their presence helped sell the many products the company hawked. Did it matter that none of the Indians in the show were from the Kickapoo tribe? Absolutely not.

Along with the caravans of carpetbaggers were advertisements touting the patent medicines, also known as nostrums. Gullible patients eager to have their names in print were more than willing to lend their stories. Though sometimes a bit exaggerated by the medicine maker, the letters came from sincere patients who truly believed that the medicines were working. These testimonials were reprinted on colorful cards and distributed to promote the medicine. According to the article, "Nostrums in



Merchants hawking Kickapoo Sagwa put on elaborate roadshows for the public. The proprietors used Native Americans in their act, though none were from the Kickapoo tribe.



"There's a sucker born every minute."

-P.T. Barnum

Urology," by historian Erwin W. Rugendorff, M.D., one newspaper editor was said to have advised readers, "If your brain won't get you in the papers, sign a patent medicine testimonial. Maybe your kidney will."

It worked—for the living and dead alike. One patient, Fred Wicks, gave testimony to the benefits of Tanlac, touted as the "National Tonic" saying it relieved his stomach troubles. The testimonial ran in the May 11, 1917 edition of the *Holyoke Daily Transcript*, which ran his funeral announcement on the same day.

In any event, the central draw of patent medicine—and at the same time the central fallacy—was that the patient could diagnose his or her own condition, prescribe treatment and then evaluate the outcome.

Satisfied Patients or Ordinary Addicts?

Though patients were in a way empowered with this ability to self-medicate, in some cases this led to nothing more than an addiction. Many patent medicines of the era contained as a primary ingredient either alcohol or an opiate drug and were given to the old and young alike. Mrs. Winslow's Soothing Syrup is known to have contained morphine. These concoctions were prevalent and were often created by simply mixing the ingredient with any other imaginable substance—including hashish, chloroform, cayenne pepper or ether.

One of the more famous tinctures prescribed was laudanum, often called the "wine of opium." This mixture of opium, saffron, cinnamon and alcohol was prescribed as a pain reliever, sleeping potion and sweat inducer. Laudanum was called a "working class drug" and because it was used for medicinal purposes was not taxed as an alcoholic beverage.⁹ It was catapulted to fame in *fin-de-siecle* Paris, where notable cultural icons regularly took the drug: Lord Byron, John Keats and Percy Bysshe Shelley were known to be users.¹⁰ One notable figure of the English Romanticism period, Thomas De Quincy, later confessed his opium addiction in his book, Confessions of an English Opium Eater.

Another medicinal tonic popular at the time was absinthe, a potent elixir made from distilled wormwood leaves and stems.



Though its use dates back to Ancient Greece (Pythagoras was said to have recommended wormwood soaked in wine to aid childbirth and Hippocrates himself recommended absinthe for rheumatism and jaundice), the now-banned elixir was first promoted as a cure-all in 18th century France by Dr. Pierre Ordinaire.11 Dubbed "La Fée Verte" (The Green Fairy) for the cloudy, green color that develops when water is added to distilled wormwood stems and leaves, the tonic's popularity came to a head during the days of the Impressionists in France, when it was used-and immortalized-by such famous artists as Edgar Degas, Edouard Manet, Pablo Picasso and Vincent Van Gogh. Absinthe came to the United States via the New Orleans French Quarter, where it was a specialty of The Old Absinthe House. It was outlawed in the early 20th century by the U.S. Department of Agriculture.

Laudanum and absinthe are extreme examples of unregulated "medicinal" tonics, yet both illustrate a key point in understanding why similar patent medicines gained such extreme popularity: If the alcohol or opiate made the patient feel 'better' then the drug must be working.¹² The fact that patients became dependent on the drug simply meant repeat business. As one quacksalver put it, "A cured patient pays no fee, keep 'em sick!"¹³

Bitters are a particularly good example of a way alcohol was used in medication. The bitters industry began in 17th century England, when herbs were mixed with water and sold as tonics. However, after King George II levied a heavy tax on gin, alcohol manufacturers began mixing herbs with gin, which came to be known as "bitters," and were able to avoid heavy taxes.¹⁴ In some cases, these concoctions had extremely high alcohol content—one, "Warner's Safe Tonic Bitters," was 75 proof.

On the other hand, some patent medicines contained no true active ingredient, and did little more than induce a laxative





The Case of Laetrile

Laudanum and absinthe might be considered some of the more potent elixirs of the era, but few patent medicines could be considered more controversial than Laetrile, also known as amygdalin—or vitamin B17. Originally marketed by Ernst T. Krebs Jr. and awarded a British patent in 1949, controversy swirled around the drug until it was finally outlawed in the United States in the 1980s. The story of Laetrile is a convoluted one, filled with deception, and stories about the development of the drug are many in number and small in similarities.

A compound synthesized from apricot pits, Laetrile contains cyanide—a powerful poison. Though initially hailed as a cure for cancer, the drug's promises went through more than one drastic change before ultimately being theorized as a vitamin by Krebs, which made it not only a "preventive" but also free of FDA scrutiny.

Despite claims by some patients that Laetrile cured their cancer or at least relieved their pain, the drug was ultimately banned in the early 1980s, but not before a storm of negative publicity and the deaths of more than a few patients. The death of actor Steve McQueen–who had been treated with Laetrile at a Mexican clinic–inspired even more suspicion and controversy about the drug.

or diuretic effect for patients. *Munyon's Kidney Cure*, for example, was made up entirely of sugar and water.¹⁵ Yet despite the lack of an addictive element, patients still lined up for treatment. According to Mark Twain, his mother "bought any patent medicine that came along, whether she would need it or not, and would try any disease that happened to be around."¹⁶

"Cure the disease, kill the patient."

Sir Francis Bacon, himself a sufferer of bladder stones, may not have been off-target in this famous quote, for perhaps one of the most worrisome aspects of quackery, beyond the patient's ability to selfdiagnose and self-administer treatment, is the lack of regulation involved in developing patent medicines and other treat-



"Quacks are the greatest liars in the world except their patients."

—Benjamin Franklin



In 1857 there were more than 1,500 patent medications being advertised in the United States.

Containing 20 percent alcohol, Wine of Cardui contained blessed thistle and was used to treat "female problems." ments.¹⁷ In some cases, this led to very potent, possibly dangerous tonics that did nothing more than aggravate the condition they were supposed to treat. In some cases, they proved deadly.

One dangerous tonic, used by Emile Zola, Sara Bernhardt, Thomas Edison, John Philip Sousa and Jules Verne, was made of coca leaves (used to make cocaine) and Bordeaux wine (similar to the Wine of Cardui, which was marketed for "female" problems). Another, a touted cure for mercury poisoning, contained the element itself. One diet pill hawked in the 1930s contained tapeworm eggs, a surefire way to lose weight, but



with dreadful side effects—including death.¹⁸ Warner's Safe Kidney and Liver Cure contained glycerin, water and herbs, with potassium nitrate and alcohol—both kidney irritants—as principal ingredients.

Despite this, in 1857 there were more than 1,500 patent medications being advertised in the United States.¹⁹ In his famed 1905 Collier's newspaper series, "The Great American Fraud," journalist Samuel Hopkins Adams reported that Americans would spend \$75 million purchasing patent medicines that year. Even after the U.S. government passed the Pure Food and Drug Act of 1906, the patent medicine industry retained popularity and continued on into the 1950s.²⁰

Miracle Devices and Treatments: Abrams and Brinkley

Quackish medicine was not limited simply to elixirs and tonics. As more and more scientific discoveries were made, the public became increasingly interested in how they might benefit from such things as magnets, electricity and even radioactivity. At the same time patent medicines were flourishing in the late 19th century, a number of devices using magnetic fields and electric current were also gaining popularity and quite a few were available. They became even more popular after the Pure Food & Drug Act of 1906 began to impose limitations on proprietary medicines. Some devices that we now see as simply quackery were even sold in the Sears catalog.

One of the most notorious quacks of the late 19th and early 20th centuries was Albert Abrams, a graduate of Heidelberg Medical School in Germany, vice president of the California State Medical Society and president of the San Francisco Medical Chirurgical Society. Despite his stature as a respected neurology expert in the early 1900s, Abrams began to depart from mainstream medicine with his 1910 book on spondylotherapy, a mixture of chiropractic and osteopathic medicine that is purported to have involved striking the vertebrae with



FUTURE? Quackery and Nostrums in Urology

"A cured patient pays no fee, keep 'em sick!" - 19th c. Quacksalver

The Reflexophone, above, was one of Abrams' devices.

a hammer. Abrams marketed his percussing technique to the public, teaching spondylotherapy to anyone willing to pay the \$200 fee to learn.^{21,22}

With the 1917 publication of Abrams's electronic theory of diseases entitled Electronic Reactions of Abrams (which came to be known as "radionics"), he proposed that diseases could be diagnosed by measuring altered vibratory rates in the body. But how was one to measure these rates? Using Abrams's self-created machine, the "Dynamizer." It was quackery at its finest, as many a gullible person sought to have a drop of blood, handwriting sample or photograph (all purported to possess a person's vibratory rate) analyzed by the machine. The process was this: the sample was placed in the "Dynamizer," which emanated through other machines-a rheostat dynamizer, a vibratory rate rheostat, a strain rate rheostat, a measuring rheostat and a proximal electrode attached to a health subject, the reagent.23 Special restrictions required the reagent to first be treated with a horseshoe magnet to remove any extra vibrations, and then face west with his or her feet resting on ground plates with their arms out to the side. It was also crucial to accuracy that the analysis be performed in a darkened room.²⁴ The reagent's abdomen was percussed to reveal areas of dullness, thereby diagnosing the precise disease and its location in the patient. However, the presence of a skeptical mind could block the reactions, making diagnosis impossible.

Though dubbed the "Dean of Twentieth Century Charlatans" by the American Medical Association (AMA), Abrams went The Oscilloclast was a device created by Albert Abrams, dubbed the "Dean of Twentieth Century Charlatans."







Ruth Drown's radionic camera testers at the University of Chicago proclaimed, "The machine is a sort of Ouija board. It is our belief that her alleged successes rest solely on the noncritical attitude of her followers." on to develop numerous other quackish devices, such as the "Oscilloclast," the "Radioclast," the "Reflexophone" and the "Radio Disease Killer." He was exposed by Dr. M. Fishbein, editor of the Journal of the American Medical Association and its popular magazine, Hygeia, in a series of articles on quackery. However, despite this, a number of radionics practitioners continued to emerge in the 20th century who would continue to laud Abrams's theories, including Ruth Drown, mother of the "Homo-Vibra Ray Instrument." Drown was ultimately brought to trial in 1951 for introducing a misbranded device into interstate commerce.

Though Abrams and Drown were both exposed as charlatans, their teachings live on. The Radionic Association exists in England promoting the trade, and The Radionics and Dowsing Institute in Canada trains would-be practitioners on such esoteric subjects as supersensonics and color therapy.

The Department of Investigation of the AMA estimates that Abrams's devices have inspired at least 50 imitations. Despite state and federal legal actions against such devices, there continue to be unscrupulous "inventors" selling them to a gullible clientele. There are still quite a few people who subscribe to the theories and supposed successes of radionic and psionic treatment, chattering on the Internet in 2004 discussing the benefits.

Another king of American quacks was John Romulus Brinkley, an infamous surgeon and radio mogul. Accounts of Brinkley's early history vary, some rooting him in Kentucky, others in North Carolina, but most experts agree on one thing: his notoriety. Brinkley's early career was steeped in patent medicine. He earned money as a snake-oil salesman in road shows and later set up his own business with ads that read, "Are you a Manly Man Full of Vigor?" The treatment he prescribed was an injection of colored distilled water. Early in his career Brinkley—and his ex-con business partner—were caught and jailed for fraud and unpaid debt.

PC-SPES

In the 1990s, prostate cancer patients around the world were abuzz with news of a new herbal therapy for prostate cancer: PC-SPES. Consisting of eight herbs (saw palmetto, Chinese licorice, reishi, balkal skullcap, rabdosia, Dyer's Wood, Mum and San-qi ginseng), the miracle drug claimed to promote apoptosis and improve the immune system. The supplement was hailed by the Wall Street Journal as "an old Chinese herbal remedy gaining acceptance among some American physicians as a treatment for prostate cancer." Some small clinical trials suggested it could help prolong the lives of men with advanced prostate cancer. It was noted at the time that the side effects of PC-SPES were similar to those of conventional hormone therapy, including diminished libido, hot flashes, breast enlargement and tenderness, and blood clots in the legs.

Ultimately, the FDA would investigate both PC-SPES and SPES (a supplement designed to treat other malignancies besides prostate cancer) and determine them to contain undeclared prescription drug ingredients (including warfarin and alprazolam—also known as Xanax).

In June 2003 a grand jury in California issued criminal indictments against the principals of the company. In December 2003 they, and the company as a whole, pled guilty.

However, the hope of some patients for PC-SPES lives on, as the National Center for Complementary and Alternative Medicine (NCCAM) continues laboratory studies on an allnatural version of the supplement. Though the human studies planned prior to the FDA's discovery have been put on hold, some results remain promising. In one study published in a 2001 article in *Prostate*, baicalin—a substance isolated from baikal skullcap—was found to inhibit the proliferation of cancer cells.⁵

In a press release, Orange County District Attorney Byron Nelson said that no one could argue that the "product decreased PSA levels" and that it would "be great if this were an effective product that was properly tested and met the state of California's and FDA's requirements."

Assumed to have received his medical degree from a diploma mill in Kansas City after being bailed out of jail by his father-inlaw, Brinkley took a job as a house medic for a local meat-packing firm where he first observed the mating habits of goats. At the time, George Lydston in Chicago and Sergey Voronoff in France were famous for implanting human testicular tissue or monkey glands in elderly men to improve their viril-



John Romulus Brinkley—Radio mogul and quack.

ity. Brinkley chose to implant goat testicles. His first patient was a farmer who claimed subsequently that his sex drive was running at full speed after the operation. Smelling a good business opportunity, Brinkley began to operate on a number of local patients, advertising and soliciting testimonials from many. Working with his second wife and Dwight Osborne (who also had diploma-mill medical degrees) out of a small house called the "Dr. Brinkley Hospital" or "Dr. Brinkley Clinic," he built a thriving practice with his treatment. However, when he was trying to expand to Chicago, Brinkley was denounced by "Gland Expert" Max Thorek and his practice was shut down by the police.

Brinkley, however, was not to be deterred. He visited Los Angeles in 1922, where he advertised his services on Wilshire Boulevard (named for magnetic belt charlatan Gaylord Wilshire). One of his patients, Harry Chandler of the *Los Angeles Times*, had just acquired a radio station and Brinkley, smitten with the new advertising medium, decided to build his own station in Milford, Kansas. KFKB (Kansas First, Kansas Best) boasted 1000 watts and could be heard for hundreds of miles—from the Rocky Mountains to the Mississippi River, from the Canadian prairies to beyond the Mexican border.

Brinkley also produced his own medications-advertising them on the radio and through organized druggists in the National Dr. Brinkley Pharmaceutical Association. which sold the medications at highly inflated rates after Brinkley prescribed them to people who wrote to him for advice. His Kansas empire, however, would ultimately be shut down after Dr. Morris Fishbein of the AMA called attention to his sleazy practice, which was followed by a damning exposé in the Kansas City Star and a formal complaint

filed in April 1930 by the Kansas City Medical Society to the state board. After Brinkley stepped up radio attacks on the AMA, his license for KFKB was revoked. The ever ingenious charlatan responded by phoning in his talk shows to a radio station across the Mexican border.

After three failed attempts to become the governor of Kansas (one time he finished in third place), Brinkley applied to the Mexican government to operate a radio station from Villa Arcuna, received a sixyear lease and boosted the station's power to an unprecedented 500,000 watts, making it the world's most powerful radio station. In 1933, he moved his clinic to Del Rio, destroying his Milford operation to prevent others from stealing his concept. Once in Del Rio, Brinkley modified his operation to involve severing the vas and squirting a drop of Mercurochrome into it. Depending on the patient, the operation cost either \$250, \$750 or \$1,500. Throngs of patients came into the city for treatment, and by the end of 1939, Brinkley had amassed an estimated \$12 million.





After several setbacks, losing a suit against Dr. Fishbein and suffering competition from another charlatan, Brinkley moved back to Kansas. By 1940, the U.S. government had billed him for more than \$200,000 in back taxes, the Mexican government raised his license renewal fee and more than a dozen malpractice lawsuits were brought against him. He divested his assets, transferring them to his wife and son, and declared bankruptcy. He returned to his radio station in Mexico, but a year later, the U.S. government convinced the Mexican government to close the operation and the entire building was razed. Three days later, he suffered a massive heart attack and died.

It's Electric

Ever since the Ancient Greeks discovered that a piece of fur rubbed on amber would attract pieces of straw, humans have been fascinated with the concept of electricity. A number of key figures would emerge in the history of electricity, including Benjamin



Franklin and Alessandro Volta. After English scientist Michael Faraday created the first crude electric generator and Thomas Edison helped bring electricity mainstream, quacks soon found a way to capitalize on the public's newfound interest in the utility and electropathy was born.

Like alcohol-laden patent medicines, electropathic devices provided an eager public with a treatment that could be felt. Rather than swallowing a pill and waiting for an effect, these devices provided instant "treatment" by using electric current often inciting involuntary muscle contractions.²⁵ Most devices were energized by chemical batteries, battery boxes or magnetos, which used magnets to generate current.²⁶ Electricity was used to treat everything from eye trouble (the first patent for "galvanic spectacles" was awarded to Judah Moses in 1868) to impotence.²⁷

One prevalent treatment for urologic disorders was the electric belt. Designed to cure "weakness peculiar to man" and even incontinence, the belt used batteries to generate a self-regulating alternating current to the wearer, increasing circulation and stimulating nerves.28, 29 One leading manufacturer, Heidelberg, boasted a variety of belts, including the "Giant Power 80-Gauge Belt," designed to quickly cure "all nervous and organic disorders arising from any cause whatever," encouraging buyers that "health, strength, superb manliness, youthful vigor is the result."30 Other treatments at the time included unilateral vasectomy for erectile dysfunction and the "psychophore"-a hollow instrument inserted into the rectum and them flushed with cold water-to treat prostatic enlargement.

An early 19th century treatment for syphilis required patients to suspend their scrotums in a pool of whirling water linked to a battery.³¹

Wm P. Didusch

Center for Urologic

; History

American scientist Nikola Tesla, who discovered a way to diffuse high-frequency current into a discharge of mist, enabled creation of the "violet ray," which gained great popularity in the 1920s.³² A variety of devices using these rays and glass elec-



Ever since the Ancient Greeks discovered that a piece of fur rubbed on amber would attract pieces of straw, humans have been fascinated with the concept of electricity.

The Violet Ray machine was used to treat nearly every possible malady—from head to toe.

trodes promoted the idea of "cellular massage" to build up tissue resistance.³³ One device, the "Marvel Violet Ray" developed by Eastern Laboratories in New York, promised treatment for prostate enlargement by using special prostatic "applicators" that bring heat "in almost direct contact with the gland inside the body" and provide instant relief. According to the device's instruction manual, "no other treatment [for prostate trouble] will give the practically certain relief that comes from the use of Violet Rays."³⁴

Magnets

The attraction of magnets and public curiosity about their healing powers has waxed and waned since Franz Anton Mesmer, a German physician who had studied theology, law, philosophy and medicine,

first proposed magnetic therapy. Working off of concepts originally proposed by Maximilian Hell, the court astronomer in Vienna in 1774, Mesmer believed the human body had two poles-like a magnet-and that waving magnets over a patient from head to toe could improve circulation and promote healing by transmitting a universal energy called "fluidum." The concept of "animal magnetism" involved fluidum as the universal energy (not unlike the Chinese ch'i) moving through all living beings as well as the heavens and earth. This theory eventually led Mesmer to abandon individual magnets in his therapy, instead opting to transmit the energy from living being to living being-

Magnets are still considered therapeutic by some patients. Magnetic bracelets, like this one, are still popular.





Nikola Tesla discovered a way to diffuse high-frequency current into a mist, leading to the violet ray.

whether it be a tree, a tub of water or the laying on of hands. Mesmer was eventually discredited after King Louis XVI of France appointed a committee (which included American representative Benjamin Franklin) to investigate his work. The committee concluded that there was no proof of a "mesmeric fluidum," though in 1831, a committee of the Medical Section of the Academy of Sciences in France revisited the concept of animal magnetism and accepted Mesmer's viewpoint.

As early as the 18th century, people were using magnetic therapy in the United States. Dr. Elisha Perkins, an American, patented a device in 1796 that was guaranteed to cure anything. "Perkins' Patented Metallic Tractor" became a raging success, and was even used by George Washington. The tractor, comprised of two short metal rods (one of brass, one of iron), purported to extract disease using magnetic effects and was highly sought after by both doctors and patients. The device retailed at \$5 to physicians and \$10 to the general public. However, London physician John Haygarth soon proved the fallibility of the device after conducting experiments with a pair of wooden rods, showing that it acted "by the impression ... made upon the patient's imagination." The Connecticut Medical Society, who called Dr. Perkins a "patentee and user of nostrums," expelled him, though he was a founding member of the group.

Magnetic therapy, however, has made a slow comeback in the 20th and 21st centuries, and science has acknowledged that a good deal has yet to be learned about magnetic fields. We use magnetic field disturbance to create internal images of the body using magnetic resonance imaging (MRI) and know that birds use the magnetic field to navigate bi-annual migrations. However, an eager public has embraced the notion that magnets attract iron in the blood and stimulate circulation and magnets are a large-sale item today. Even magnetic insoles are available that reportedly "ground you to the earth's magnetic field and thus prevent disease."

Radioactivity

After Polish scientist and Nobel Prize-winner Marie Curie discovered it with husband Pierre in 1897, "radioactivity" fascinated the international public. And, like other miracle cures or magic elixirs that came before or after, the public worked on lopsided information that showed the positive effects and not the dangers of radiation. One newspaper headline in 1905 captures the drama. It read, "Radium, as a Substitute for Gas, Electricity, and as a Positive Cure for Every Disease."³⁵

One elixir developed to treat impotence (which no one discussed but everyone wanted to cure) was a dilute solution of mesothorium and radium: "Radithor."³⁶ Its proprietor, William Bailey, sold half-ounce doses for \$1 apiece. Frequent users suf-

"Violet Rays should be used by everyone experiencing sickness or ailment of any kind. The healing properties of Violet Rays are manifold, and they accomplish what drugs and medicine never can."

> -Marvel Violet Ray Book of Instructions

fered from radium poisoning.³⁷ Ultimately, the highly publicized death of millionaire Eben M. Byers from radium poisoning (Byers is said to have consumed 1,000 to 3,000 bottles of Radithor in a two-year period and that, at the time of his death, even his breath was radioactive) led to an investigation by researcher Robley Evans into the area of radiation safety.³⁸

Despite the fact that Marie Curie's fingers were severely burned from radium and that she later died of leukemia after radiation had destroyed her bone marrow, an eager public embraced radioactive waters, uranium sand houses and radon mines as therapeutic treatments for ailments ranging from arthritis to tuberculosis. The array of equipment offered to the gullible public ranged from radioactive lenses for imperfect refraction, myopia, presbyopia, glaucoma, retinitis and atrophy of the optic nerve to throat pads for laryngitis, tonsillitis and singer's throat strain. There was even a pessary for the treatment of an inflamed and diseased uterus or ulcerated cervix and a "radio-prostatic combination" that consisted of an elastic supporter, two radioactive pads and a goose-necked radioactive rectal application to treat cystitis, prostatic trouble and kindred afflictions. Not surprisingly, a number of patients developed severe problems with not only radiation-induced inflammation, but also with tissue breakdown.

To this day, patients still make pilgrimages to Montana's "health mines"—a halfdozen defunct gold and uranium mines south of Helena. The average visitor is 72 years old.³⁹ Radon baths are prescribed throughout the former Soviet Union.⁴⁰

"Pain We Obey"

Understanding quackery in medicine is as integral to learning medical history as reading the works of Hippocrates. While some quackish cures and treatments are clearly denounced by modern medicine, others had roots in scientific fact and gave way to breakthroughs that positively impacted the lives of millions of patients.

Although key public safety advances were made in the 20th century (including the Pure Food and Drug Act of 1906), much of medicine has evolved from a system of learned understanding and trials. In some ways, today's practice differs from the past only in that key structures are in place to shield the public from horrific early trial results. Hippocrates didn't travel throughout Greece touting his wares, nor did he perform animal experiments before applying his treatment to patients. His work was neither traditional quackery nor modern science, yet we can respect its contribution.

However, in order for quackery to exist, so must a gullible public—whether it is foolish or just misinformed. One of the major draws of the patient to nostrums and quackish treatments was and will continue to be pain. French author and asthma patient Marcel Proust put it well. "Illness is the doctor to whom we pay most heed," he wrote. "To kindness, to knowledge, we make promises only. Pain we obey. At any cost."

As long as there are patients, there will be quacks willing to heal them. Though numerous advances in medicine have been made and patients have more proven treatments available than ever before, quackery will continue to exist as long as there are new diseases and "cures" to be discovered.





Marie Curie is best known as the discoverer of radioactive elements polonium and radium. She is immortalized here in a Polish stamp.



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