

New Voices Conference

The Materials of American Studies: Reading Electric Belts

Carolyn Thomas de la Peña

Around 1910, many men opened brochures that had been handed to them on street corners, borrowed discretely from friends, or delivered unsolicited in the mail and read words similar to these:

There are a great many who are suffering from some mysterious ailment, which physicians have failed to name. . . . [It] is quite possible in reading through this treatise, they will recognize their own peculiar case. . . . There are yet many others who, by their own imprudence, have brought upon themselves nervous, chronic maladies that they do not care to discuss with anyone. To those unfortunates, more than any, the author earnestly commends this book and advises a diligent study of its contents. To open your eyes to your condition, and then alleviate your sufferings, is the chief object and aim of THE AUTHOR.¹

The words, here penned by a “Dr. Sanden,” head of the Sanden Electric Company, were meant to encourage prospective consumers to purchase electric belts, objects sold roughly between 1875 and 1920 that were powered by a small galvanic battery and worn about the waist and genitals to “cure” sexual

dysfunction. The advertisement captures several of the most important themes for those who today seek to understand the enormous popularity of these devices of highly dubious efficacy. The “great many” symbolized the growing numbers of American men, predominantly white and middle class, who twenty years earlier had begun to frequent physicians’ offices with complaints of fatigue and listlessness, as well as the many more who had chosen to keep such complaints private. The suggestion of “imprudence...brought upon themselves,” alludes to the masturbation and ill-regulated sexual practices that were believed to be the primary cause of such fatigue. The command to “open your eyes” and “alleviate your sufferings” was the primary battle cry of electric belt promoters. Such words, though hardly revolutionary in their resonance today, announced for their age a new vision of the body. Armed with a galvanic battery and a new definition of masturbation’s etiology, believers fused body and modernity. There can be little doubt that thousands, if not hundreds of thousands, of American men once accepted claims like Dr. Sanden’s that belts rendered them human dynamos equal to the physical, mental, and sexual demands of the day.

I have been working on American electric belts for roughly five years, since coming upon an archival collection of belt advertisements as I began my dissertation research. At that time I had planned to write a book that explored the relationship between medical procedures and cultural change at the turn of the century. My discovery of belts changed the project I imagined and, in the process, changed my research approach. The physical material of the belts themselves became a text, one that demanded consideration equal to the printed matter of letters and literature with which my graduate experience made me comfortable. The stuff of belts, it turned out, told a compelling story.

This essay addresses the impact of that stuff in two senses. First, it explores the lessons that belts have to teach about how men thought about sexual pleasure and performance at the turn of the twentieth century. This is an issue I address in my book *The Body Electric: How Strange Machines Built the Modern American*² and is part of my larger exploration into the relationship between technologically and physically generated energies. This article analyzes one artifact from that larger work. Unlike the book, this article does not offer a comprehensive reading of the history of belts. Instead, it looks for hidden meanings that such artifacts reveal; it emphasizes more the “maybes” embedded in materials than the facts revealed by sales data and medical reports.

The second goal of this article is to consider the ways in which we think about material culture as American studies practitioners. I explore electric belts here both as objects that offer a window onto a particular hidden history and as a case study on how we might use objects and advertisements in tandem when exploring modern consumer products. My argument for a more expressly “branded” material culture stems from this work on belts. As part of a constellation of products that emerged within nineteenth-century advertising, belts were more than the sum of their visible parts; they were also their advertising

messages. Much as we approach products today ranging from Gap khakis to McDonalds meals, their materials were both tactile—the wires and leather that comprised the objects—and rhetorical—the desires and ambitions created by promotional materials. Individuals frequently encountered belts after encountering advertisements. As a result, their reading of the objects was a hybrid: part material and part “brand” message. As a case study, electric belts suggest approaches to material culture that navigate the myriad meanings of modern mass-produced objects.

The Scholarly Belt: Rethinking Material and Electric Cultures

In *The Body Electric* I explore how “energy transfer theories,” or ideas that energy could be produced in external devices and imported, undiminished, into the body, inspired Americans to connect their bodies to or ingest a variety of technological products (health machines, electric belts, radium-fortified waters) with the hopes of becoming stronger, faster, fitter, and even younger. My theory is that because of a particular paranoia over energy-depletion, many people believed that the only way for the body to keep pace with modern life was for it to consume the same technologically generated energies that threatened its destruction. Between 1875 and 1920 this theory motivated many to purchase products that offered additional body “fuel” and paved the way for what I pose is a uniquely American construct: the “normal” technological body.

Before analyzing belts, one artifact in this larger narrative, it is important to establish some sense of who wore them. As previously stated, this essay is primarily focused on reading belts as cultural artifacts. Nonetheless, before one can determine whether or not the materials of the belts reveal larger values and beliefs, it is necessary to know who actually consumed them. Belt wearers were primarily white males of the working and middle classes. They had access to the mail where belts were sold and they could afford the cost of a belt, either the \$5 to \$10 payment, an amount equal to two to four days of a working man’s labor in 1910, or the \$2 a month “installment payments.”³ Although the vast majority of individuals and images I discuss here represent white bodies, this is not a topic relevant only to those interested in the study of dominant culture; while belt brochures typically featured Anglo individuals in illustrations, they were printed in other languages including Hungarian, Italian, Russian, and Chinese, suggesting consumer diversity. It is also important to remember that, as scholars like Gail Bederman have demonstrated, rhetorics that stressed whiteness at the turn of the century were often created because Anglos felt threatened by those of other ethnic backgrounds.⁴ Thus, the very whiteness of these images, combined with the Euro-centric rhetoric of belt companies like “Pulvermachers of London” and “German Electric,” produced in Cincinnati, should be understood as a response to the challenge to whiteness posed by turn-of-the-century immigration, African American emancipation, and Native American romanticization. Belts

would not have enjoyed popular success had these fears not created a backdrop for their reception. Reading electric belts, then, is a project, like any on turn-of-the-century masculinity, inherently about contesting definitions of race and nation.

Beyond Americans' conflation of physical and political power, belts also reveal how individuals related physically to electric energy. What prompted tens of thousands of Americans to purchase belts, strap them on to their bodies, and sit through 10-15 minute exposures to miniature galvanic batteries?⁵ What were the intentions behind such actions, the impressions those actions created, and the impact these impressions had on people's understanding of their bodies, electric technology, and sexual power? Up to this point, very little has been written about electric belts. Those who mention them typically write them off as cultural oddities, interesting and amusing, but ultimately nothing more than "quack" devices.⁶ Such thinking is incorrect.

One of the insights gained from taking belts seriously is that the binary scholars tend to create between "regular" (provided by licensed physicians) and "irregular" (provided by unlicensed practitioners) medicine breaks down; nineteenth-century scientists, physicians, and their lay audiences frequently found it difficult to distinguish between "legitimate" and "illegitimate" cures. And even scientists, whom one would think would have wanted to distinguish themselves from traveling medicine show purveyors, often embraced sales techniques more flash than substance. Thomas Edison, for example, often invited the press to camp outside his laboratory when he felt a new discovery was imminent, inviting them to speculate about the strange noises and glows within for their national audiences.⁷ Others regularly held revival-style meetings to court public interest. William Hammer, an "expert" on radium and Edison's assistant, regularly lectured small town audiences on science by including an illuminated demonstration and touting a radium future free from illness and disease.⁸ Like belt promoters, scientists often wooed the press and inflated the merits of their discoveries.

And like belt promoters, physicians often used fantastic devices with little proven medicinal value. The "magnetic box" offers an opportunity to explore the emphasis physicians often placed on the popular and fantastic.⁹ The device, developed in the 1840s by physician-inventor D.C. Moorhead, was used for at least the next fifty years. The artifact itself was fairly unadorned, approximately twelve inches wide and long, a simple wooden box with a hinge that opened to reveal the internal battery and attached application wire which could be placed around a patient's wrist. Once we re-embed it in its original consumer context, however, a more animated material emerges. The advertising pamphlet for the magnetic machine conveys images of awe, wonderment, and performative science (Figure 1). Here we see the medical practitioner, standing proudly behind his machine, chest out and arm extended to signal physical possession of the device. The two women, presumably his patients, strike poses of deference: one to the

electric device attached to her wrist and the other to the scientist who provides it for her.¹⁰

Moorhead sold his product to licensed and unlicensed physicians alike. In the late nineteenth century both had reason to desire a product that bestowed upon them expert status and appreciative stares. This is an important context in which to understand electric belts. As Lisa Rosner has argued, late-nineteenth-century physicians often looked to electrotherapeutics in order to possess an impressive machine that bestowed confidence upon patients.¹¹ In an era when physicians often found it difficult to follow their oath to do more good than harm, electrotherapy offered two important experiences for physicians and their patients: first, it was non-invasive and largely painless in small doses, and, second, it created a prickly sensation of electricity that made it seem as if something were actually being cured.¹² Moorhead's product helps break down the barrier between regular and irregular medicine and allows us a better understanding of how belts would have been viewed by contemporaries. It also illustrates why electric belts should be read as materials that combine material and message. Like belts, physicians and consumers who came into direct contact with machines did so only after seeing advertisements like this one. Given the ubiquity of product advertisements in newspapers, pamphlets mailed directly to private residences, and flyers placed in public spaces, we can assume that individuals made decisions whether or not to purchase based, at least in part, on their evaluations of these material messages. This advertisement, then, should be understood as creating a professional context into which the material, the wires, electrodes, and box of the machine itself would be read. Much like advertising messages surrounding mass-produced goods today, Moorhead's message of professionalism and status became, for those who viewed it, part of the material of the object itself.

Belts appeared in a culture primed to blend the legitimate with the fantastic when it came to medical treatments. They were one of many artifacts occupying the wide middle category between illegitimate medical devices, such as Elisha Perkins' "metal tractors" and legitimate medical practices, such as surgery. Yet of the products in this category, including magnetic boxes, oxygenating ankle cuffs, and Lydia Pinkam's miracle formula, belts enjoyed the longest life and the largest number of sales.¹³ To explain their longevity we have to begin by exploring the belts themselves.

The first belt popularly sold in the United States was Pulvermacher Galvanic Company's basic model, first produced in 1882 (Figure 2). Over a twenty-year period, manufacturers advertised and consumers purchased belts quite similar to this one.¹⁴ Between 1880 and 1920, about ten major U.S. firms, including Pulvermacher, Owen, Crystal, Sanden, German Electric, and Edison, manufactured such belts. During this time belts were modified slightly in their workings, particularly with the advent of battery packs that could be attached to the backside. Yet they underwent few modifications to their appearance. Even in the 1910s, belts looked quite similar to this early model.

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FOR

MOORHEAD'S

GRADUATED MAGNETIC MACHINE.



NEW-YORK:
D. C. MOORHEAD, 182 BROADWAY.

1847

Figure 1: Moorhead's Magnetic Machine as promoted in the product's brochure, Courtesy of the Bakken Library and Museum of Electricity in Life, Minneapolis.

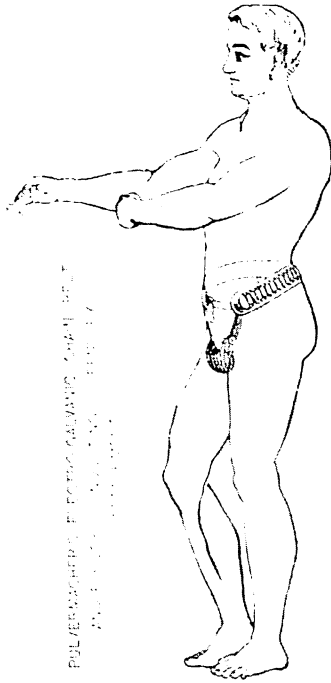


Figure 2: The Pulvermacher belt as demonstrated by promotional materials. “The Only Rational Means for Self-Cure,” Pulvermacher Electro-Galvanic Belts, 27, Courtesy of the Bakken Library and Museum of Electricity in Life, Minneapolis.

Pulvermacher’s belt can be divided into two parts: the waist-fastening belt apparatus and the suspensory sac attachment. It was made of a variety of materials including leather, wood, zinc and copper wire, silk, and cotton. Examined apart from the body, one first notices the exterior where the zinc and copper wires are most prominent. These surrounded the belt and were wrapped around small wooden cylinders mounted onto a leather base. Between the wire cylinders and the leather was a layer of silk that allowed the charge to be carried across the open space between cylinders and around the circumference of the belt. The suspensory attachment was a woven pouch of silk and wire mesh of approximately four inches in diameter. Like the belt itself, it fastened to the body with the use of cotton cords that could be adjusted for size. The appliance directly connected to the waist belt with a metal cord that carried the charge from the wooden cylinders down through the silk-wire-blend fabric of the pouch.

Most belts could easily be worn under one’s clothing. This early model would have made wearing one undetected somewhat of a challenge, as the belt had to be soaked in vinegar before it could produce a charge from the zinc and

copper wires. By the 1890s, however, belts typically contained battery packs that made vinegar dipping unnecessary. Advertisements frequently discussed the advantages of a particular belt model by stressing its ease of wear, some going so far as to insist that one might wear the belt to bed without one's partner detecting it.¹⁵ People who wore belts probably experienced simultaneous comfort and discomfort. The weight of one of these belts, between roughly 300 and 500 grams, made them easy to wear without physical stress.¹⁶ Further, the fabric, usually a silk-cotton blend, would have felt relatively smooth against one's skin. At the same time, the sensation of wearing the belt was similar to having one's foot fall asleep: where the belt made skin contact the galvanic charge created a sensation of pin pricks. The feeling was not what we would expect from an "electric" product today: the low-level current left little risk of receiving a painful shock. One would have been aware of the belt's position on the body, and, as a result, perhaps particularly receptive to resulting physical changes.

Sales records suggest that consumers purchased tens of thousands of electric belts between 1880 and 1920. Regionally, belts sold more in the Midwest than on the coasts, but by the 1920s, one could purchase an electric belt in cities as diverse as Cincinnati, San Francisco, Kansas City, Dallas, and New York.¹⁷ The decline in their popularity in the late 1910s was a result of several factors. The most obvious was the American Medical Association's vigorous efforts to stop mail-order belt sales. Arthur Cramp, the head of the AMA's legal department, spent much of the early twentieth century seeking to bar "irregular" physicians and non-licensed manufacturers from using the mail to distribute products. Shrewdly realizing that mail-order sales were the backbone of most belt operations, Cramp amassed evidence, primarily from advertising materials, to show that belt manufacturers made extravagant claims for their products, thereby committing postal fraud.¹⁸ By the early 1920s Cramp had succeeded in barring most electric belt promoters from distributing their products through the mail.

Less obvious reasons for the belts' demise are equally important. These deal primarily with cultural shifts in how people defined "normal" sexual performance and the relationship between the body and electric technology. These pieces of the past are difficult for historians to trace. People did not typically write about their feelings of sexual inadequacy; those who did were unlikely to preserve the documents for future generations' edification. Nor are people's feelings about technology and their bodies easily locatable. Much of what I am trying to understand about belts was submerged in people's subconscious. One hundred years has done little to bring these issues to the surface.

My solution to uncovering this terrain has been material culture. My approach to material culture is not one typically used by practitioners. I understand the material of belts to be comprised of *both* the physical properties of the belts, their weight, materials, and use, *and* the rhetorical properties of belt promotional materials. This dual-sided approach, which I term "branded"

material culture, can better reveal the motivations that consumers had for purchasing belts than can an analysis based exclusively on the artifacts. Since the advent of modern advertising in the late nineteenth century, the branding of objects, or the process by which they are given a set of attributes irrespective of their physical characteristics, has influenced consumers. When people buy branded objects they do so based on how the object appears or functions *and* how advertisements have told them that the object will appear or function.

Within this system, artifacts confront consumers twice (at least), creating two distinct spaces from which meaning can be taken: the marketplace and the body. Within the marketplace, which for belts included street-corners where circulars were distributed, homes that received direct-mail pamphlets, and any space within which newspapers were read, belts were positioned as technological marvels and deliverers of perfect health. This space was frequently the first site of contact between belts and consumers. As such, it provided a set of expectations for how belts would be understood when actually seen. Arguably, even if the actual material experience of wearing the belt did not deliver on this promise, the object might still be understood as reflecting the properties of the “brand.” Thus, to understand why people bought belts and how they evaluated them, we have to consider brand and object together as co-conspirators in creating their material culture.

As objects, electric belts reveal a good deal about the relationship between laypeople and electricity in the late nineteenth century. In the 1880s, purchasers of Pulvermacher’s early belt knew little about electricity. A zinc and copper wire mixture dipped in a conducting agent did not produce the same kind of electricity that had begun to light lamps and power trains in urban centers. Yet the belt was marketed as an “electric belt,” and advertising material actively promoted the galvanic charge it emitted as a central part of its healing properties. That thousands of individuals purchased such rudimentary electric devices suggests that few could differentiate between gradations of electric power, such as the amount necessary to treat ailments, and the amount necessary to raise hairs on the skin.

The larger context in which belts appeared confirms this. As historians of technology have documented, most urban Americans did not have domestic electricity until the 1900s. Electrification did not reach rural areas until at least the 1930s.¹⁹ The contact that most individuals had with electricity in the 1880s or 1890s took place in public spaces such as downtowns or amusement parks. As a result, few nineteenth-century Americans had direct physical contact with electricity. We take for granted today that electricity is understood as a visual and physical power: we see it light our lamps and charge our cell phones; we feel its shock when we touch a live wire. This dual understanding of the current, however, was not common prior to 1930. Electric appliances did not emerge until the 1910s; electric health aids such as heating pads did not appear until the 1920s. As a result, those who purchased electric belts did so with an imperfect

understanding of the distinction between industrially and physically applied energy. Belt consumers, therefore, had ample reason *not* to draw a solid line between the power lighting up night skies and the power charging their belts. Within this gray area, belt promoters created a narrative of the electric fantastic. Consumers' simultaneous electric ignorance and fascination encouraged the rhetorical messages used in promotions and sales.

As artifacts, belts also allow us to theorize that consumers wanted to be part of the electrification process. Research into the ways in which Americans encountered electrified spaces has revealed that late-nineteenth-century Americans were enthralled by their power. We know from David Nye and John Kasson's work that electricity was a late-nineteenth-century tourist attraction.²⁰ Cities used far more electricity than they needed to light the night sky after they realized the value of profit-generating "great white ways." Similar impulses drove Coney Island's promoters to install extravagant light shows once they realized people would stay longer and spend more money at the park. Popular books fueled this fascination by predicting that electrically grown food would soon solve world hunger.²¹ This context of simultaneous distance from and interest in electric power is reflected in how the belts were "charged" and applied to the body. Whereas a modern viewer might look at Pulvermacher's early product and cringe at the thought of dipping it in vinegar and wrapping it around the body, that it sold suggests that nineteenth-century consumers saw things differently. When one considers the wide distance between physical installations of electricity and physical bodies during the time period, it is possible to see the messy intimacy required in these belts as factors in their success.

Forty years after Pulvermacher, advertisements for the I-ON-A-CO belt continued to reflect consumers' desires to participate physically in the electrifying process. Here the connection was not achieved by soaking a belt, but by literally plugging oneself into the wall.²² In advertisements directed at English- and Mandarin-speaking customers, the I-ON-A-CO featured women sitting directly in front of electric lights in their homes. Both illustrations show one light unscrewed, and in its place an I-ON-A-CO inserted. Implied is physical action: someone has climbed up to the outlet, taken out the bulb, and plugged in the device. This agency was also emphasized in product instructions which told users the proper voltage they should have in their homes and instructed them as to how to plug the device into lamp or floor sockets. When we understand the I-ON-A-CO as part of the constellation of belts that preceded it, these advertising images reveal the products' allure. As intermediaries, belts allowed bodies to "light up" with power otherwise distant, mysterious, and external.

Both types of belts offer evidence that for the thousands who wore them, electricity was far from a distant, unknowable force; it was something one wanted to bring close to the body, to press against the skin and feel the tingle. It was, in fact, something to sleep with. Indeed, it is no accident that the I-ON-A-CO pamphlet features a woman knitting a blanket, a symbol of domestic comfort and

intimacy, as she sits plugged into their house lights. Her contented smile suggests that she easily consumes electric energy without the fear of electric shock.²³ Such a reading augments the findings of communications historian Carolyn Marvin who has argued that late-nineteenth-century Americans participated in a popular “electric theology,” or a belief that with electricity all things were possible. Here this theology extends beyond industrial and domestic applications to the body itself. Belts, both as material objects and as promotional materials, allow us to argue that people acted upon the urge to experience electricity directly. Novelties such as electric outfits for party hostesses, folkloric tales of “electric people” charged by bolts, and electric sticks for creating “smart cocktails,” all popular phenomena of the period, stemmed from a deeper fascination with imbuing electricity directly.

Belt advertisements were aimed primarily at men. This is not to say that all electrotherapy devices were sold to men; the I-ON-A-CO advertisement with its woman on the cover suggests otherwise. There was, however, a clear gendering in electric products. Products aimed at men tended to emphasize their ability to improve normal bodies by adding new energy. Products aimed at women tended to emphasize their ability to make bodies normal by counteracting energy depletion. In a standard advertisement for the Electropoise, a device that reportedly ionized water through electricity, the most prominent expression is langor: a woman sits in her Victorian parlor, physically diminished and virtually sunken into the surrounding overstuffed furniture.²⁴ Devices aimed at women were also applied differently to the body. Whereas belts were worn around the waist and genitals, oxygenators and “magnetic blankets,” more female or gender-neutral products, were worn on ankles, wrists, or against backs. The intimate connection of the belt was, typically, reserved for male bodies. Exploring advertisements and belts as evidence reveals why techno-power was an overwhelmingly male concern.

Looking Lower: Reading the Suspensory Sac

To claim a connection between electricity and the body is not to explain the popularity of electric belts. Why is it that the most popular product that connected the body to electricity was a belt and not a hat or tie-light, products that were also promoted but without nearly the same degree of success? For that answer, we have to look beyond the design of the overall belt and to its companionate attachment, the suspensory sac.

These products, though called “electric belts,” were not designed to power the waist. Along with waist belts were sold suspensory sacs, such as the pouch shown here on the early Pulvermacher model (Figure 2). Sales records for the sacs in particular are difficult to locate, but advertisements suggest that most customers who read belt literature would have understood the sacs as an essential part of a belt cure. Most, like Pulvermacher’s, featured the sacs prominently in illustrations on “proper belt placement” and discussed in some detail the sac’s

role in the product's efficacy. Additionally, sacs were inexpensive and often included in the price of the belt. Further, belts had special spaces built into the front designed for these sac attachments. Customers who wore belts without sacs would have been aware that something was missing.

Sacs typically came in two designs. The first consisted of this cotton-wire mesh pouch connected to the main waist belt by two metal wires (Figure 2). The second featured only a wire that connected directly to the belt base (Figure 3). In both cases, the sac was meant to directly electrify the male genitals by surrounding them with currents derived from the waist battery. They were also designed to be worn regularly with the belt, typically two or three hours a day for those who followed the directions on advertising materials. Once we consider the material of the sac and the promotional material that created its cultural context, the sac becomes the center of what made, for believers, an "effective" belt. Whereas belts were simply wrapped around the waist and fastened, each type of sac designs required wearers to intimately interact with the material by holding it open with one hand and lifting their genitals up and in with the other. Intimacy occurred with use as well. As one wore the belt, regular motions would have caused the skin to frequently engage and break contact with the device, producing slight vibrations as it occurred. This sensation would have made it difficult for users to forget that they had placed their most vulnerable and intimate parts in contact with an electric force.

Advertisements actively promoted the sac, and by association the enclosed genitals, as the biggest beneficiaries of electric-belt generated energies. It is no accident that Dr. Sanden's promotional packet for his turn-of-the-century belt showed the final resting point of belt "energy" lying solidly with the genitals, though the vast majority of the belt's surface area touched only the waist (Figure 3). Taken in aggregate, advertisements suggest that belts may, in fact, have been viewed as battery packs for suspensory attachments. Such a statement forces the question: why then, weren't these advertised expressly as "genital sacs?" It is possible that the choice was to comply with antipornography regulations, since such brochures were almost always sent by mail and watched by the American Medical Association's legal department.²⁵ It is probably more likely that promoters knew that such direct advertising was unnecessary; prospective consumers knew the real benefits of belt purchasing, regardless of what a product's formal name might indicate. By avoiding direct marketing, they allowed their products to go under the wire; customers could safely purchase belts to combat the effects of masturbation without raising the eyebrows of friends, loved ones, and postal workers.

Sacs and Masturbation: A Visible Cure?

There is very little historical work on masturbation and nineteenth-century men.²⁶ Much of this is for good reason: it is not something many people recorded for public record. The very wealth of advice literature encouraging men to avoid

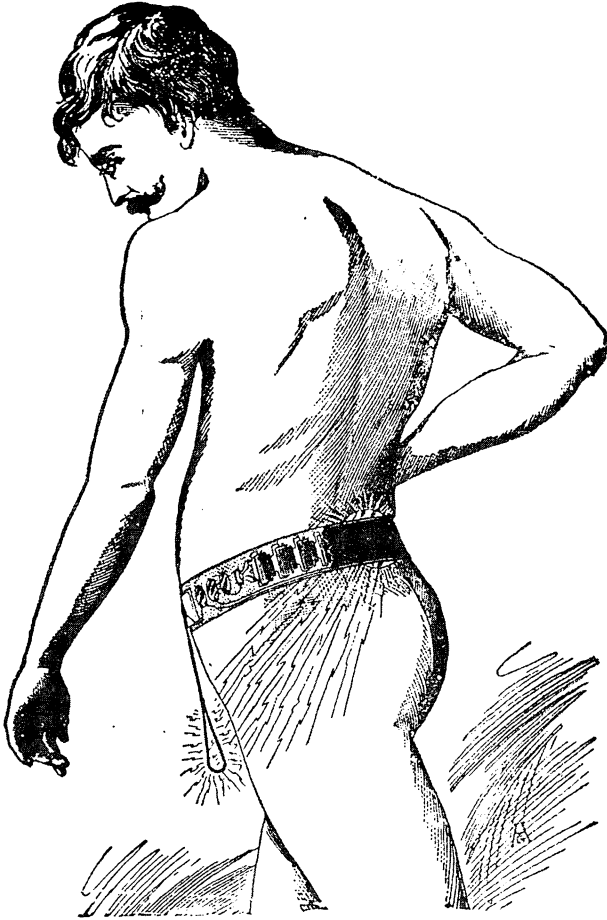


Figure 3: The second type of suspensory appliance. Brochure. Dr. A. T. Sanden (ca. 1910), 26, Courtesy of the Bakken Library and Museum of Electricity in Life, Minneapolis.

“self pollution,” however, suggests that there was something to advise against. We have little information on how men dealt with the discrepancy between daily practice and expert advice. Certainly many worried about ignoring the rules of a “spermatic economy” where wasted semen was often thought to be the equivalent of wasted “brain fluid.” Stories of decline flood advice literature, sermons, and medical texts: their typical allegory features young men at the prime of their lives, unable to avoid the solitary vice and left eventually on death’s door from energy depletion.²⁷ Yet since young men typically waited ten to fifteen years after puberty before marrying, they had no opportunity for acceptable intercourse. Within this system, it must have required extreme vigilance not to masturbate. As a result, many men were familiar with the cycle of masturbation, guilt over the action, and anxiety over the ill health that could follow.

Belt manufacturers realized the problem with this cycle, and they cleverly positioned their products as means to escape it. Here is where my work, like Davarian Baldwin’s work on Chicago’s “New Negroes” in this issue, opens up space to conceptualize the marketplace as a theoretical space. The majority of belt advertisements spent more space discussing masturbation than they did the specific materials of belts or the properties of electricity. Further, many heightened the emphasis on masturbation by including reprinted articles from experts on the practices’ physical costs. Pulvermacher, the dominant late-nineteenth-century belt manufacturer, was typical: most of men’s problems were due to “ruinous and prevalent masturbation.”²⁸ “Professor” Crystal’s, in 1905, blamed masturbation for causing 9 out of 10 nervous diseases. His pamphlet explained in detail the consequences of wasting the “seed of vitality,” something that German Electric belts insisted was akin to “wasting 40X more vital force than an equal amount of red blood right from the heart.” The masturbator’s fate was to “lose his manhood,” a euphemism for impotence, something that Crystal explained as the eventual result of “a self-inflicted weakened constitution, enfeebled nerve forces, and shrunken genital organs.”²⁹

One could easily conclude from such rhetoric that belt manufacturers were only adding to the problem. Yet while their words seemed similar to the fear-inducing language of medical and advice literature, their message was quite different. Electric belt manufacturers gained an audience by staying within the accepted cultural language of anti-masturbation. Yet they changed the relationship between masturbation and physical decline by adding a cure. To do so they went beyond ill-defined prognoses and evocations of sin by codifying three specific “diseases” that masturbating men would eventually suffer from, diseases that with the help of belt technology could be treated and cured. The result was a re-conceptualization within the marketplace of the relationship between technology, the body, and sexual pleasure.

The first of the three diseases, spermatorrhoea, was defined as any unintentional loss of semen, ranging from a nocturnal emission to a state of

constant emissions. Most descriptions of the illness in popular pamphlets were vague as to how to distinguish a diseased from a normal male body. One discussion of the condition, from Dr. Sanden, implied that one could self-diagnose if they had both “seminal losses” and “imperfectly developed organs.” How much loss to look for or how to define “imperfect,” however, were left for the reader to discern.³⁰ Like Sanden, advertisements tended to stress the experience of those suffering from spermatorrhoea rather than addressing the etiology of the disease itself. “I was almost broken down in health and spirits from ruinous habits and excesses, almost dragged to death’s door,” lamented one supposed sufferer who “testified” to his cure in an 1876 Pulvermacher brochure. How he arrived there, how precisely his body had begun to malfunction, and what “death’s door” might look like, his published comments do not say.³¹

Arguably, this emphasis on experience rather than causality was meant to discourage consumers from thinking too critically about the plausibility of such claims. At the same time, it encouraged them to view the boundary between normalcy and degeneracy as quite thin, and very public. Here advertising material becomes critical for understanding the ways in which belts would have been read by their contemporaries. German Electric, when promoting its product as a cure for the disease, did not only include illustrations of their belts themselves or individuals wearing them. They also included an illustration of two disease sufferers, from the chest up (Figure 4). The choice seems counterintuitive if one considers that these belts were ostensibly for curing a genital condition. Yet the caption descriptions make clear that the disease was one of *both* private experience and public perception. According to German Electric, spermatorrhoea was detectable to others, even when clothing hid one’s their genitals from view. Here, the jacket and tie, symbols of status and professionalism, are not enough to dissuade others from discovering one’s secret. The “white pasty look and dark circles around his eyes,” explained the brochure, were “their own accusers” that “told the story of weakness to everyone he met.”³² This rhetoric likely made it difficult for consumers to dismiss the product, assuming that they occasionally sported such signs of physical fatigue. What may have previously seemed like a public display of hard work could become, for those who believed, a public display of one’s sexual practices.

Other diseases concentrated more on the condition of the genitals themselves. Variocoele was a second illnesses frequently discussed. Promotional materials invited prospective belt customers to identify this condition by self-examining their testicles. Should they find them shrunken, uneven, or wormy, they were told, this was the first sign of “over exertion,” a condition that if left untreated would lead to impotence.³³ None of these brochures offered descriptions of just what shrunken, uneven, or wormy might mean. Nor were the self-diagnosers likely to have closely examined their testicles prior to this time providing a control for the experiment. The result was likely a biased result that proved to those inclined to agree that they were, in fact, diseased. Descriptions of seminal



Article on Spermatorrhœa, Nervous Debility and Impotence.
With quotations from "Sexual Science."

Figure 4: Advertising the belt to prospective customers. Brochure. Dr. A. T. Sanden (ca. 1910), 68, Courtesy of the Bakken Library and Museum of Electricity in Life, Minneapolis.

weakness seemed to affirm the conclusion. This final catch-all condition was presented as a three-stage declension narrative, beginning with fading strength and increased nervousness, followed by physical signs such as urine leaking, lack of concentration, and weak ambition, and finally ending with impotency and potential institutionalization for mania.³⁴

Some of these diseases, like varicocele, were indeed actual conditions. Others were vague conditions often alluded to by regular and irregular medical practitioners such as weakness and spermatorrhoea. These diseases are not important for the specifics of their etiology. Nor are they to be taken as a comprehensive list of all conditions discussed in promotional literature. What they provide is a window onto the function of labeling within belt promotions. Even were we to consider a condition like varicocele, the number of sufferers who actually had the disease would have been only a fraction of the number of people who *could have seen themselves as sufferers* given advertising rhetoric. The distinction is important. In aggregate, what the identification of these diseases did was to allow a large, amorphous group of individuals to see themselves as sufferers of common, medicalized conditions. Certainly these loose diagnostic practices would have made it possible for those with normal variations in testicle size or skin pallor to see themselves as in the early stages of devastating illnesses. Especially if they had, on occasion, masturbated.

To return to German Electric's "own accuser" illustration, the key fear identified here was visibility. When we consider the climate of nineteenth-century sexuality, particularly of self-pleasure, invisibility was a central theme. This was true in both the ways in which masturbation was discouraged and the ways in which its effects were discussed. Ministers stressed its sinful nature; politicians stressed its repression of procreative energies; moralists stressed its destructive self pleasure. None of these was a visible factor that could be explored, evaluated, and argued. Nor was it possible to clearly define and evaluate the results when they ranged from weakness to damnation. It was this invisibility and imprecision that made anti-masturbatory arguments so powerful: one small act of pleasure might cause irreversible and incalculable decline.

By naming diseases, belt advertisements made the invisible visible. Further, by creating a specific plan for diagnosing and treating the visible, they rendered it treatable. In reality, belt promoters' emphasis on serious physical manifestations and pending physical decline was meant to clearly identify the problem in order to sell items that they contended cured it. After concluding a long treatise on the evils of advanced varicocele, Pulvermacher told 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."³⁵ Promoters often stressed the superior strength of electricity, suggesting that only a power its equal could repair the masturbator's damaged body. This was the case with German Electric which promoted the "electric action" of their suspensory belts as uniquely capable of "acting directly on the clogged veins of the scrotum" and "driving out stagnated blood" to overcome disease.³⁶

As a whole, belt promoters stressed that masturbation posed a grave danger to the body, a danger only surpassed by that of masturbating *and* not purchasing an electric belt. According to Sanden, in an advertisement that seems to suggest that one could continuously use belts to correct the ill effects of continued

masturbation, at the onset of ill-temper and weakness, one must reach for the electric belt. "A moderate power Dr. Sanden Electric Belt and Suspensory should be used," they explained, "for if the evil is not *remedied*, it passes sooner or later into another form of a greater weakness."³⁷ It was not, then, masturbation that brought the body into a spiral of decline. The problem stemmed instead from masturbating without *remedying the resulting weakness*.

Belt promotional material did not claim to question masturbation's ill effects. It did, however, allow consumers to arrive at that conclusion on their own. This was true both in the way belts were experienced as worn by consumers and in the literature that created their context. As experienced, belts actually created pleasure. One had to hold their genitals to place them in the sac. One felt the cradling sensation of the sac during use as well as the friction created through ordinary movements. Further, once the belt was activated, the electric charge would have created a tingling sensation that could have been pleasurable. In short, far from being a medieval experience, wearing the appliance resembled certain aspects of masturbating.

Advertising materials reinforced this suggestion that masturbation could have pleasurable rather than punitive effects. Belted bodies frequently appeared, as in the Pulvermacher and Sanden pamphlets, nearly naked. One could argue that such a technique was merely functional: bodies needed to be unclothed in order to see how belts were properly worn. It is likely that this explanation is true, in part. Other contemporary advertisements, however, did not use naked bodies, even when the products for sale would benefit from such display. David Butler's nineteenth-century weight machine, the "Health Lift," for example, used fully clothed male and female bodies in pamphlets, even though musculature was one of its main products for sale. Not only were belt demonstrators' bodies often unclothed, they were also in sexually suggestive poses. These poses vary from the subtle muscularity and confident pose of German belt models to the more dynamically posed and explicitly naked model of Dr. Sanden's product (Figure 5). Given the late-nineteenth-century climate where Native Americans were often idealized for their physical power, Dr. Sanden's spear-wielding man would have been particularly suggestive of vigorous masculine power. Within this iconographic system, masturbating may have been understood as a way to improve sexual potency.

It is, in fact, this enhanced sexual power that may have been the belts' most attractive cure. If we consider that belts were advertised almost exclusively to restore sexual performance after masturbation, the implication of these powerful bodies is clear: far from being destined to remain depleted and damaged, the masturbating body *with technology added* becomes a body in better sexual health. Such a scenario makes belts not merely devices for restoring sexual power lost as a result of masturbation. It makes them agents for rendering masturbating bodies more powerful than non-masturbating bodies, since, one assumes from reading promotional material, one who did not masturbate would see little reason to purchase and wear an electric belt.

The lightness of the belt, that it was to be worn under one's clothing and in direct contact with genitals, and the intimacy required in placing it on the body, allow us to theorize that belts became sexually intimate with wearer's bodies. By entering into the mix of sexual experiences, they created a space in which technology could help wearers reconceptualize the relationship between masturbation, pleasure, and health. Whereas pleasure previously had been synonymous with depletion, belts made pleasure productive. One could wear the belt and feel pleasure in the tingling sensation of electricity purportedly restoring health. One could masturbate, without the belt, and feel the pleasure of knowing that any depletion that occurred was only a belt away from repair. Sexual pleasure, then, could be energy enhancing. The result may have been a weakening of the foundation of guilt upon which the "seminal economy" had been built.

With this in mind, we can read this image, reflecting a common trope in belt literature of "slaying nature" as pronouncing the supremacy of the technomasturbating body (Figure 6). The allegorical event on the cover of Edison Jr.'s belts (son of Thomas) shows the muscular, Anglo appearing body slaying the "natural" body as represented in the Native American. It was common for Anglos to compare themselves to Native Americans in the nineteenth century, either to celebrate their ability to combine Native strength and knowledge with "civilized" values in characters like Burrough's Tarzan or to celebrate the defeat of the threatening primitive as "progress" for a modernizing nation. Here we can read the Native body as symbolizing "nature," a nature that had demanded sexual restraint and energy conservation. Here, the vitalized body is shielded from limits—physical, sexual, and even imperial. By unmooring sexual restraint from optimal health, he literally kills the nineteenth century.

This enhanced sexuality and release from limits may also have been attractive to men who faced a dramatic reversal in the sexual roles at the turn of the century. By 1900, many women began to revise their opinions about the relationship between sex and pleasure as well. Previously, women had been extolled by advice books that performing sexual intercourse was their wifely duty. By 1900, sociological studies began to reveal a dramatically changed assessment. A new sense reemerged, one encouraged by Freudian psychology in the 1910s, that pleasurable sexual encounters were necessary to create a "complete bonding between two people." Not only did many women begin to demand intimate communication with their partners through sex, they also went looking for it with increasing frequency. Researchers found that many women wanted sex two or three times a week; some women claimed to want sex as much as their husbands did.³⁸ Advice book authors sympathized with men who were dealing with the phemonema of the multiple female orgasm. "Her sexual power," claimed one book, was simply "much greater than his." As a result, "the man may have claims made upon him that he cannot fulfill."³⁹

It is worth asking if these demands helped belt sales. Perhaps it was not merely masturbation that made men see their sexual potency as weakened:

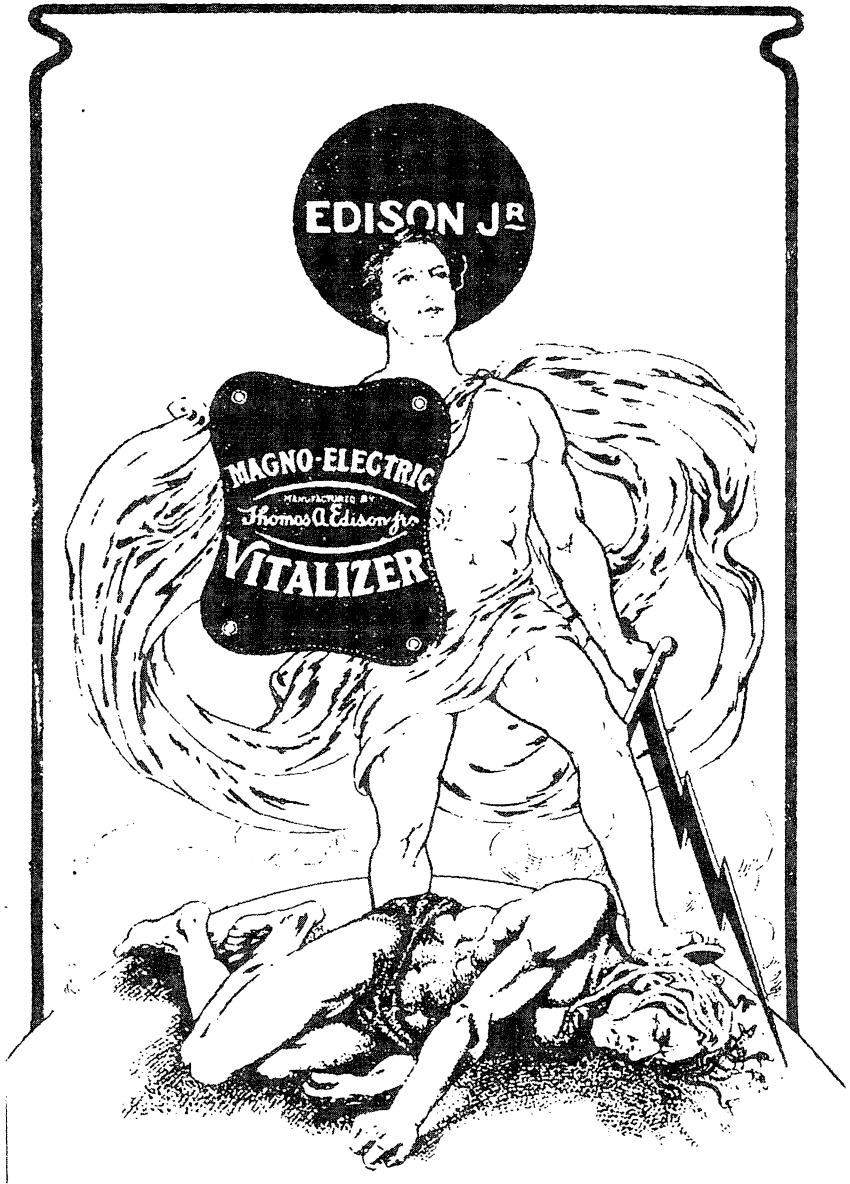


Figure 5: Edison's Magno-Electric Vitalizer as illustrated in promotional materials. Ephemera Collection, Courtesy of the Bakken Library and Museum of Electricity in Life, Minneapolis.

THE ELECTRIC ERA



German Electric Agency
12 VESEY ST. NEW YORK ·

Figure 6: Front cover of “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.

women's articulated sexual urges may have been another factor. In this regard, belts could have offered men a secret weapon in dealing with what must have seemed like women's "superior" sexual capacity. Certainly, men born in the late-nineteenth century must have felt that the rules had changed and they lacked a new guidebook. Not only did they find that their wives wanted sex more than once a week, in some cases they found that they wanted it more than once a night. It is not hard to make the connection between the concerns about impotency in belt advertisements and these changing desires. Certainly many men would have thought that they were less than fully potent, regardless of whether they masturbated, based only on comparing their sexual stamina to that of their wives. As the cultural rules surrounding sexual practices shifted, men and women likely found it difficult to define "normal" sexual function or "natural" sexual desires. Electric belts may have entered into the cultural confusion, offering men a secret technological weapon to fight off "impotence" and reassure themselves of sexual supremacy.

As with much research around intimate practices, records are difficult to find that might prove such a theory. Advertising iconography, however, gives us a place to begin to make such connections. The cover of German Electric's brochure from the mid-1890s, features two stallions harnessed to a chariot on which a bare-breasted female figure sits (Figure 7). The horses appear the very image of potency: their taut leg muscles thrust forward, their neck muscles bulge with restraint; they are barely contained by the harnesses. Around their necks is the source of this strength: a highly stylized electric belt that exudes energy from the bulbs around its circumference. The stallions here are stand-ins for readers who are invited to see themselves as the powered bodies that seep electricity from head to toe. It is significant that these stallions are not alone on the cover. They also carry behind them the bare-breasted female figure who signals the advent of, as the text reflects, "The Electric Era." It is the stallions, however, who possess the dynamic energy that pulls her forward, smiling into this era. Her bare breasts leave room for readers to understand this energy as expressly sexual.

This reading is supported by the text accompanying such images. When belt promoters addressed who exactly might need their products, they often suggested it was for men who were not satisfying their partners. According to Pulvermacher their belts were especially suited for men with the "inability to perform the duties pertaining to married life," while Dr. Crystal recommended it for those "entirely incapacitated and unfit for the marital relation."⁴⁰ German Electric hinted that one might secretly wear it in the presence of an unsuspecting wife by suggesting that belts were so thin that "not even a person sleeping in the same bed need know you have one on."⁴¹ If we allow that much of the "impotence" that these men suffered from was likely psychic, as was reported by contemporary physicians, and if we assume that much of this psychic impotence was at least exacerbated, if not caused, by women's increasing sexual

liberation, belts emerge as an agent for restoring sexual equilibrium. At the same time that belts associated masturbation to health and pleasure, they also may have psychologically prepared men for this major reworking of traditional sexual roles. Suggestively, believing in the power of the device “charging under the sheets” may have been enough to overcome psychic impotence. One could get help from technology until nature, or cultural adjustment, could take over.

An exploration into the material world of electric belts cannot, in the end, fully reveal why men went against the best advice of physicians and, for thirty years, purchased these products, placed them on their genitals, and went about their daily lives. Current medical knowledge reveals with certainty that the low-level currents in these belts could not have cured impotency caused by a physiological condition.⁴² What current medical knowledge cannot tell us is whether such a belt could have created a cultural cure. For men who found themselves in the center of a confusing modern era where their bodies no longer seemed adequate, feeling physically embraced by a threatening, mysterious, and sexually enhancing strength may have allowed them to believe their bodies fortified by the best that nature and technology had to offer. German Electric probably chose carefully when placing this image on the back of their promotional pamphlet next to a notice recruiting sales agents (figure 7). Wearing a belt was as much about wires and buckles as it was about rhetorical reconciliation. Within the world of belt promotion and consumption, there was plenty of opportunity to imagine that wearing the object placed one, uniquely, in the powerful center of an increasingly technological world.

Postscript: Reflections on Material Culture

As I stated at the beginning, this article has two purposes. The first is to use belts as a window onto turn-of-the-century male sexuality. In this regard, belts allow historians to suggest that men were active agents in redefining “normal” sexual pleasure and performance. With the help of belt *promises* if not actual belt performance, many men broke the casual link between masturbation and physical decline and recast their bodies as sexually vital and superior—or at least responsive—to those of increasingly assertive female partners. Belts offered a way to overcome a perceived “crisis of weakness” by seemingly infusing the body with vigorous and pleasurable electric power. As a result, a generation had the opportunity to redefine normal physical performance while concurrently normalizing electric power. In addition to this, reading belts as branded artifacts allows us to reflect on the practice of modern material culture analysis.

Many of the most important insights I had while researching *The Body Electric* came from interacting with materials. Once I held a vibrating electric belt in my hand I could better imagine why people might have believed they worked. Seeing the embossed leather cases in which belts were sold convinced me that for consumers, these were serious items. Standing next to Zander machines allowed me to imagine the dangerous, mechanized context out of



IF you have no use for any of the Appliances described in this book, please hand or mail it to some one that you know, who is not enjoying good health. By doing this, you will favor them and oblige us.



AGENTS WANTED.

We want a good agent in every County, to whom we give steady employment at good pay. We only appoint those who have bought and tested our Appliances and who can thus speak of their merits, from personal experience.



Figure 7: The back cover of German Electric Belt's "The Electric Era" promotional pamphlet. (New York, ca. 1901). Ephemera Collection. Courtesy of the Bakken Library and Museum of Electricity in Life, Minneapolis.

which machine fitness emerged.⁴³ These experiences made me realize that things can steer us in directions we would not otherwise find. People may not have written about how belts felt on their bodies, nor did they articulate the connection between belts and sexual performance. The material objects, themselves, however, can provide us with a starting point into these issues.

As Lizabeth Cohen demonstrated twenty years ago in her groundbreaking work on the material culture of tenement houses, the stuff people produce, and leave behind, often speaks volumes to the values and beliefs they possessed.⁴⁴ This is particularly relevant for those who work in areas where written documentation is sparse: as was the case for Cohen's work on the working class, many of whom could not read and write, and for my own work on the intimate practices of self definition, masturbation, and intercourse.

It is tempting, as our field is increasingly shaped by the work of cultural studies and literary theory, to relegate material analysis to our methodological basements. I want my work to encourage American studies practitioners to prevent that, or perhaps to begin some serious spring cleaning. Scholars of material culture, from the early work of advocates like Thomas Schlereth and John Kowenhoven, to the more recent explorations of Katherine Grier, Kenneth Ames, Kenneth Haltman, and Jules Prown, have demonstrated the importance of looking at artifacts as cultural texts.⁴⁵ I would like my own work to add to this. There is much we can learn by reawakening what Prown has called our "cultural daydreams," or the values and beliefs embedded in objects that share a common design and reach a mass audience at a particular moment in time.⁴⁶

Further, my work on electric belts suggests that we need to expand our definition of the "material" we study when we look at artifacts. Traditionally, material culture has bound itself to the object: one understands a teapot, for example, by revealing the material of which it is made, the shape and weight it possesses, and the wear which testifies to its use. One then places the object in a cultural context, seeking to understand what its design and function reveal about the particular values and beliefs of people in a particular place and time. Yet modern materials are often more than the sum of their visible parts. In a culture where advertising and branding are used to promote the vast majority of mass-produced goods we encounter, we must look to the contexts they provide in order to fully understand the meaning of things. Few of us are able to separate dreams from realities when we determine the function of our objects. Neither were our predecessors.

The lessons that emerge in the space between object, advertisement, and body, though often not articulated in a letter or theorized in a text, help us to begin to explore how interactions with objects are reactions to and impetuses for cultural change. This is not, in itself, an ending point for scholars; it is a beginning. By embracing a modern material culture of object and image, we gain insights that may otherwise elude us.

Notes

1. A. T. Sanden, "Dr. A. T. Sanden, originator of the Celebrated Home Treatment for the Cure of all Chronic, Nervous and Wasting Disease without drugs or medicines," (New York: Prout and Ward Printers, ca. 1910), introductory letter, Bakken Library of Electricity and Health ephemera collection (hereafter cited as BLEC).

2. Carolyn Thomas de la Peña, *The Body Electric: How Strange Machines Built the Modern American* (New York: New York University Press, 2003).

3. This amount reflects the cost of common waist belts. Larger belts meant to be worn about the shoulders in the 1920s such as the I-ON-A-CO and its imitator the Thernoid cost roughly \$60.00.

4. Gail Bederman discusses the relationship between physical power and imperialism in *Manliness and Civilization: A Cultural History of Gender and Race in the United States, 1880-1917* (Chicago: University of Chicago Press, 1995).

5. My estimate of tens of thousands does not include the hundreds of thousands of people exposed to I-ON-A-CO and Thernoid belts in the 1920s. The figure is based on sales estimates I've made by calculating the number of belt manufacturers, the number of agents in the field who made a living selling belts, and the number of people whose archival letters reveal that they had purchased belts between 1880 and 1920. For more information see de la Peña, *The Body Electric*, chapter 4.

6. By "quack" they mean devices advertised by irregular, or unlicensed physicians, to cure particular ailments, but which in fact are not based on scientific principles and do not offer legitimate cures. See, for example, Harvey Green, *Fit for America: Health, Fitness, Sport and American Society* (Baltimore: Johns Hopkins University Press, 1986).

7. For more information on Edison's experiments and his ability to court the press see Ruth Brecher and Edward Brecher, *The Rays: A History of Radiology in the United States and Canada* (Baltimore: Williams and Wilkins, 1969), 23.

8. For more information on Hammer's presentations and his work on radium see de la Peña, *The Body Electric*, 177.

9. The machine, which physicians would later decry as ineffective, was actually nearly identical to the machines for "faradism" used by physicians as eminent as George Beard.

10. The connection to magnetism, a pseudo-science popular in the United States in the mid-nineteenth century, is also made in this advertisement. Purveyors of early electric devices frequently alluded to the practice of laying on hands common in mesmerist performances. Purportedly mesmerists cured by realigning the magnetic forces within afflicted persons; products like Moorhead's allowed consumers to make this connection if it suited them, presumably positively affecting sales. For more information see de la Peña, *The Body Electric*, especially chapter 3.

11. Lisa Rosner, "The Professional Context of Electrotherapeutics," *Journal of the History of Medicine and Allied Sciences* v. 43, n.1 (January 1988): 64-82, especially 70.

12. The Flexner Report is a good barometer of medical treatments in the United States during this period. Released in 1910, the study found that American medical education and facilities were substandard and in need of dramatic improvement. See G. J. Barker-Benfield, *The Horrors of the Half-Known Life: Male Attitudes Towards Women and Sexuality in Nineteenth-Century America* (New York: Routledge, 2000, orig. 1976), 68.

13. For information on pseudo-medical devices and purported cure-alls during the period see Sarah Stage, *Female Complaints: Lydia Pinkham and the Business of Women's Medicine* (New York: Norton, 1979), Eric Jameson, *The Natural History of Quackery* (Springfield, Illinois: Charles C. Thomas Publishing, 1961), and Warren Schaller and Charles Carroll, *Health, Quackery and the Consumer* (Philadelphia: W.B. Saunders, 1976).

14. For more information on electric belt manufacturing in the United States between 1880 and 1920 see de la Peña, *The Body Electric*, especially chapter 3.

15. See, for example, "The Electric Era," German Electric Belt Agency (New York: 1901), 15.

16. Their height was roughly 65-100 mm. Height and weight courtesy of Ellen Kuhfeld, archivist (BLEC).

17. For more information on sales and regions see de la Peña, *The Body Electric*, especially chapters 3 and 4.

18. In addition to pursuing legal action against manufacturers, he published reports on his findings in three separate volumes, in addition to pursuing legal action against manufacturers. These provide a thorough account of the types of manufacturers he deemed threatening. See *Nostrums and Quackery*, vol. 1 (Chicago: American Medical Association Press, 1912), *Nostrums and Quackery: Articles on the Nostrum Evil, Quackery and Allied Matters Affecting the Public Health*, vol. 2 (Chicago: AMA Press, 1921), *Nostrums and Quackery and Pseudo-Medicine*, vol. 3 (Chicago: AMA Press, 1936).

19. The best source on the social and cultural changes brought by electrification is David Nye, *The Electrifying America: Social Meanings of a New Technology* (Cambridge: MIT Press, 1990).

20. David Nye, *The American Technological Sublime* (Cambridge: MIT Press, 1994); John Kasson, *Amusing the Million: Coney Island at the Turn of the Century* (New York: Hill and Wang, 1978).

21. See, for example, John Harvey Kellogg, *Light Therapeutics: A Practical Manual of Phototherapy for the Student and the Practitioner* (Battle Creek: Good Health Publishing Company, 1910), 20.

22. For information on the I-ON-A-CO see the main promotional brochure produced by its developer, Henry Gaylord Wilshire: "I-ON-A-CO the Short Road to Health," box 8, folder 11, Wilshire Family Papers, UCLA Special Collections.

23. This would have been particularly compelling to older Americans in the 1920s who, in the 1890s, had witnessed the introduction of the electric chair. Alfred Kemmler's execution, covered widely by the press, convinced many that electricity was indeed a dangerous agent. For more information see Carolyn Marvin, *When Old Technologies were New: Thinking about Electric Communication in the Late Nineteenth Century* (New York: Oxford University Press, 1988), 149.

24. See "The Electropoise: An Oxygen Home Remedy," *McClure's Magazine*, undated clipping, (BLEC).

25. For information on Arthur Cramp's efforts to prosecute unlicensed therapists for mail fraud see de la Peña, *The Body Electric*, 128.

26. What little evidence there is has been well-utilized by Anthony Rotundo and John D'Emilio and Esther Freedman. See Rotundo, *American Manhood: Transformations in Masculinity from the Revolution to the Modern Era* (New York: Basic Books, 1993) and D'Emilio and Freedman, *Intimate Matters: A History of Sexuality in America* (New York: Perennial Library, 1988).

27. For more information see Rotundo, *American Manhood*.

28. Pulvermacher Galvanic Company, "Electricity: Nature's Chief Restorer," (Cincinnati: Pulvermacher Galvanic Company, 1876), 15-23, (BLEC).

29. A. Crystal, "Professor Crystal's Electric Belts and Appliances," 15, folder 0229-25, Electrotherapy, American Medical Association Historic Health Fraud Collection (HHFC), AMA Building, Chicago.

30. Sanden, "Dr. A. T. Sanden," 7-8.

31. It is highly likely that such testimonials were falsified, given that positive statements benefited the manufacturers and such comments could not be tested for their veracity. Nonetheless, they are useful sources for exploring consumers' motivations to purchase, even if not valid sources for determining whether the devices actually cured. "Electricity, Nature's Chief Restorer" (1876), 15.

32. "Electricity: Nature's Chief Restorer," 22.

33. For example, see Pulvermacher, "Belt and Suspensory Appliance," 27, BLEC and Sanden, "Dr. A. T. Sanden," 30.

34. *Ibid.* 16-17.

35. Pulvermacher, "Belt and Suspensory Appliance," 26.

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

37. Sanden, "Dr. A. T. Sanden," 16-17.

38. The survey was done by Katherine Davis and is discussed in D'Emilio and Freedman, *Intimate Matters*, 178.

39. Theodore H. van de Velde, *Sexual Tensions in Marriage: Their Origin, Prevention and Treatment* (New York: Random House, 1931), 104.

40. Pulvermacher, "Belt and Suspensory Appliance" and Professor Andrew Crystal, "Professor Crystal's Electric Belts and Suspensory Appliances: Greatest Success of the Nineteenth Century" (Marshall, Michigan, 1898), 11-12, 15.

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

42. What localized electric treatments can do is lessen pain. They have been used in Europe for years during labor, for example. See J.A. Chiu, *et al.* "Transcutaneous Electrical Nerve Stimulation (TENS) Helps Manage Pain," *Essential Information on Alternative Health Care*, 5, no. 7 (November 1999): 16.

43. I discuss Zander machine in chapter two of *The Body Electric*. There are still machines available in the National Museum of American History's holdings and at the resorts in Hot Springs, Arkansas and Homestead, West Virginia.

44. Lizabeth Cohen, "Embellishing a Life of Labor: An Interpretation of the Material Culture of American Working-Class Homes, 1885-1915," *Material Culture Studies in American Culture*, ed. Thomas J. Schlereth (Nashville, Tennessee: American Association for State and Local History, 1982): 289-305.

45. See, for example, John Kouwenhoven, "American Studies: Words or Things?" in

Material Studies in American Culture, 71-92; Jules David Prown and Kenneth Haltman, eds. *American Artifacts: Essays in Material Culture* (East Lansing, Michigan: Michigan State University Press, 2000); Katherine Grier, *Culture and Comfort: Parlor Making and Middle-Class Identity, 1850-1930* (Washington D.C.: Smithsonian Institution Press, orig. Strong Museum, 1988); Kenneth Ames, *Death in the Dining Room & Other Tales of Victorian Culture* (Philadelphia: Temple University Press, 1992); Katharine Martinez and Kenneth Ames, eds. *The Material Culture of Gender: The Gender of Material Culture* (Winterthur, Delaware: Henry Francis duPont Winterthur Museum, 1997).

46. Jules David Prown, "The Truth of Material Culture: History or Fiction?" in *American Artifacts*, 13.