

HISTORY

"An irresistible account of fads and fascinating foibles, including electric belts and radioactive tonics."

Christian Science Monitor

"In this engaging and well-written study Carolyn Thomas de la Peña offers a detailed cultural history of the medical-technological interface in the period 1850–1940, and in so doing tells us a great deal about how the body and its relation to modernity were conceived."

American Historical Review

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American Quarterly

In the hundred years between 1850 and 1950, Americans became the leading energy consumers on the planet, expending tremendous physical resources on energy exploration, mental resources on energy exploitation, and monetary resources on energy acquisition. A unique combination of pseudoscientific theories of health and the public's rudimentary understanding of energy created an age in which sources of industrial power seemed capable of curing the physical limitations and ill health that plagued Victorian bodies. Licensed and "quack" physicians alike promoted machines, electricity, and radium as invigorating cures, veritable "fountains of youth" that would infuse the body with energy and push out disease and death.

The Body Electric is the first book to place changing ideas about fitness and gender in dialogue with the popular culture of technology. Whether through wearing electric belts, drinking radium water, or lifting mechanized weights, many Americans came to believe that by embracing the nation's rapid march to industrialization, electrification, and "radiomania," their bodies would emerge fully powered. Only by uncovering this belief's passions and products, de la Peña argues, can we fully understand our culture's twentieth-century energy enthusiasm.

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About the cover: Advertisement for the Vigoradium water dispenser. "Health, Vigor, Vitality," Vigoradium Corporation (New York, 1927), folder 0721-04. Courtesy of the American Medical Association.

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DE LA PEÑA

THE BODY ELECTRIC



CAROLYN THOMAS DE LA PEÑA

THE BODY ELECTRIC

HOW STRANGE MACHINES BUILT THE MODERN AMERICAN

dy's potential, a lesson one might have reinforced after an afternoon on
 lshire's miracle mile followed by a rejuvenating session with his I-ON-
 CO. The body was not left behind in the rush toward electric modern-
 tion. To the contrary, it was now the recipient of an "energy transfer,"
 actual infusion of energy produced outside the body and ingested for
 ductive gain. There was reason to believe in the limitless energetic fu-
 e of modern men and their machines.

4

Powering the Intimate Body

For many American men early in the twentieth century, their most intimate moment with technology came while wearing an electric belt. This is not to say that electric belts were the only products to necessitate close contact between technological materials and human bodies; I-ON-A-CO collars embraced their users; Oxygenators slid under women's clothing, clamped around skin, and pressed metal to flesh. The experience of contact, however, was not the same. Whereas collars and oxygenators "held" body parts one might share publicly, belts, as well as electric prostate massagers, treated private body parts. By surrounding the penis and scrotum with low-level electric currents, and massaging the prostate with electric power, these devices inserted technology into the intimate body, uniting modern man, sexual vigor, and electrical power.

Rachael Maines has argued that American women used electric technology for sexual satisfaction during the early twentieth century. Her work reveals that women purchased and used vibrators to masturbate, effectively rebelling against inadequate male partners and a social imperative to put men's sexual satisfaction above their own. Although numerous women undoubtedly did realize that "medical vibrators" could be used to reach orgasm, medical literature, product promotional material, and archival materials tell us that women were not the primary benefactors of technological sexual enhancements.¹ Invigorating sexual performance with electric currents was largely a male domain.

There was something particularly American about the marketing of electric belts. In Britain, belts sought a market composed equally of men and women; in the United States, the vast majority of advertisements were aimed at men. Belts for women, as with Violet Rays and the Electropoise, were usually placed within the context of accepted gender roles. As a result, nineteenth-century women could find electric belts that looked much like men's, but most belts appeared closer to corsets. Such

products claimed to increase energy, but did so within a restrictive, energy-depleting costume. One scholar has supposed that the difference is due to America's "less matriarchal society"; a careful consideration of gender dynamics and consumer materials reveals a different reason.²

Between the late nineteenth century and the Great Depression, products that promised to improve men's sex drive and performance flooded the American marketplace. Many, such as pneumatic penis enlargers, functioned without outside power sources.³ Yet the most enduring products, some of which sold in the hundreds of thousands over a thirty-year period, were those that used electric technology. One might dismiss artifacts such as galvanic suspensory belts and prostate massagers as novelty items, examples of sexually stimulating or perhaps humorous applications of technology. That view, however, is decidedly anachronistic. Men turned to electrical products because they promised a modern solution to a modern sexual problem. Electricity's perceived ability to "transfer" energetic power into the body solved three crises in contemporary male sexual performance: masturbatory depletion, perceived sexual inadequacy, and glandular limits. In an age that demanded increased virility in the boardroom and bedroom, many men found themselves physically unfit for the task. By infusing their bodies with electric technology, men could redefine normal sexual performance while concurrently "normalizing" electric power.

The Seed of Modernity: Why the Penis Must Be Powered

In the late nineteenth century, the Pulvermacher Galvanic Company sold belts of varying sizes and shapes to men and women. Its brochures stressed the benefits of attaching around one's waist a set of coils connected to a galvanic battery to achieve increased physical energy, relief from a series of illnesses, and clearer mental states. To say that Pulvermacher was an equal-opportunity manufacturer, however, would not be true. For each advertisement that specifically marketed belts to women there were roughly four aimed at men. When read as a compilation of images and text, the advertisements consciously promoted Pulvermacher's product as capable of creating a new man by electrically powering his genitals. The key to this interpretation is the suspensory sack, an optional accessory to the belt. The appliance was a light-metal woven pouch that, when connected by clips to the lower part of the belt, surrounded the

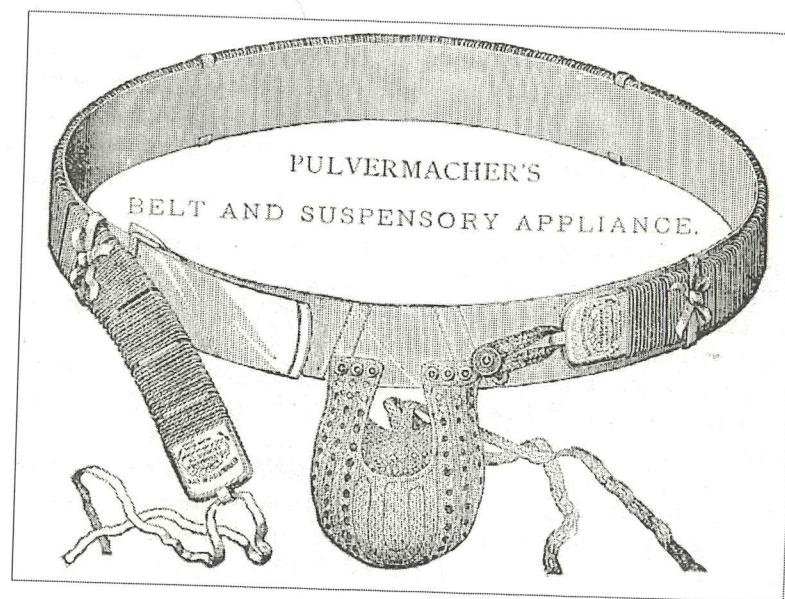


Fig. 22. The early Pulvermacher belt. "Pulvermacher's Belt and Suspensory Appliance," 26, ephemera collection. Courtesy of the Bakken Library and Museum of Electricity in Life, Minneapolis.

penis and testicles with galvanic current (fig. 22). As an artifact, the appliance lends itself to multiple interpretations. It could have been used as a reinforcement weapon to fight the same general debility that the belt did; with more of the body's surface exposed to the wires, perhaps, there was a greater opportunity for it to absorb healing currents. However, the appliance's location suggests a more complex rationale. Pulvermacher could have sold upper-thigh attachments just as easily, perhaps following the lines of Sanche's ankle cuffs. They would have provided even more of a surface area "infusion," had this been what Pulvermacher was after.

A further clue to the connection between the electrified penis and the healthy male body lies in textual description. In a late-nineteenth-century advertisement, Pulvermacher told prospective purchasers that the suspensory attachment's efficacy lay in its ability to cure "nervous and general debility, lost vigor, decline, and the whole train of gloomy attendants."⁴ The description leaves a modern reader confused; how are these

symptoms any different from the general fatigue that the belt claimed to cure for both men and women? The answer lies in the intentionally gray area ensconced in terms like “lost vigor,” “decline,” and “gloomy attendants.” Americans of the time rarely directly discussed sexual dysfunction. Descriptions of impotence, erectile disorders, and lack of sexual desire appeared instead in a carefully constructed, widely recognized, and coded language. We know that the terms “vim, vigor, virility, and vitality,” when used between 1850 and 1930, almost always referred to sexual power.⁵ The attachments, then, were explicitly aimed at men who desired to reach beyond general electric transfer to enhance sexual performance through technology.

Illustrations suggest that using the suspensory appliance would do more than provide better erections; it would make the entire body a more visibly masculine terrain. It is significant that illustrations were used to advertise the appliance; typically they cost more to include than written text. Yet the advertising of each of the leading belt manufacturers featured sizeable images of male bodies wearing electric belts. In some cases these were clinical, diagrammatic half torsos to show proper belt placement. More often, they were full figures of male bodies being powered by belts and attachments (fig. 23). What is striking, however, is how little the advertisements focus on the galvanic product itself. The majority highlight instead a naked, visibly muscular body and allow the reader to make the connection between this “product” and the one ostensibly being sold. One first notices, for example, the strong arms and muscular thighs and buttocks of Pulvermacher’s belt model before noticing the belt around his waist and genitals. Most belt advertisements feature a variation of this or a more overtly “virile” illustration, such as Dr. Sanden’s, where the model, shown from the back, flexes his shoulder and arm muscles, clutching what appears to be a spear for some undisclosed purpose, all while receiving visible electric current from the waist and neck (fig. 24).

These images differ dramatically from accepted nineteenth-century presentations of the male body. As discussed in chapter 1, illustrated men were typically clothed and, mirroring their actual appearance, small in stature. These belt images, then, evoked ideals of the male body, not as most men who might purchase products were but as they hoped to be. Yet rather than suggesting that men lift weights or perform a localized muscular exercise that might create idealized bodies, the makers suggested instead that men electrify their genitals. That advertisements made electricity instead of muscular exercise the source of physique building was not

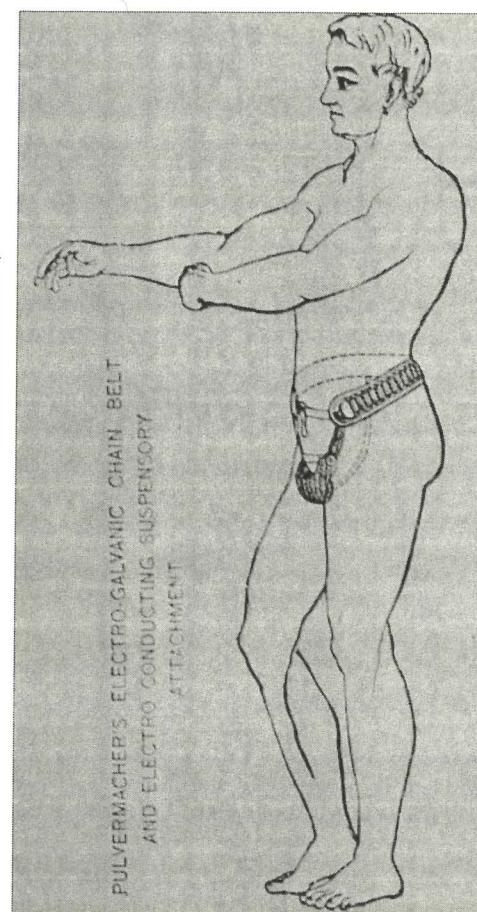


Fig. 23. Demonstrating how to wear the Pulvermacher belt. “The Only Rational Means for Self-Cure,” Pulvermacher Electro-Galvanic Belts, 27, ephemera collection. Courtesy of the Bakken Library and Museum of Electricity in Life, Minneapolis.

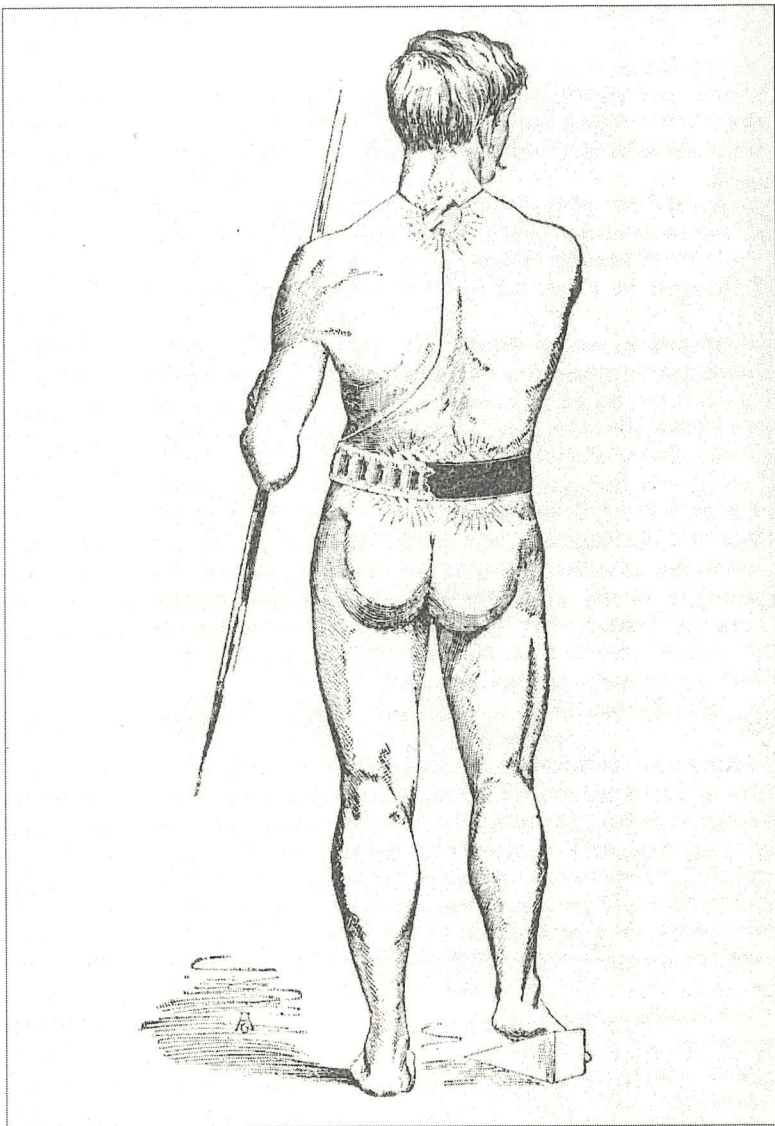


Fig. 24. Advertising the electric belt to prospective consumers. Brochure, Dr. A. T. Sanden (ca. 1910), 68, ephemera collection. Courtesy of the Bakken Library and Museum of Electricity in Life, Minneapolis.

surprising: by 1900, most people were cognizant of the fact that building a powerful body with weights or machines took hard work, dedication, and more than a bit of discomfort.⁶ Given the other option, building muscle painlessly and almost effortlessly with electricity must have seemed attractive. This insight, however, does not explain why the genitals in particular were the recipients of electrically induced strength. We can only assume that there was a connection that readers would have understood, or been willing to learn, between powerful genital function and overall physical power or presence.

A careful reading of the historical evidence reveals that electric belts, precisely because they promised to improve erectile performance by infusing the penis with electrical power, promised to make men more powerful figures in the modern world. The muscular figures in advertisements were merely external symbols of the internal power that the belt wearer would possess. As the illustration from Dr. Sanden suggests, the electrified penis became a catalyst for the modernization of masculinity, one that could throw off nineteenth-century inefficiencies and meet twentieth-century demands.

Holding Back the Vital Force: Nineteenth-Century Impotence and Masturbation

As late as the nineteenth century, American physicians believed that women's bodies and minds were held captive by their reproductive functions. Hysteria, defined as a physiological disorder, was believed to be caused by the detachment of a woman's womb. Unmoored from its usual location, it traveled through the body wreaking havoc, causing normal women to behave in an extraordinary manner.⁷ Women, though, were not the only ones believed to suffer psychological consequences from genital malfunction. For men, the malaise was impotence, an ill-defined diagnosis based on a collection of symptoms ranging from weakness and mental confusion to unsatisfying sexual performance.

Impotence has probably existed as long as there have been men. When one considers the physiological and psychological complexity of maintaining an erection, combined with a sufferer's reluctance to discuss his perceived "inadequacies," it is clear that impotence has long created a fraternity of silent sufferers. In the late nineteenth century those ranks

swelled, challenging the silence and leading medical experts to declare an epidemic in their midst.

According to one American physician, impotence had become so common by the 1880s that "the ideal condition of virility [was] somewhat rare . . . and in any given case it will generally last for but a short time."⁸ Among the men who sought help, physicians found two types. The first were those who suffered because of physical causes such as illness or venereal disease; its numbers were not on the rise. It was the second type that physicians singled out for the increase in reported cases. These individuals suffered from "psychic impotence," or what British physician James Paget called "sexual hypochondriasis." One physician, when comparing such men to the men affected with physical impotence, declared that "the former constitute a large portion of those applying for relief."⁹ Paget told colleagues in the late 1870s that there was actually a pyramid of impotence sufferers: at its top were the most rare cases, men who suffered impotence caused by physical problems. Next down and more common, were men who suffered from impotence caused by nervous disorders and mental defects. At the bottom, in the most populous category, were men who suffered from impotence "complained of or dreaded" without cause.¹⁰

The definitive study of male sexual dysfunction has yet to be published. Nonetheless, we can use contemporary medical and advice literature to speculate that fears about masturbation's effects played a large part in convincing men that they possessed inadequate sexual power. If we consider impotence in the way it was defined by many of its sufferers, as a general loss of physical power, it makes sense to look to masturbation as a primary perceived cause. Experts throughout the nineteenth century warned young men of the dangers inherent in the vice and found ready audiences for their baleful predictions. In 1835, the Reverend John Todd published his *Student's Manual*, which went through seven editions in the next two years; by 1854, it had reached the twenty-fourth. Its chapter on "onanism," or masturbation, which stressed that the practice would lead to intellectual and physical ills, influenced many young men's attitudes toward their bodies. One physician, Dr. Gardner, considered himself among the "thousands [who] now live to thank this conscientious teacher" for lessons on avoiding a habit worse than tobacco and alcohol, substances not "so potent to rob man of all the high prerogatives of manhood, as this, humiliating, self-abasing vice."¹¹

The connective thread between masturbation and physical decline thickened in the 1850s, when, like Dr. Gardner, physicians emerged ready to add the sanctity of science to earlier admonitions from ministers. This new group of decline harbingers transformed what had previously been a humiliating and self-abasing practice into a certain ticket to debility and death. One can partly attribute the shift to a cultural theory of scarcity that emerged in the mid-nineteenth century, which, in its various manifestations, encouraged conservation of natural resources, financial reserves, and physical energy.¹²

By the 1850s, physicians had supplanted preachers as the leading antimasturbation crusaders as concerns over the state of one's internal reserves became a more pressing question than the state of one's soul. Why this was so is hinted at by reformers like Frederick Hollick, an expert on sexuality and physiology, who could confidently declare by 1850, "[N]ervous substance and seminal fluid are . . . essentially the same thing."¹³ The theory, commonly called "seminal economy," encouraged by reformers from Sylvester Graham to Henry Beecher, elevated the importance of seminal fluid beyond its role in procreation.¹⁴ Ejaculatory fluid became life force, a precious substance to be lost only for the societal imperative of reproduction.¹⁵ As its protector, the penis thus became a physical symbol of vital masculine energy.

Arguably, the theory of seminal economy created two imperatives for the man who would call himself healthy by the turn of the century. First, he would have to abstain from all sexual activity other than procreation. Masturbation was the worst waste of one's vital force, but gratuitous sex was not much better. Second, he would have to cultivate as much sexual force as possible to guarantee a strong vital reserve of energy for daily activities. Such a mandate would be difficult enough if young men had merely to make it through puberty before finding a marriage partner and beginning a sanctioned sexual life. Yet as Anthony Rotundo points out, late-nineteenth-century middle-class men married on average at age thirty, typically ten to fifteen years after puberty.¹⁶ The sequence almost inevitably entwined men in a cycle of guilt and fear. Because they believed masturbation drained vital fluid, causing illnesses ranging from neurasthenia to insanity, those who masturbated, even once, often believed themselves permanently susceptible to such ills. Consequently, men of all ages and classes had reason to gauge physical or sexual weakness by the state of their semen supply.

Electrifying the Penis: A Modern Cure for a Victorian Malaise

Early physicians who experimented with electricity in their practices did not use it to treat sexual dysfunction. Long after inventions such as the Leyden jar and galvanic currents had brought electric therapies to physicians' offices and to private homes, electricity remained a tool more for general than sexual health. In 1863, one of the primary electrical texts in the field, Alfred Garratt's *Electro-Physiology and Electro-Therapeutics*, listed twenty-three conditions appropriately treated with the current.¹⁷ Sexual dysfunction was not among them.

The situation began to change in the 1870s, when the first electric treatments for impotence appeared in the form of galvanic baths. George Schweig, a New York physician, was known for his galvanic treatments, in which patients were placed in tubs of water with electrodes submerged below the surface. The treatments, which lasted for several minutes, were given up to six times a week. They generated the first testimonials to electricity's impotence-curing powers, if we are to believe Schweig's text. One thirty-two-year-old man declared that before his treatments he "was able to perform the marital act at rare intervals only, and when he did, felt exhausted the whole of the succeeding day." After his sixth galvanic bath, he found his sexual power restored.¹⁸

By the 1880s, numerous physicians had begun to treat impotence with locally applied electric currents. Two of the most prominent, both for their practice and their writings, were Alphonso Rockwell and George Beard. Rockwell was one of the first to do so. In 1874, he described his typical treatments for spermatorrhoea and seminal emissions, conditions associated with impotence: a mixture of local galvanization, involving direct contact between the penis, scrotum, and an electric current, and central galvanization, whereby an electric current was applied to the entire body.¹⁹ It is significant that Rockwell used both local and central galvanization in his treatments. Assuming that he shared his partner Beard's philosophy about the relationship between electricity, physical energy, and sexual dysfunction, Rockwell probably believed that impotence was more often than not a symptom of general energy depletion rather than the nucleus of a unique disease.

In George Beard's professional opinion, a man suffering from neurasthenia was a man suffering from sexual dysfunction. Famous for his diagnoses of this "civilized" disease that left modern men and women without sufficient physical energy to make it through a typical day, Beard's

placement of the penis at the center of male physical decline has been oddly overlooked. Clearly, his fellow physicians paid attention to the connection. In a paper read to them at the New York Academy of Medicine, Beard recalled a typical treatment session for a neurasthenic: "When he first consulted me, I inquired into the condition of the genito-urinary system, as I always do in all cases of neurasthenia, not that it is the sole cause, but a very frequent cause of these troubles, or at least a complication of them."²⁰

Beard's theory that the sexual organs were nearly always the source of nervous exhaustion was widely accepted by his contemporaries.²¹ Physician C. L. Dana treated all reported cases of men's nervous weakness as veiled references to impotence. He typically initiated neurasthenia treatments with a special zinc cylinder filled with weak alcohol. Designed to fit over the penis, the cylinder was connected to the negative end of an electrode and the positive end was placed on the spine. If a man followed the regimen three times a day, Dana asserted, the general weakness would soon disappear.²²

M. J. Grier, a respected American electrotherapist, expanded on the underlying connection between neurasthenia and male sexual dysfunction in a paper read before the American Electro-Therapeutic Association in 1891. It was up to the physician, he remarked, to see through the façade of incomplete symptoms that male patients presented. Typically, they "seek relief from a neuralgia, pain in the back, muscular debility, or some other cause leading easily and naturally from the ostensible to the real object of the visit."²³ He found his clients to be a mixture of men suffering from what he called "an appreciable physical failure" and men certain that "such a failure will certainly occur." The true culprit was not the sexual organs, it was the way they had been mishandled through masturbation. In the veiled language commonly used to refer to self-abuse, Grier explained that most patients actually suffered "from excessive and long-continued stimulation of special nerve endings, with consequent exhaustion of the spinal and cerebral centers controlling the parts involved."²⁴

By the late-nineteenth century, physicians and patients alike knew the high price that American men paid for sexual urges. The body, limited by finite energy and driven to waste that energy on lust, progressed continually down a path to its own listless demise. By making the genitals the source of male physical power, Victorian culture demanded of men a nearly impossible restraint. The addition of electrotherapies suggested that there might a way to stay healthy without abstinence. As Beard

reported and others confirmed, men could be cured of general weakness by taking direct current to their genitals. This combination of physiological and psychological treatment reached the majority of American men outside the boundaries of regular medicine. By purchasing electric belts, men acquired a technology that overturned Victorian theories of restraint and limits.

Electric Belts and the End of Masturbatory Decline

Electrotherapists may have begun to treat impotence by the late-nineteenth century, but the majority of American men suffering from the condition were not knocking on their doors. The reluctance can be explained, in part, by the fact that electrotherapists were often seen as irregular practitioners with ill-gotten diplomas. Yet, this does not explain why impotence treatments were not at least as popular as galvanic treatments for headaches and paralysis. Each was a common condition in men and could be “treated” by electricity equally effectively, meaning that symptoms occasionally could be relieved temporarily by electrical stimulation of the nerves. Admitting that one suffered headaches or paralysis, however, did not carry the same stigma as did admitting a problem with impotence. As neutral diseases, brought on by no doing of the sufferer, headaches and paralysis were occasions for sympathy. Impotence was a public admission of wrongdoing as much as it was a disease. To declare oneself impotent was to disclose two facts, neither likely to build a man’s public esteem: he had masturbated at some time in his past, and, as a result, he did not possess the vital power to complete sexual intercourse.

Mail-order impotence remedies allowed men to go incognito for the cure. Many companies successfully manipulated sufferers’ reluctance to seek medical help as a marketing tool. Zardon, purveyor of a mysterious nerve-stimulant pill early in the twentieth century, confided to men of “weak or erratic” desires that its experts knew all about sufferers’ hesitancy to seek help. Its brochure asked on its front page, “Do you care to have your family physician whisper around that you are not as good a man as you once were? Do you wish to have the druggist laugh at you when getting a prescription filled? Don’t you suffer rather than go to them for advice.”²⁵ Belt manufacturers echoed such insider empathy. The German Belt Company sold its suspensory attachment as a completely confidential method for curing impotence. Because of its compact size, the

company assured potential purchasers, “[N]o one, not even a person sleeping in the same bed need know you have one on.”²⁶

At a time when the majority of American men lived in rural areas and small towns, discreet local medical treatment could be an oxymoron. Mail-order remedies, much as on-line prescriptions today, offered a way to circumvent the traditionally busy mouths of small towns. Advertisements reinforced the notion that impotence was seen as a “fault” disease: the family physician would know you had wasted your vital force and the druggist would make fun of your dirty little secret. Were your wife to know, she might wonder about undisclosed indiscretions. Before innovations in printing technology made inexpensive mail advertising possible, most men probably suffered from actual or believed impotence in silence.

In such a climate, electric belts probably seemed a better treatment option than most. Secrecy, however, was not the only reason men purchased electric belts. Had men desired only that, they would have made successes of less expensive pill products like Zardon’s. Electric belts became the most popular impotence cure between 1890 and 1920 by offering a unique combination of discretion, diagnoses, and deliverance. In addition to promising to treat impotence so quietly that even one’s wife would not know, belt manufacturers defined the illness as a temporary, curable disease. Masturbation need no longer be the cause of permanent debility and lingering guilt; with an occasional electric charge, masturbation could be reimagined as a benign activity that left a man with plenty of energy in reserve.

Defining the Problem and Prescribing the Cure: American Electric Belts

Like physicians, electric belt promoters did not tiptoe around the cause of men’s turn-of-the-century weakness. Impotence, declared the Pulvermacher Galvanic Company in an 1876 advertisement, was the clear result of “ruinous and prevalent masturbation among boys.”²⁷ The diagnoses grew more pointed over the next twenty years. In 1901, the German Electric Company explained in its promotional material that “nervous debility is often produced by youthful excesses, but it is unfortunately to the vice of self-pollution . . . that we must in general attribute the moral prostration and physical incapacity now so wide-spread among the men of the present generation.”²⁸ By 1910, Professor Crystal felt sufficiently

confident to declare in his own electric belt promotions, “[N]ine out of ten times in men nervous diseases can be attributed to self abuse.”²⁹

The makers’ reasons for identifying masturbation as the cause of ill health were not dramatically different from those of physicians. Both supported the nineteenth-century theory of seminal economy that posited seminal fluid as limited in quantity and identical to nervous force in function. Masturbation, explained Pulvermacher, was a terrible “drain on the vital forces.” In one of the more graphic descriptions of depleted seminal economy in action, Pulvermacher declared, “[T]he male excretion embodies forty times more vital force than an equal amount of red blood right from the heart.”³⁰ A male need not have masturbated recently to experience a dramatic energy drain. Most belt manufacturers referred to “youthful indiscretions” when looking for the cause of men’s current weakness. “The germ of life, the seed of vitality, has been wasted in the spring time of life,” explained Professor Crystal, “when most required for the development of a perfect and unimpaired manhood.”³¹

In the aggregate, belt advertisements seem to have intensified fears about masturbation and its attendant debilitating effects. Their descriptions of drained hearts and wasted vitality seeds offered a far more graphic image of the debilitation suffered by masturbators than one was likely to receive from the family doctor. Further, the repeated emphasis on the correlation between masturbating occasionally in one’s youth and impotence as an adult probably left men feeling even more helpless. As Professor Crystal told them, there was no returning youthful energy once wasted. As a result of those indiscretions, “the whole constitution has been weakened, the nerve forces enfeebled, [and] the genital organs shrunken.”³² Electric belt promoters provided a physical and moral diagnosis that although somewhat more private than that of the local physician, was hardly more comforting.

There were two fundamental differences between physicians and belt manufacturers: a clear diagnosis and a purchasable cure. Whereas physicians like Rockwell and Beard typically referred to their patients’ illnesses using imprecise diagnoses of “masturbatory weakness” or “impotence,” belt manufacturers codified specific diseases. In order for prospective customers to diagnose themselves, belt manufacturers described and illustrated specific ailments of the genital area. It was typical for advertising pamphlets to include, along with fancy illustrations of the belts, complete sections on how men might identify the disease by which they suffered according to specific symptoms. A typical reader of the most prominent belt

advertisements would come face to face with three main causes of “male fatigue”: spermatorrhoea, varicocele, and seminal weakness.

Together, the three conditions presented symptoms ranging from those visible to the naked eye to those perceptible by only the sufferer. Spermatorrhoea was the most public of ailments. Described as an excessive secretion and discharge of semen, it was almost always attributed to masturbation during one’s youth.³³ Advertisements made little attempt to differentiate between masturbatory ejaculation and nocturnal emissions; any loss of semen for a purpose other than procreation brought a young man one step closer to spermatorrhoea. Belt manufacturers such as Pulvermacher and German Electric stressed that although a man might choose to ignore his weakened state, others could be well aware of it just by observation. Sufferers, explained German Electric, bespoke their solitary vice in pasty skin and dark circles under the eyes, a look described as the “neurasthenic” pallor.³⁴ Some manufacturers’ promotional literature carried entire articles on spermatorrhoea, complete with examples of the detectible pasty look. Pulvermacher’s included two images of weakened men along with an article warning that “the eyes and countenances of most men are their own accusers.” There was no place to hide from the truth, it warned, when “those black and blue discolorations under and around the eyes” were telling their own story.³⁵

Were readers not to see their own condition in those descriptions, they might find a resemblance in varicocele or seminal weakness. Varicocele manifested itself in shrunken testicles, poor genital blood flow, and correspondingly imperfect erections.³⁶ It was probable that readers saw similarities between their physical condition and advertisements describing lumpy or “wormy” testicles and uneven testicular development; the connection may have convinced many that they had located the source of any present or future sexual shortcomings.

The most prevalent disease described in promotional materials was seminal weakness. It encompassed all general symptoms not covered under the first two. Nervousness, frequent headaches, fatigue, and low spirits were just as indicative that the ailment was present as was impotence. The disease was at once amorphous and specific. Within its etiology, any falling off from a state of perfect, energetic health could be attributed to masturbation. Dr. Sanden’s three-stage description, more specific than most, captures the essence of a seminal weakness diagnosis. During the first stage, after infrequent masturbation, a man might feel timid, faint of heart, and uneasy. If he did not stop the practice, the

second stage would bring on chronic irritation, urethra relaxation, nervous irritation, and lack of self-confidence. Continued self-abuse would eventuate in a complete "loss of manhood" followed by mania, insanity, and, in extreme cases, "a hurried removal to the confinement of the asylum."³⁷

One might assume, at first glance, that these diagnoses would have intensified Victorian antimasturbatory fears while offering little hope for recovery from masturbation's effects. It must have been cold comfort for men who had heard repeatedly during childhood that masturbation was sinful to find it now to be the root of all physical degeneration. A perusal of Pulvermacher's or Dr. Sanden's materials left little doubt that the headache, tiredness, or ill temper one suffered was direct evidence that the antimasturbatory pundits had been right all along: its temporary pleasures were followed by enduring penance. In this way, the materials intensified fears well established in Victorian culture. Further, the graphic details of genital decay in these diagnoses seem not to have left readers much room to believe in quick or complete cures. Most followed a trajectory similar to Sanden's seminal weakness: minor symptoms came first, perhaps not even perceived by the sufferer; more obvious problems followed, such as sexual and psychological dysfunction. The whole process of physical degeneration happened so rapidly, were one to put stock in the promotional material, that one might easily ignore a symptom for a week or two and find the damage beyond repair.

Had belt manufacturers actually promoted this bleak prognosis, they would not have sold very many devices. In reality, their excessive emphasis on serious physical symptoms was meant to clearly identify the problem in order to sell items that cured it. This was a second difference between their treatments and those of physicians. After concluding a long treatise on the evils of advanced varicocele, Pulvermacher told its readers that the disease "can not be cured by supports, trusses, or compresses alone . . . the suffering parts must be subjected to the curative influence of the mild, continuous and prolonged electric currents."³⁸ Even Sanden, for all his emphasis on the slippery slope of seminal decline, stressed that masturbation's adverse effects appeared as a direct result of not having purchased a Sanden belt. At the onset of ill temper and weakness, "a moderate power Dr. Sanden Electric Belt and Suspensory should be used, for if the evil is not remedied, it passes sooner or later into another form of a greater weakness."³⁹ It was not, then, masturbation itself that brought the male body into a spiral of decline. The problem stemmed in-

stead from failing to treat the resulting weakness with electric technology.

In the world of electric belts, masturbation caused temporary energy depletion, not permanent debilitation. By emphasizing the body's internal balance of energy rather than the inherently sinful nature of the practice itself, makers' advertisements left readers free to take two routes to avoid what many believed to be the automatic illnesses that ensued. They could choose not to masturbate. Or, if it was already too late, they could choose to masturbate and recharge with the electric belt. Although one will not find belts advertised as devices for continually replenishing the energy of a "chronic" masturbator, it can be inferred that only a small leap in logic from the printed material was necessary to arrive at such a conclusion. Pulvermacher's advertisements for its suspensory sack, an electrically charged pouch within which the genitals were placed, underscored that its unique combination of design and electric current made depleted parts whole again: "In our treatment the Suspensory gives the necessary support to the scrotum; at the same time the electric-curative currents, which may be said to envelop the suffering parts, gradually equalize the circulation of blood in the enlarged veins, and effect a permanent cure."⁴⁰ German Electric, which promised that its suspensory device "drives out the stagnated blood and completely overcomes the disease," echoed such claims for electricity's efficacy.⁴¹ Sanden made the connection clearer, suggesting that electricity applied to the genitals pulsed through the body combating all of masturbation's ill effects.

In advanced stages of seminal weakness and nervous and sexual debility, electrical treatment with a steady, strong current pouring into the great nerve-centres and streaming out of them through every nerve and fibre of the body, to the vital organs, the heart, liver, lungs, stomach and kidneys, and to the generative organs, the bladder, seminal vesicles, prostate gland and testicles, renders powerful assistance in restoring the organism to health and vigor.⁴²

One could read these advertisements as suggesting that an electrically treated body that masturbated would be more powerful than a normal body that did not. According to Sanden, the belt generates "new life and energy, and tones up the relaxed, weakened and shaky nerves, and gives them vigorous energy. . . . It takes away all that sense of weakness and irritability . . . and arrests the waste of semen and stops the emissions." Users were left with "a new sense of life and vigor." This

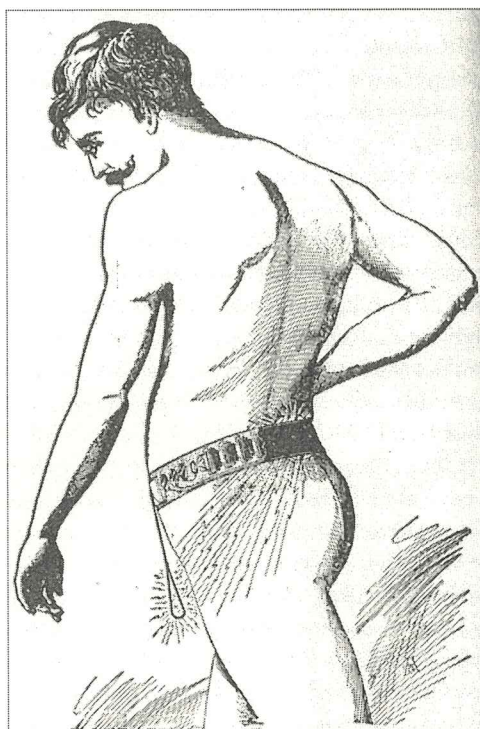


Fig. 25. Demonstrating the source of vigorous energy. Dr. A.T. Sanden (ca. 1910), 36, ephemera collection. Courtesy of the Bakken Library and Museum of Electricity in Life, Minneapolis.

rhetoric, combined with illustrations, suggested to readers that electric treatments might leave one more masculine than even abstinence. The message could be communicated literally, as in this common example of the muscular, sexually posed belt wearer whose electrically powered genitals leave little doubt as to the source of his new sexual vigor (fig. 25).⁴³ It could also be communicated by figurative images. The allegorical battle on the cover of Edison Jr.'s Magno-Electric Vitalizer shows the muscular, Anglo-appearing body slaying the "natural" body as represented by the Native American (fig. 26).⁴⁴ The image would have been read as

one of many contemporary examples comparing Anglos and Native Americans, whether it was done to celebrate the Anglo ability to combine Native American strength and knowledge with "civilized" values in characters like Edgar Rice Burroughs's Tarzan or to celebrate the defeat of the threatening primitive as "progress" for a modernizing nation.⁴⁵ Here we can read the Native American body as symbolizing "nature," a nature that had demanded sexual restraint and energy conservation. With the help of the technology, the Anglo body is shielded from limits. It is noteworthy that this advertisement appeared at the same time that individuals like author and health advocate George Whorton James suggested that Anglos restore vitality by emulating the "primitive" lives of native people. The Vitalizer made it possible to eschew that suggestion; instead,



Fig. 26. Killing the Nineteenth Century with Edison's Magno-Electric Vitalizer, ephemera collection. Courtesy of the Bakken Library and Museum of Electricity in Life, Minneapolis.

those who embraced the future of plenty rather than the past of restraint would reign physically supreme.

Defining the illnesses caused by masturbation and allowing clients to treat themselves with electricity allowed belt manufacturers to do two things for users. First, they took masturbation out of its position as a sinful, degenerative practice that left permanent ill effects upon its practitioner. By defining masturbation's effects as specific diseases with clear symptoms, manufacturers allowed clients to identify whether they were sufferers and to take action. If perhaps the diagnoses were broad, they at least allowed men to see a physiological end to the detrimental effects of the practice. Masturbation was not a sign of an inner sinful nature; it was the reason for small genitals. Second, the manufacturers allowed men to dismiss Beard's limited-energy theory, which had long given masturbation its fearful countenance. If masturbation, and by association excessive sex, were problems primarily because they wasted energy-rich semen, electric belts offered the solution. By allowing users to increase their energy reserves, manufacturers effectively neutralized their own scare tactics. One might continue to believe that masturbation was a waste of vital energy, but if wearing a belt in the afternoon could replace the supply lost that morning, it would not be a practice one had to avoid.⁴⁶

With the help of technology, individuals could believe that the days of the sexually limited Victorian body were numbered. It is the power of belief, however, that is here most important. As Lesley Hall reveals, the majority of men who "suffered" from impotence at the turn of the century were those termed "psychically impotent" by physicians. When one considers that it was perhaps the psyche as much as the body that needed treating, the true power of electric belts emerges: belts allowed men to envision a body immune to the either-or choice between sexual pleasure and physical health endemic to the Victorian era. Technology suggested one could have both, and in doing so, it allowed believers to discover an alternative definition of sexual health for the modern era.

Electric Bodies, Superior Glands, and Modern Sex Roles

Electric technology offered users more than restored and improved sexual power. Through subtle iconography and textual suggestions, belt manufacturers positioned their products as devices that could assist men

in meeting modern women's sexual needs. In doing so, they presented electricity as force that, once merged with the physical body, allowed men to remain sexually superior to their increasingly assertive partners.

Between 1890 and 1930, "psychic impotence" resulted from more than masturbation. Guilt over past transgressions played a part in the dramatic increase in the number of men who suffered impotence without physiological causes, but it was only one of two elements that made men doubt their sexual capacities. The rise of women's rights in the early twentieth century also played an important role. Scholars have typically focused on the political and social aspects of women's suffrage, elements that were only part of a larger redefinition of the female sex from that of second-class citizens to that of equals. Private activism accompanied this public activism. For some, this meant redesigning the home as a cooperative living space or rethinking the usefulness of marriage.⁴⁷ For many others, specifically those of the middle and upper classes, this meant reworking intimate relationships, particularly in the area of sexual satisfaction.

The turn of the century brought marked changes in American women's attitudes about sex. Whereas Victorian women were taught to control sexuality through abstinence, expressing intimate desires in passionate friendships instead, women entering the modern age found license to speak.⁴⁸ Karen Lystra refers to this change as women's new "right to say yes" to their own sexual desires. Increasingly, women integrated a satisfying sex life into their very definition of an ideal marriage; in their intimate letters to fiancées, friends, and spouses, twentieth-century women often spoke of sex as a complete bonding between two people.⁴⁹

Katharine Davis's survey of one thousand women of marrying age, most born in the 1890s, supports this change in sexual attitudes. The vast majority of respondents had sex at least once a week, with 40 percent having sex more than twice a week. When asked to rate their sexual urges, 30 percent of the women reported that their desires were at least as strong as those of their spouses. One of the most surprising findings of the Davis survey was that almost half of the respondents admitted to masturbating on a regular basis. Given the taboo against the practice, one can assume that actual figures were much higher. By initiating and fulfilling their own sexual desires, these women challenged traditional sexual roles. No longer waiting for men to initiate sex, nor assuming that their role in the act should be as a passive pleasure giver, many women asserted that

the essential element in sex must be mutuality. As one respondent explained, the act should be "no habit at all, but the most sensitive regard of each member of the couple for the personal feeling and desires and health of the other."⁵⁰

Given that women were more willing to discuss the details of their sexual expectations and conduct than were men, it is easier to survey their changing attitudes about intimacy. It would be illogical, however, to conclude that women would have dramatically revised their attitudes about sexuality without impacting men as well. Certainly, many men must have praised their partners' increasing pursuit of sexual pleasure and self-expression. Because one of the tenets of Victorian intimacy was the pursuit of one's ideal self through love, sex, for many couples, may have been regarded primarily as one additional path by which to arrive at the goal.⁵¹ Yet other men, perhaps even a majority, would have found the change confusing at best. According to one expert on the era, the confusion was probably one of the primary reasons for increased psychic impotence. "The male sexual ego, conditioned as it was to always dominate passive female sexual objects, was for a time paralyzed by the new sex roles. . . . [O]f course, not all men became impotent, but the literature on manliness reveals an increasingly anxious preoccupation with the causes of psychic impotence."⁵²

Men were not only confused by women's new sexual attitudes; they were also angered. As early as 1901, well-regarded tracts on preventing and treating impotence blamed women's excessive desires for triggering their partners' failings. Victor Vecki, author of the 1901 text *The Pathology and Treatment of Sexual Impotence*, warned men to avoid "over sensual" women who were guilty of "challenging male sexual ability."⁵³ Earlier advice books for women provided similar admonitions. *Satan in Society*, published in 1871, warned "strongly passionate" women that they could easily "ruin a man of feebler sexual organization." To preserve healthy sexual relations, it counseled, a woman should remember "to await the advances of her companion before she manifests her willingness for his approaches."⁵⁴

Attempts to subvert women's emerging sexuality were not undertaken primarily to keep women in a position of permanent subservience. Instead, they reflected a popular desire to create breathing room in which men might be able to adjust to a series of conflicting cultural demands. Men faced particular challenges in navigating the changing sexual landscape of the early twentieth century. Having grown up under Victorian

sexual standards, which preached abstinence but practiced private masturbation and purchased sex, men caught in the wave of women's sexual liberation faced three major redefinitions of sexual intimacy and sexual function. First, men had to begin to consider sexual pleasure as mutual in practice. Even conservative figures suggest that as many as one-third of all men had sex before marriage in 1900.⁵⁵ Given that "nice" girls followed popular advice and practiced abstinence before marriage, this left women divided into two groups according to sexual practice: those who did and those who did not. Isabelle Rittenhouse Mayne writes that it was typical to teach boys that "purity is only for women (*some* women) and vice a necessity to them and 'natural.'"⁵⁶ Most middle-class men pursued premarital sex through officially unsanctioned but well-developed channels, like prostitution or with working-class girls, known as chippies, who traded material goods for sex.⁵⁷ The arrangements allowed men to pursue their own pleasure without an equal concern for their partners, who were, at best, temporary.

The second redefinition came in the body itself. When wives held little expectation of reaching orgasm during sex, husbands could spend little time worrying about the issue. Such a system kept both male sex practices, early experiences with unofficial partners and later experiences with one's wife, equal, at least relative to concern over a partner's climax. Women's changing sexual expectations threw this system out of balance: men suddenly found themselves expected to regulate the sex act according to a woman's needs. Many men found it exceedingly difficult to prolong coitus. And many asked Marie Stopes, a British sex reformer in the early twentieth century, for advice on how to better accommodate their wives' needs. "When my wife desires," one wrote, "I thrill so terrifically that I find I eject before I have been with my wife many seconds."⁵⁸ Combined with this insecurity were men's fears that their bodies had been damaged through early sexual encounters. In promotional brochures, many unlicensed impotence "specialists" alluded to the fact that sexually transmitted diseases may have made prospective customers impotent or prone to premature ejaculation. "Someday you will want to get married and have a nice wife," cautioned one, suggesting that only with the help of the maker's pills could a man overcome diseases contracted through indiscreet intimacy.⁵⁹

New expectations combined with a reflection on past transgressions made many men prone to sexual insecurity in the early twentieth century. It was a state exacerbated by a third change in sexual intimacy. Whereas

Victorian partners had increasingly sought to realize one's true self though love, modern partners sought their true selves through sexual pleasure. In 1917, William J. Robinson informed female readers who were not already aware that a new age of sexual mutuality was at hand that "those who believe that sex relations are for racial purposes only" must realize that "the sex instinct has other high purposes . . . and should be indulged in as often as they are conducive to man's and woman's physical, mental and spiritual health."⁶⁰ Indulging as often and in a manner in which it was conducive to women provided men with a challenge their fathers had not been advised to undertake. "The hygienic rule in regard to duration," one sex manual advised in 1904, is "the man must adjust himself to the condition of the woman so that they reach the culmination at the same time."⁶¹ For sex to become a means of achieving a higher purpose for its participants, men had to discover way to make these psychological and physiological adjustments.

As late as 1931, men sought advice on this transition. Theodore van de Velde's popular *Sexual Tensions in Marriage* suggested that satisfaction meant more than orgasm: an ideal husband also provided his wife with "sufficient opportunities to develop her sexual feelings and capacities."⁶² There is much evidence that this mandate drove many to diagnose their own impotence. As van de Velde recognized, men often found it a tall order to help partners who were capable of multiple orgasms develop their full sexual capacity. "It may be said that her sexual power . . . is much greater than his." As a consequence, "[T]he man may have claims made upon him . . . that he cannot fulfill."⁶³

Whether men concluded that they were impotent because their partners told them so, because they feared latent effects from previous sexual activity, or because they compared their own orgasmic capacity to a woman's, many negatively evaluated their virility. One cannot understand the popularity of electric belts without understanding as well this contemporary climate of male sexual confusion. Belt advertisements directly promoted products as capable of returning the energy lost in masturbation and restoring sexual health. The message, however, was not something said outright. Most commonly, the prose skated around the issue by referring to men's difficulties in meeting their "marital requirements." Instead of asking men if they were impotent, Pulvermacher asked if they suffered from an "inability to perform the duties pertaining to married life."⁶⁴ Dr. Crystal used similar verbiage while theorizing about

what caused that inability. It was common for a man "on account of nervous debility caused by early indiscretion, excessive sensuality, or occasioned by having at some time contacted a loathsome disease," to find that his "sexual organs refuse to respond to the desires of the mind, and . . . [he] is wholly incompetent to perform manly duties, and [he] is entirely incapacitated and unfit for the marital relation."⁶⁵

It is significant that the advertisements did not refer to the problem as one of impotence. Instead, they positioned an invisible woman in the discussion, one with certain expectations necessitated by her status as wife. Given the above advertisement's publication in the 1910s, one can conclude that men would have understood that fulfilling their manly duties meant more than achieving an erection. It meant developing the restraint and stamina necessary to sexually fulfill a female partner.

Advertising iconography further confirms this aspect of electric belts. "The Electric Era," a brochure for the German Electric Agency published in 1901, is unusual in that it features a woman on its cover (fig. 27). One might, at first glance, think of the cover as an appeal to women as consumers. However, positioned as an icon of its era, the image implies something quite different. Its primary actors are the horses, two virile black stallions with muscles taut, harnessed to pull the carriage into the electric age. The female, a figure resembling Columbia, one of the national symbols of the United States commonly used in patriotic iconography, sits passively behind the stallions, her bountiful body carrying a beacon of progress in her right hand, the beam of electric light. Given that German Electric sold products primarily to men, it is logical that readers were meant to identify with the visibly male characters here. It is the stallions that are in control: their pores literally ooze electricity as it radiates from the belts around their necks (perhaps also around an unpictured suspensory sack). The Columbia figure, though in the driver's seat, holds no reins, implying that she has given over her power to the stallion guides. Such iconography can be read as a subtle allegory. Like the stallions, men who wear electric power will experience a dangerous, visible virility. And women who may, through anatomical fate, be sexually superior to men, will relinquish that superiority if satisfied by their stallions. Like Columbia, they will contentedly follow the lead of men and their technology, pleased to share in the electric glow.⁶⁶

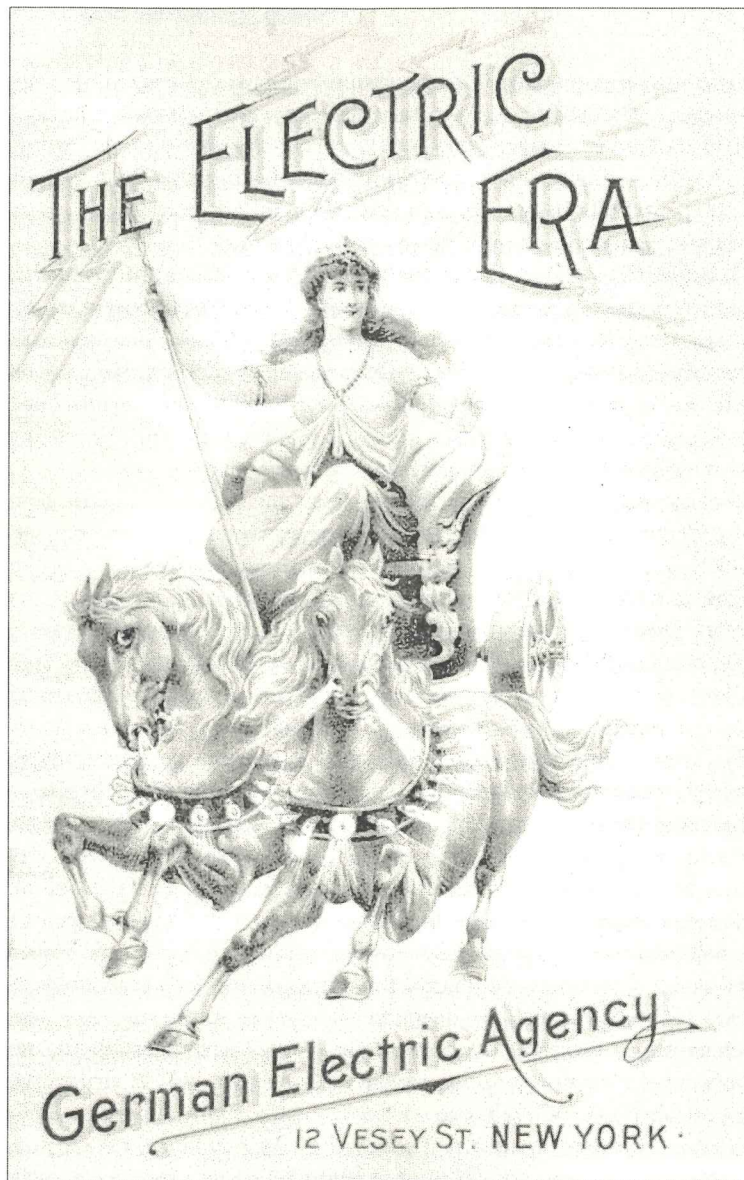


Fig. 27. The electric stallions and the satisfied woman. "The Electric Era," German Electric Belt Agency (New York, ca. 1901), ephemera collection. Courtesy of the Bakken Library and Museum of Electricity in Life, Minneapolis.

Beyond Normal: Electric Glands and the Quest for Supervirility

By the 1920s, explorers on the frontier of electric virility treatments had grown impatient with the limitations inherent in earlier "transfer" pursuits. Treating masturbation with electric belts could increase the body's energy beyond that which it possessed prior to the "abuse." It could not, however, maintain the increase indefinitely. Vigor increased, manufacturers suggested, when the genitals were placed in direct contact with electrical power. This might give a man the illusion that an actual physiological change had occurred in his body; should he take off the belt for a few days, however, he would be disabused of that notion. Perhaps connected to such limitations, electric belt sales began to decrease. One can theorize a variety of reasons for the decline: the American Medical Association's litigious efforts to shut down nonlicensed medical practitioners; the public's growing skepticism about miracle cures in general; and the rise of sulfa drugs that could treat and cure sexually transmitted diseases for the first time. Yet to read the demise of electric belts as the end of Americans' belief in the connection between technology and male sexuality is a mistake.

Two electrical products actively marketed between 1920 and 1940 reveal that technology remained a part of definitions of normal male sexuality even as science revealed an increasingly complex male body. The Thermalaid, manufactured by the Electro Thermal Company of Steubenville, Ohio, and its imitator, the GHR Electric Themitis Dilator, manufactured by the GHR Electric Dilator Company of Grand Rapids, Michigan, both enjoyed market success. The Thermalaid, in fact, was popular enough to be given a good deal of attention by the American Medical Association's legal department, which collected three file boxes of materials on the company in a futile effort to shut it down.⁶⁷ The two products offered many of the same remedies as did electric belts: improved vigor and sexual performance, relieved symptoms from varicocele and venereal diseases, and an end to nocturnal emissions.⁶⁸ But unlike electric belts, they promised a means of permanently overcoming weakness and increasing sexual power.

Virtually indistinguishable, the Thermalaid and the GHR were narrow metal rods attached to electric power sources (fig. 28). Users first applied a "conducting gel" to the rod and then inserted it into the anus and left it there for several minutes. During this time the rod would warm with the electric current, providing the user with a sensation that could

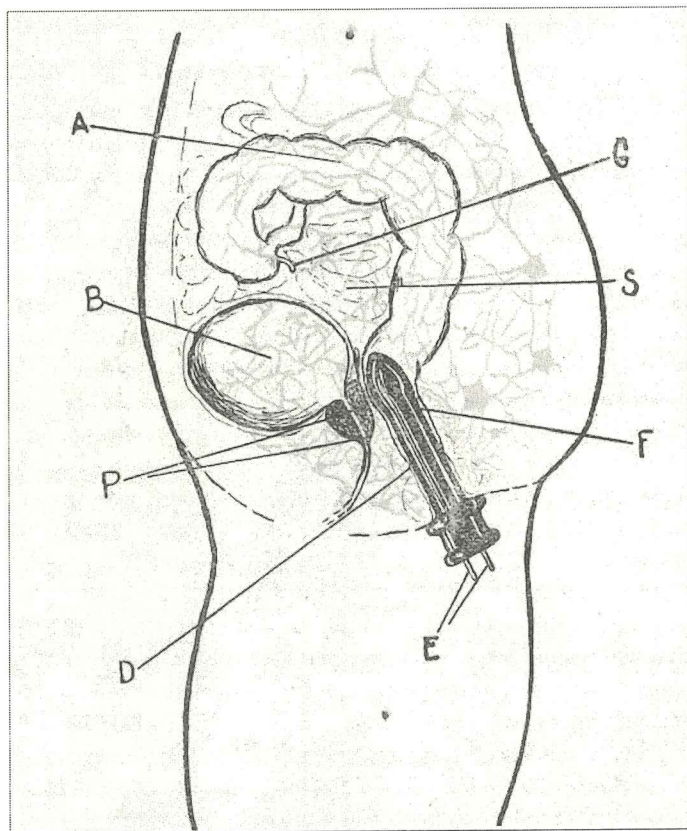


Fig. 28. A diagram of the Thermalaid in use. "Twenty Weeks to Normaltown by Pleasant Travel!" pamphlet, folder 0233-18. Courtesy of the American Medical Association Archives.

be perceived to be electric energy, and would vibrate slightly, which further suggested its efficacy. The anus was not, however, merely a convenient orifice for taking an internal electrical treatment. Central to these products' claims was the relationship between the prostate (labeled "P" in the image), the electric current, and energy for the male body. According to letters sent by GHR to prospective purchasers, the

company stressed above all that its product cured because of the "vitalizing influence of continuous electric warmth directly applied to the prostrate [*sic*]." ⁶⁹

What these companies may have lacked in anatomical knowledge they made up for in a cogent reading of contemporary American culture. There was nothing new about treating the prostate with electric probes. Surgeon John Butler used the method in the 1880s to reduce enlarged prostates in his patients and advised other physicians to do the same. ⁷⁰ What was new was the public's interest forty years later in performing the procedure at home. This change was due in large part to a fascination with glands. Numerous products entered the market in the 1920s that played on Americans' nascent understanding of what glands were and how they affected the body. The promoters of Goldglan, one of the most popular products, touted it as a pill of mysterious "double gold chloride" that could ensure a vital sex drive and a long life for both men and women. ⁷¹

Popular gland literature readily mixed the plausible and fantastic; along with diagrams showing the location of pituitaries, thyroids, and sex glands came promises of unlimited sex drives and eternal life. Goldglan offered an illustration of the male and female with fully functioning glands, highlighting the man's muscular physique and the woman's shapeliness, along with bold text proclaiming that "with a perfectly balanced endocrine system one would live forever." ⁷² For readers exposed only to such hyperbole, it was easy to believe that glands exerted "mastery and control of the entire body," and as such were the singular key to physical, personal, sexual, even spiritual success. ⁷³

Patent medicine purveyors were not the only promoters of the fantastic-gland theory. Legitimate physicians were equally eager to fulfill Ponce de Leon's quest by exploring the glandular frontier. One of the most dramatic of their attempts was the Steinach operation. Thousands of men, among them such well-known figures as Freud, Yeats, and Harold McCormick (descendant of the McCormick reaper inventor), underwent these drastic operations in the 1920s in Europe and the United States. During the surgery, the vas deferens was cut, separating the testicles from the duct that normally carried semen to the penis. In consequence, a gland that would normally excrete semen instead diffused it into the blood. The operation, described by its proponents as an "eroticization of the nervous system," received mixed reviews. Some physicians reported successes,

finding that patients experienced “a return of sexual desire and potency”; some patients, including McCormick, failed to see any perceptible physiological change.⁷⁴

The theory of power through self-insemination allows us to explore more fully the power of wearing an electric belt. We know advertising imagery featured hard bodies, men possessing taut muscles, often in poses where muscles were flexed and arms were raised, as if action were imminent. We also know that the belts and Thermalaids evoked a pleasurable sensation, one that probably caused an erection in more than a few wearers. Together, such imagery and experience suggest that sexual intercourse may not have been the only “consummation” facilitated by electric transfer. It is also possible that wearing the belt, attaining an erection, and then allowing the semen to be reabsorbed into the system, much like the Steinach approach, may have provided a powerful “injaculation” of technology. This was not, of course, part of the products’ explicit promotion. Yet in an age where ejaculation still had a lingering connotation of wasted “vital force,” it is quite possible that having an erection and not ejaculating could be viewed as a means of increasing vital energy. In this manner, belt wearers may have become embodiments of the vibrators Rachel Maines discusses: requiring neither physician nor partner to enjoy the pleasure and power provided by an intimate technology.

Glands became, for many, a popular religion. According to Morris Fishbein, historian of popular medicine, no method of treating disease had aroused more interest than glandular therapy by the late 1920s.⁷⁵ Texts such as *Rest Working*, by Gerald Stanley Lee, urged readers to attribute genius not to genetics but to glands. Lee cited Joseph Conrad to prove his point, asserting that Conrad’s success proved “it is the glands . . . pouring or rather suffusing their secretions directly into a man’s blood while he writes . . . which alone make literature possible.”⁷⁶ Yet such pun-dits did not encourage passive acceptance of one’s inherent glandular capacity. At the same time that they attributed human success to gland content, they urged individuals to take control of their inventory. “Be superintendent of your own plant,” Lee told readers. The combination of such success sellers, surgeons, and mail-order nostrum providers was a potent one for modern American audiences. To acquire energy one had to do more than build muscle or pursue topical electrical treatments: the key lay in reaching and manipulating the glands themselves.

Thermalaid effectively melded a budding religion of glands with an established electric theology. Its president, John Homan, solidified this con-

nection in 1923 with *Glands of Power and Success*. Free to everyone who ordered the Thermalaid, Homan’s book stressed his unique theories of physical and sexual health: healthy glands promoted brain power, leanness, and youth; unhealthy glands prevented those attributes and guaranteed sexual dysfunction.

Homan skillfully incorporated the public’s ready fascination with glands into his advertising plan. For individuals hesitant to purchase the imposing Thermalaid, he offered his book as an incentive. This allowed his electrical device to appear as a natural outgrowth of gland research rather than as a foreign device.⁷⁷ Thermalaid made conscious attempts to position its product within an accepted repertoire of electric-body devices. An image of it appeared in promotional brochures that bore striking resemblance to some of the earliest home-treatment machines. Instead of showing only the device, Thermalaid placed it within a setting familiar to followers of electrotherapy, the leather case, lined with velvet and cloth, the instruction booklet, and the accompanying battery.

Manufacturers portrayed their product as uniquely capable of fusing two sources of male sexual energy: electricity and the prostate gland. Promotional materials stressed that the device worked without “mysteries,” no pills or shocking machines or foreign rays. Instead, it used the “real, positive nature-force” of electrically generated thermic energy, an element that the literature stressed, came directly from the sun. Further, because the force was applied by means of a tool especially designed to reach the prostate, it could be released directly on the gland to improve sex force. Thermalaid emphasized the importance of the prostate, calling it the “sexual brain,” which, when swollen, caused the penis to “go to sleep,” just as an arm would.⁷⁸ The product’s claims would have appealed to men who suffered from a prostatic disease as well as those who because of advancing age or psychological factors had diminished sexual capacity. Similar to those for electric belts, Thermalaid advertisements suggested that one needed the product if “the procreative act is often incomplete and premature” or if erections were impossible.⁷⁹

If elements of the earlier devices were familiar to the generation following the electric-belt age, the new devices were still in many ways completely different products. Companies like GHR frequently stressed the miraculous properties of the dilator.⁸⁰ It too was advertised to cure prostate inflammation with electric currents. As a bonus, however, users would find the newly energized gland could continually fill them with “new” health, vigor, and vitality. Such a promise went beyond belts,

which had been able to assure users only that they would recapture “normal” or slightly better than normal vitality, and only in areas that came into direct contact with the device. The GHR, however, was seemingly unconfined in the power or locality of its treatments. It was a “disease eradicator”; it was a “strength builder” that could simultaneously strengthen erections and eliminate problems with the heart, lungs, brain, and bowels. Further, it held the key to eternal youth.⁸¹ “Why permit yourself to grow old when science has discovered a way out?” one brochure’s cover asked in bold letters.⁸² The claims went beyond even Gerald Stanley Lee’s fantastic gland stories. Given the public appetite for gland promises and its still active fascination with electric power, the GHR found a lucrative home on the American market throughout the 1920s and 1930s.⁸³

The dilator and Thermalaid also differed in the way they delivered electricity to the body. Because they were “worn” internally, they removed the equipment that had stood between the body and electricity with belts. With products like German Electric, electricity acted on the body through a visible network of leather, metals, and cords. Even the suspensory sack, which could not be easily seen by its wearers, reminded them of its materiality when they fastened and removed it. With such products, electricity’s efficacy came from the wires, leather, and batteries that were apparent on the body; the devices existed as elements apart from the body itself. Prostate massagers dramatically changed this relationship. By applying electricity internally, these devices removed visible barriers between electric currents and the body. Whereas one turned on a belt or plugged in an I-ON-A-CO and fastened it to one’s body, one inserted a Thermalaid and plugged oneself in directly. The Thermalaid was literally the physical adaptor that allowed the body to be attached directly to an electrical source. The plug emerging from the anus functions as a prosthetic device, an adaptation that retrofits the body for the physio-electric future envisioned since the earliest days of magnetic machines and static treatments.

Although the dilator and Thermalaid realized the fantasies long promoted by electric invigorating technologists, they pushed the envelope beyond what the public was willing to accept. Users were not going to facilitate limitless erections and halt aging through fifteen-minute daily prostate massages. As more Americans understood the function and limits of glandular systems, such promises seemed preposterous, and perhaps indicative of the “quackery” in lay electrotherapies long charged by reg-

ular physicians.⁸⁴ The devices’ design probably hurt sales as well. After the rise of homophobia in the 1940s and the attendant labeling of homosexuality as an illness, a product meant for anal penetration may have invited unwanted suspicions. Certainly, the devices were used for masturbation for men and women, though this is not discussed anywhere in promotional materials. Curiously, this was not a problem in the 1920s and 1930s; ads almost always featured prominent illustrations of the devices in spite of their phallic appearance. Given that popular health reformer Bernarr MacFadden stressed the “mild-sex-invigorating effect” of prostate massage, it is likely that men did purchase both the Thermalaid and the GHR for sexual stimulation of themselves and their partners, perhaps concluding that the pleasurable sensation proved that the devices were working as promised.⁸⁵ Obviously, the American Medical Association believed that they did. In 1925, an AMA investigator concluded that the devices provided “more or less mechanical masturbation.”⁸⁶ Over time, perhaps people increasingly hesitated to purchase an ostensibly masturbatory product. This may have been compounded by its direct marketing to men.

Electric prosthetic devices allowed users to consummate the relationship between the male body, sexual potential, and electric technology. If they pushed the promises and practice of electrical stimulation too far, they did so only by pursuing to the limits the promises made by Pulvermacher in the 1870s. Glands were not the final frontier of sexual stimulation; electricity was not a technology capable of dramatically pushing the envelope of sexual performance. Yet in German Electric’s self-proclaimed “electric era,” “where everything is done by electricity,” it was only natural that it would be applied to “do” one of the body’s most intimate functions. And why not believe that the same power enjoyed by telephones, trains, and electric lights would find its way to procreation, the very essence of human life? In such a world it might be possible to believe that only by fully exploiting electricity, in all of its applications, could life evolve to its fullest potential.

Between 1900 and 1930, Americans experimented with an unprecedented array of energy-expansion strategies. Machines for muscular development infiltrated college gymnasiums and upscale resorts. Electric rejuvenators sold handily through door-to-door salesmen, mail order advertisements, and local physicians. Each enjoyed an expanding market throughout the first decades of the twentieth century as Americans increasingly sought remedies for modern fatigue. It is not an overstatement

to say that at least half of middle- or upper-class Americans would have had firsthand or secondhand experience with these products.

Muscular expansion and electric invigoration did not fundamentally alter Americans' understanding of human energy. Both worked well within the three maxims of energy production. First, energy existed in a finite amount and could not be increased. Second, as stated by the second law of thermodynamics, energy was constantly being degraded. Third, physical energy could be expanded through direct contact with external energy sources, but the expansion could not be made permanent. In short, treatments "worked" because they made energy available to the body that it would not otherwise have, either by "unblocking" internal force or by "transferring" force to the body from an external source. Machines and electricity could act as an energy savings account, whereby one could temporarily "withdraw" funds to cover debts, but when the body-mechanism contact ceased, so did the deposits. The close material contact between body and machine kept users aware that the technologies were the source of energy, and that energy could only be as strong as its attendant device. Radium changed these rules entirely.

5

"Radiomania" Limits the Energy Dream

Scientists had been speculating for decades that the universe might contain a reserve of unseen power, but few had imagined that there was so much of it.¹

—Spencer Weart, *Nuclear Fear*

The idea that new force must be in itself a good is only an animal or vegetable instinct. As Nature developed her hidden energies, they tended to become destructive.²

—Henry Adams, *The Education of Henry Adams*

In 1903, dozens of African Americans entered the offices of white scientists, subjected their bodies to radium "therapies," and waited to see their black skin turn white. Over the course of the year, in separate experiments undertaken in Philadelphia and Berkeley, three scientists used African-American bodies as testing grounds to determine the newly discovered element's physical properties. All records indicate that the primarily male subjects came forward willingly for daily "treatment" sessions over a one-month period. One at a time and part by part they exposed their bodies to a scientist whom they did not know and to a substance whose lethal potential they could not imagine. For as long as they could bear, they held their faces, arms, torsos, and legs inches away from vials of radium while X rays were simultaneously shone onto the skin's surface. One can only guess at the discomfort caused by these treatments, which typically lasted fifteen minutes. Yet week after week, many returned for the therapies, even after the dermatological burns appeared and intensified. Each experiment was evaluated with some degree of

belts. During this same period, Wilshire was making roughly \$100,000 a year in profits. See business records, box 7, folder 10, HGWC.

153. In addition, 125 people were classified as "callers" during the same period, suggesting that the total number of people who interacted with the belts at the center is closer to 700. See business records, box 7, folder 11, HGWC.

154. In addition to these centers, there were numerous other informal "centers" that offered I-ON-A-CO treatments. One of these, as reported by the head of Wilshire's Portland, Oregon, office in 1927, was a gas station owner who, to draw new customers, advertised a free I-ON-A-CO treatment with the purchase of a tank of gas or an oil change. Carl L. Wernicke to Wilshire, January 22, 1927, box 10, folder 18, HGWC.

155. See Dr. Arthur Wolford to AMA, 1/10/26, correspondence, 0913-07, Wilshire Gaylord, Advertisements and Testimonials 1927, 0913-06, AMAH-HFC.

156. See Wilshire Gaylord, Advertisements and Testimonials 1927, 0913-06, and Dr. A. Davidson to the AMA Bureau of Investigation 7/31/25, Ionaco-Gaylord Wilshire, Correspondence, 1925-26, 0403-11, AMAHHFC.

157. Margorie Speed to *Hygeia*, 2/4/27, Gaylord Wilshire, advertisements and testimonials 1927, 0913-14, AMAHHFC. Speed's opinions seem to have been shared by Thomas "Bert" Fisher, who, when dying of cancer at the age of 24 in 1928, purchased the I-ON-A-CO after seeing it advertised. According to a website chronicling the Fisher family, "Tom used it some and always said it seemed to soothe his aches and pains." The author of the web text disagrees, stating that it "was of no value to Bert." See <http://www.Oklahoma.net/~kingfish/Places/places.htm>. It is difficult to determine whether the individuals who sold the I-ON-A-CO were equally convinced of its efficacy. Most seem to have primarily utilitarian motives in becoming its sellers. One Dr. A. G. Emerson, who said he was the chief of staff at a Las Vegas tuberculosis facility, asked Wilshire for a sales position; he could sell many because he was "generally trusted" as a physician and frequent health lecturer. He also commented that he thought the device was "great." Others stressed financial need over product faith. Adolph Linsenbarth, a sixty-six-year-old former foreign languages editor, asked for a position in Florida or Boston because he had not "seen much work since the war" and needed income. The same impulse drove Adelaide Fenton Coronado, who sought work after her attorney made it clear that there was "little prospect of getting much" out of her husband. For Emerson's letter, see Emerson to Wilshire, 1926, box 11, folder 17; for Linsenbarth's letter, see Linsenbarth to H. R. Learns, January 11, 1926, box 7, folder 10; for Coronado's letter, see Coronado to Wilshire, January 27, 1926, box 7, folder 10, all in HGWC.

158. Anna Lyle to Arthur Cramp, December 1, 1926. Correspondence in folder 0403-11, AMAHHFC. Lyle seems to have converted to Wilshire's method. In a quotation that I have been unable to verify, Lyle reportedly later en-

dorsed the I-ON-A-CO in the *Ionaco News*. According to Stuart Holbrook, Lyle wrote that she had "fallen for the I-ON-A-CO strongly" and found it effective in treating David Starr Jordan, president emeritus of Stanford University. Holbrook, *The Golden Age of Quackery*, 141-142.

159. The two best, if brief, cultural histories of popular electric therapy devices can be found in larger studies of electrification: Marvin, *When Old Technologies Were New*, and Nye, *Electrifying America*. Additionally, Harvey Green provides an overview of several electric devices in *Fit for America: Health, Fitness, Sport and American Society* (Baltimore: Johns Hopkins University Press, 1986). Among the more typical dismissals of "quack" electric devices are Himrich and Thornley, *Electrifying Medicine*; "Electrotherapy in the United States" (Minneapolis: Medtronic, 1977); Rowbottom and Susskind, *Electricity and Medicine*; Jameson, *The Natural History of Quackery*; and Holbrook, *The Golden Age of Quackery*.

160. See Emerson to Wilshire, 1926, box 11, folder 17, HGWC.

161. See, for instance, Manual et al., "High Intensity Electrical Stimulation," Harris et al., "The Microvascular Effects," and Chiu et al., "Transcutaneous Electrical Nerve Stimulation."

162. See Talbot, "Placebo Effect"; Motluk, "Some of the Best Medicines"; and Martin Enserlink, "Can Placebos Be the Cure?" *Science* 284, no. 5412 (April 19, 1999): 238.

163. Wilshire promotional brochure, box 10, folder 21, HGWC.

164. For more on McReynolds Wilshire see Davis, "The Ionaco of Gaylord Wilshire," 441.

NOTES TO CHAPTER 4

1. In fact, Carolyn Marvin describes numerous electrical gadgets sold at the turn of the century that were designed specifically to control women's sexuality rather than create sexual pleasure. Among these were electric corsets that emitted a whistle when pressed. See Marvin, *When Old Technologies Were New: Thinking about Electric Communication in the Nineteenth Century* (Cambridge: Harvard University Press, 1988), 131. For evidence on women's use of vibrators see Maines, *The Technology of Orgasm: "Hysteria," the Vibrator, and Women's Sexual Satisfaction* (Baltimore: Johns Hopkins University Press, 1999).

2. Eric Jameson, *The Natural History of Quackery* (Springfield, Ill.: Charles C. Thomas, 1961), 137.

3. For examples of these, see The Robut-Man, The Monster Auto-Man, and the corresponding pump developers advertised by Presto Products in the early 1900s in its newsletter "Good News," folder 0204-05, American Medical Association Historical Health Fraud Collection (hereafter AMAHHFC). Many men

were interested enough in these products to propose their own inventions. One wrote the American Medical Association with a sketch of his design, with parts, including the rubber diaphragm, glass tube, flexible rubber tube, and air pump, carefully labeled. He hoped to find out if something like this could be purchased or perhaps manufactured, but it is unlikely that he received any assistance from the AMA, given Arthur Cramp's stance against medical fraud and quackery. See letter to Cramp, Roanoke, Virginia, September 26, 1925, folder 0204-03, AMAHHFC.

4. Pulvermacher Galvanic Company, "Electricity Nature's Chief Restorer" (Cincinnati: Pulvermacher Galvanic Company, 1876), 27, Bakken Library Ephemera Collection (hereafter BLEC).

5. See Morris Fishbein, *The New Medical Follies: An Encyclopedia of Cultism and Quackery in These United States* (New York: Boni and Liveright, 1927), 100.

6. Brochures appeared in the early twentieth century suggesting that men had begun to tire of strenuous exercise and were looking for quick ways to build muscle. See Luther Gulick, "Ten Minutes' Exercise for Busy Men" (New York: American Sports Publishing Company, 1902) and Gulick, "Muscle Building: Practical Points for Practical People" (New York: American Sports Publishing Company, 1905).

7. Cynthia Eagle Russett, *Sexual Science: The Victorian Construction of Womanhood* (Cambridge: Harvard University Press, 1989).

8. See Lesley Hall, *Hidden Anxieties: Male Sexuality, 1900-1950* (Cambridge, Mass.: Polity Press, 1991), 116.

9. Physicians quoted, *ibid.*, 115.

10. Sir James Paget quoted, *ibid.*

11. For information on Todd's book and Gardner's response, see G. J. Barker-Benfield, *The Horrors of the Half-Known Life: Male Attitudes toward Women and Sexuality in Nineteenth-Century America* (New York: Routledge, 2000; originally published in 1971), 136.

12. For more on how scarcity helped create the wilderness preservation movement in America, see Roderick Nash, *Wilderness and the American Mind* (New Haven: Yale University Press, 1967), 148-149. Gail Bederman provides a more critical interpretation of the movement's advocacy of rugged manhood and noble savagery. See Bederman, *Manliness and Civilization: A Cultural History of Gender and Race in the United States, 1880-1917* (Chicago: University of Chicago Press, 1995).

13. Frederick Hollick, *Popular Treatise on Venereal Disease* (New York: 1852), 69.

14. For information on Graham's belief that masturbation caused physical decline, see John Haller and Robin Haller, *The Physician and Sexuality in Victo-*

rian America (Urbana: University of Illinois Press, 1974), 97. E. Anthony Rotundo discusses Beecher's sermons against the "solitary vice" that led, inevitably, to insanity and death. See *American Manhood: Transformations in Masculinity from the Revolution to the Modern Era* (New York: Basic Books, 1993), 72-73.

15. John Humphrey Noyes agreed and forbade his male followers at Oneida to engage in either masturbation or coitus interruptus on the grounds that they wasted a precious fluid better retained until required for procreation. See Spencer Klaw, *Without Sin: The Life and Death of the Oneida Community* (New York: Penguin Press, 1993), 179.

16. Rotundo, *American Manhood*, 72.

17. Alfred G. Garratt, *Electro-Physiology and Electro-Therapeutics: Showing the Best Methods of the Medical Uses of Electricity* (Boston: Ticknor and Fields, 1860).

18. George M. Schweig, *The Electric Bath: Its Medical Uses, Effects and Appliances* (New York: G. P. Putnam's Sons, 1877), 111. The electric bath first became popular in Europe and America in the 1850s. For more information on methods of healing with currents in water, see J. Chaplin, *The Origin and Use of the Electro-Chemical Bath for the Extraction of Mercury and Other Metallic Substances from the Human Body and Its Curative Agency in Other Diseases* (London: William Freeman, 1856).

19. A. E. Rockwell, *Electrotherapeutics of the Male Genital Organs* (New York: William Wood & Co., 1874).

20. George Beard, "Nervous Exhaustion (Neurasthenia), with Cases of Sexual Neurasthenia," undated pamphlet, New York Academy of Medicine, ca. 1880, 6. For a secondary account on how galvanic therapies were used to combat fatigue, see Stephen Kern, *The Culture of Time and Space, 1880-1918* (Cambridge: Harvard University Press, 1983), 107.

21. Haller and Haller offer a brief discussion of this general theory in nineteenth-century medicine. See *The Physician and Sexuality*, 23.

22. C. L. Dana, "On the Pathology and Treatment of Certain Forms of Nerve Weakness," *Medical Record* 24 (1883): 61.

23. M. J. Grier, *The Treatment of Some Forms of Sexual Debility by Electricity* (Philadelphia: Medical Press Company, 1891), 1.

24. *Ibid.*, 2.

25. "The Great Nerve Stimulant Zardon" (Toronto, Ohio: Elenita Company, ca. 1901), box 9, folder 8, Warshaw Collection of Business Americana (hereafter WCBA), National Museum of American History (NMAH), Smithsonian Institution.

26. German Electric Belt Agency, "The Electric Era" (New York: 1901), 15, BLEC.

27. "Electricity: Nature's Chief Restorer," 15-23.

28. "The Electric Era," 14.
29. A. Crystal, "Professor Crystal's Electric Belts and Appliances," 15, folder 0229-25, Electrotherapy, AMAHHFC.
30. "Electricity: Nature's Chief Restorer," 23.
31. Crystal, "Professor Crystal's Electric Belts and Appliances," 15.
32. Ibid.
33. Mail-order companies often offered to prove to a customer that he suffered from spermatorrhoea by analyzing his urine. A customer would send in a small sample that typically would be found to contain the "leaking" semen. The common diagnosis that this semen revealed, "spinal marrow wasting away," suggests that belt manufacturers believed wholeheartedly in seminal economy. See Haller and Haller, *The Physician and Sexuality*, 214. To compare the similarities between belt companies' descriptions and those in home medical texts, see R. V. Pierce, *Common Sense Medical Adviser* (Buffalo: World's Dispensary Printing, 1909), 772-773.
34. "The Electric Era," 15-16.
35. "Electricity: Nature's Chief Restorer," 22.
36. See Pulvermacher, "Belt and Suspensory Appliance," 27, BLEC, and Dr. A. T. Sanden, "Dr. A. T. Sanden, Originator of the Celebrated Home Treatment for the Cure of All Chronic, Nervous and Wasting Diseases Without Drugs or Medicines" (New York: Prout and Ward Printers, ca. 1910), 30, BLEC.
37. Sanden, "Dr. A. T. Sanden," 16-17.
38. Pulvermacher, "Belt and Suspensory Appliance," 26.
39. Sanden, "Dr. A. T. Sanden," 16-17.
40. Pulvermacher, "Belt and Suspensory Appliance," 26.
41. "The Electric Era."
42. Sanden, "Dr. A. T. Sanden," 9.
43. Ibid., and 36. A testament to the popularity of the image is its longevity: as late as 1915, belt manufacturers like the Vancouver-based Dr. Bell's used almost identical versions.
44. Edison, Jr. in figure 26 is Thomas Edison's son, Thomas, Jr. Much to his father's dismay, Thomas signed a contract with the Edison belt manufacturers agreeing to give his name to the Magno-Electric Vitalizer in exchange for a two-dollar royalty for every device sold. See Paul Israel, *Edison: A Life of Invention* (New York: Wiley & Sons, 1998), 391.
45. For more on these comparisons, see John Kasson, *Houdini, Tarzan, and the Perfect Man: The White Male Body and the Rise of Modernity in America* (New York: Hill & Wang, 2001), and Bederman, *Manliness and Civilization*.
46. The belts' unique combination of diagnoses and treatment may explain why they remained popular over a period of thirty years in spite of their questionable effectiveness. When one considers the high number of "psychically impotent" men seen by regular physicians, it makes sense that many men would

- have sought cures in electric belts for illnesses that they did not actually have. In these cases, electric belts may have had a special curative property, given the cultural climate of "electric theology" discussed in chapter 3.
47. For information on the connection between architectural design and domestic feminism, see Dolores Hayden, *The Grand Domestic Revolution: A History of Feminist Designs for American Homes, Neighborhoods, and Cities* (Cambridge: MIT Press, 1981). During the same period that feminists were rethinking domestic architecture, Elsie Clews Parsons rethought the "naturalness" of women's roles inside that living space. See Desley Deacon, *Elsie Clews Parsons: Inventing Modern Life* (Chicago: University of Chicago Press, 1997).
48. For information on the way women were taught to stress abstinence in order to control male sexuality in the nineteenth century, see Haller and Haller, *The Physician and Sexuality*, xii.
49. Karen Lystra, *Searching the Heart: Women, Men and Romantic Love in Nineteenth-Century America* (New York: Oxford University Press, 1989), 81. This sentiment is echoed as well in *The Mosher Survey* on Victorian women's sexual attitudes in which one fifty-year-old female respondent called sex vital to "complete harmony between two people." Clelia Duel Mosher, *The Mosher Survey: Sexual Attitudes of Forty-Five Victorian Women*, ed. James Mahood and Kristine Wenburg (New York: Arno Press, 1980), 328, 254.
50. Davis's survey is discussed in John D'Emilio and Esther Freedman, *Intimate Matters: A History of Sexuality in America* (New York: Perennial Library, 1988), 178.
51. See the introduction to Lystra, *Searching the Heart*, for the idea that love reveals one's ideal self.
52. Stephen Kern, *Anatomy and Destiny: A Cultural History of the Human Body* (Indianapolis: Bobbs-Merrill, 1975), 103.
53. Victor Vecki, *The Pathology and Treatment of Sexual Impotence* (London: 1901), 88, as cited in Kern, *Anatomy and Destiny*, 106.
54. N. F. Cook, *Satan in Society, by a Physician* (Cincinnati: C. F. Vent, 1871), 149. According to Kern, warnings that a lively and sensuous woman could render a man impotent were common in popular advice books, illustrating the belief's significant entrenchment in popular imagination. See Kern, *Anatomy and Destiny*, 108.
55. D'Emilio and Freedman, *Intimate Matters*, 180.
56. Isabelle Rittenhouse Mayne, *Maud*, ed. Richard Lee Strout (New York: Macmillan, 1939). See entry from August 28, 1892, 554, as cited in Rotundo, *American Manhood*, 121.
57. For more information on chippies, see Rotundo, *American Manhood*, 125. D'Emilio and Freedman assert that by the twentieth century, prostitution was an entrenched professional system. See their *Intimate Matters*, 180-182.

58. Quoted in Leslie A. Hall, *Hidden Anxieties: Male Sexuality, 1900–1950* (Cambridge, U.K.: Polity Press, 1991), 122.

59. See *Men's Specialists: Some Quacks and Their Methods* (Chicago: AMA Bureau of Investigation, ca. 1913), 52.

60. William J. Robinson, *Woman Her Sex and Love Life* (New York: Eugenics Publishing Company, 1929; first published in 1917), 286–287. Cited in Michael Gordon, “From an Unfortunate Necessity to a Cult of Mutual Orgasm: Sex in American Marital Education Literature, 1830–1940,” in *Studies in the Sociology of Sex*, ed. James Henslin (New York: Appleton-Century Croft, 1971), 61.

61. Bernard S. Talmey, *Woman* (New York: Practitioner's Publishing Company, 1910; first published in 1904), 178. According to Michael Gordon, who quotes this source, the first reference to mutual orgasm in marital advice literature appears in 1900. See Gordon, “From an Unfortunate Necessity,” 62.

62. Theodore H. van de Velde, *Sexual Tensions in Marriage: Their Origin, Prevention and Treatment* (New York: Random House, 1931), 104; originally published in German in 1928.

63. Ibid. According to van de Velde, men often concluded that they were impotent after comparing their capacity for orgasm to a female partner's. See *ibid.*, 103.

64. Pulvermacher, “Belt and Suspensory Appliance.” Patent medicine purveyors also took this approach. An advertisement for Goldglan, a gland-enhancing pill sold in the 1920s, suggested that it was especially appropriate for the man who “doesn't realize that he is not paying his wife the attention he formerly did.” See Arthur Cramp, *Nostrums and Quackery and Pseudo-Medicine*, vol. 3 (Chicago: AMA Press, 1936), 97. The original article is in the *Journal of the American Medical Association* (September 13, 1930). Also see advertisements for Zardon that advertise a gland-enhancing pill as a remedy for the “inability to perform the duties pertaining to married life.” See “The Great Nerve Stimulant Zardon” (Toronto, Ohio: Elenita Company, ca. 1901), folder 8, box 9, Patent Medicines, WCBA.

65. Professor Andrew Crystal, “Professor Crystal's Electric Belts and Appliances: Greatest Success of the Nineteenth Century” (Marshall, Mich.: 1898), 11–12, 15. One can find similar themes in belt advertisements by more legitimate vendors. Sears, Roebuck and Co. sold its Heidelberg Electric Belt, most probably a copy of the German Electric Belt, as the Giant Power Electric Belt, complete with suspensory sack. For men who were nervous about their sexual performance, it is likely that the words “giant” and “power” would have appealed. For a copy of the advertisement, see John L. Greenway, “Nervous Disease and Electric Medicine,” in *Pseudo-Science and Society in Nineteenth-Century America*, ed. Arthur Wrobel (Lexington: University Press of Kentucky, 1987), 62.

66. German Electric Belt Agency, “The Electric Era,” cover, BLEC. The at-

traction worked the other way as well. Advertisements also featured women who were electrically drawn to belt-powered men, such as the advertisement for the Electrovida belt in the *San Francisco Bulletin* in 1913 that featured a woman with electricity emanating from her fingertips toward a muscular man who knows that he has his “restored nerve force” to thank. See “How to Restore Your Nerve Force,” *San Francisco Bulletin* (January 22, 1913): 16, folder 0230-03, Electrotherapy, AMAHHFC.

67. See collection abstract 240, Electrothermal Company, 1918–1967, *American Medical Association, Guide to the American Medical Association Historical Health Fraud and Alternative Medicine Collection*, ed. Arthur Hafner, James Carson, and John Zwicky, (Chicago: American Medical Association, 1992), 25.

68. See, for example, “GHR Electric Thiermitis Dilator Question Blank,” folder 0233-05, Electrotherapy, AMAHHFC.

69. Ibid.

70. John Butler, *Electricity in Surgery* (New York: Boericke & Tafel, 1882), 19–20. Galvanic suppositories had also been in use since the 1880s to cure constipation. Like the GHR and Thermalaid, they were to be used five to ten minutes daily. See *Catalogue and Price List of Electrical Apparatus and Supplies* (Philadelphia: Lyman G. Morey, 1882).

71. Goldglan, sold between 1927 and 1945, was one of the most popular incarnations of the “Keeley Cure,” a previous treatment consisting of double bichloride of gold that was given until the 1910s. For information, see “Goldglan: A Superior Gland Treatment for Men and Women,” Medical Aid Bureau pamphlet, folder 0205-20, AMAHHFC. For information on how long the company was in business, see *Guide to the American Medical Association Historical Health Fraud and Alternative Medicine Collection*, Diseases of Men folder list, 100.

72. “Goldglan: A Superior Gland Treatment.”

73. Ibid.

74. For the quotations, see Tim Armstrong, *Modernism, Technology and the Body: A Cultural Study* (Cambridge: Cambridge University Press, 1998), 145; see 148 for a diagram of the procedure. For more information on Steinach's project as well as precursors such as the Brown-Sequard experiments in the 1880s with injecting animal testicular extract, see Normal Haire, *Rejuvenation: The Work of Steinach, Voronoff, and Others* (London: George Allen & Unwin, 1924), 29. Also useful for information on early experiments is Paul Boernsen, *Radium in the Light of Recent Discovery* (Washington, D.C.: Paul Boernsen, 1915), 4.

75. Fishbein, *The New Medical Follies*, 44–45; for his discussion of the Steinach operation, see 101.

76. See Gerald Stanley Lee, *Rest Working: A Study in Relaxed Concentration* (New York: J. J. Little and Ives Company, 1925), 44.

77. "Just off the Press: Glands of Power and Success," Electro Thermal Company, 1923, folder 0233-19, Electro Thermal Company, AMAHHFC.

78. "Why Many Men Are Old at Forty," Electro Thermal Company, ca. 1926, box 9, folder 7, Patent Medicines, WCBA.

79. *Ibid.*, 4-5.

80. The company had gotten practice with hyperbole as a manufacturer of the Elixir of Youth in the late nineteenth century. See "The GHR Electric Thermitis Dilator," folder 0233-05, Electrotherapy, AMAHHFC.

81. "Are Your Nights Like This," GHR Electric Dilator Company, folder 0233-05, Electrotherapy, AMAHHFC.

82. *Ibid.*

83. It is difficult to say with certainty who bought this product or what they thought of it. Testimonials are included in the advertising copy, such as the letter from Romulo Pena, owner of the Hotel Pena in Laredo, who claims that he has been cured of prostate gland trouble by the GHR dilator. Yet one must take each of these with an ample grain of salt, given that many patent medicine sellers were notorious for making up such characters. It is safer to rely on the product's persistence on the market, and, in the case with the Thermalaid, on the appearance of imitators, whose existence suggests there was a profit to be made. It is also likely that women and men purchased the device as a dildo, given the restrictions on purchasing explicitly sexual devices or sending them through the mail and the rise of a strong gay subculture by the 1920s. There is no proof for this theory, given the lack of direct evidence. For information on the gay subculture of the period, see George Chauncey, *Gay New York: Gender, Urban Culture, and the Making of the Gay Male World, 1890-1940* (New York: Basic Books, 1994). For the Pena testimonial and others, see "Are Your Nights Like This," and "This Wonderful Treatment," both from the GHR Electric Dilator Company, folder 0233-05, Electrotherapy, AMAHHFC.

84. Today, electrical medicine continues to be held in suspicion by most Western physicians. Two books that discuss why the field remains relegated to "alternative healing" status are Richard Gerber, *Vibrational Medicine: New Choices for Healing Ourselves* (Santa Fe: Bear and Company, 1996), and Robert O. Becker and Gary Selden, *The Body Electric: Electromagnetism and the Foundation of Life* (New York: William Morrow, 1985).

85. For Macfadden's views on prostate massage, see Bernarr Macfadden, *Constipation: Its Cause, Effect and Treatment* (New York: Macfadden Book Company, 1930).

86. Journal of the American Medical Association Bureau of Investigation to Mr. J. F. Price, October 2, 1925, Bureau of Medicine correspondence 1909-1926, folder 0204-03, AMAHHFC.

NOTES TO CHAPTER 5

1. Spencer R. Weart, *Nuclear Fear: A History of Images* (Cambridge: Harvard University Press, 1988), 6.

2. Henry Adams, *The Education of Henry Adams* (New York: Modern Library, 1931; originally published in 1918), 486.

3. Articles often referred to the pain inflicted on subjects during radium treatments. One explained that repeated visits were necessary because the rays could rest on the skin only "as long as the patient could bear it." One physician argued that any attempt to use radium to turn an entire body white was so dangerous that it invited death: "If the entire surface of a negro's body were subjected to X-ray treatments he would probably be fatally burned." See "Burning Out Birthmarks, Blemishes of the Skin and Even Turning a Negro White with the Magic Rays of Radium, the New Mystery of Science," *New York American* (January 10, 1904), box 60, folder 2, William Hammer Collection, National Museum of American History, Smithsonian Institution (hereafter Hammer Collection), and "X-Ray to Turn Black Men White," untitled newspaper (December 28, 1903), box 63, folder 4, Hammer Collection.

4. Wells graphically reported on the practice of southern lynching throughout the 1890s and compiled her evidence into three pamphlets aimed at publicizing and ending the practice. Her "Southern Horrors: Lynch Law in All Its Phases" was published in 1892; "A Red Record," in 1895, and "Mob Rule in New Orleans," in 1900.

5. The very fact that African-Americans turned to science to remove their blackness suggests that scientific knowledge had created a complete circuit of racial inferiority by the end of the nineteenth century. Not only had science proven the "illness" of blackness through racist concepts of "civilization" and "savagery" and schools of thought like social Darwinism, science could also offer the "cure." For information on the characterization of lightened skin as "a beautiful, soft, creamy white color," see "X-Ray to Turn Black Men White."

6. For the southern account, see "Bleaching the Ethiopian," *Savannah Press* (February 4, 1904), Hammer Collection, box 61, folder 3. See also "Will Bleach Out the Blacks," untitled Wichita paper (February 2, 1904), Hammer Collection, box 61, folder 1; "X-Ray to Turn Black Men White"; unnamed paper (December 28, 1903), Hammer Collection, box 63, folder 4; untitled article in *North American* (January 10, 1904), Hammer Collection, box 61, folder 2; and "Must Stay Half White," *New York Sun* (April 24, 1904), Hammer Collection, box 61, folder F2. For information on other strategies contemporary African-Americans used to pursue whiteness during the period, see Tom Pendergast, *Creating the Modern Man: American Magazines and Consumer Culture, 1900-1950* (Columbia: University of Missouri Press, 2000), 82-83.