Electric Girl No More: Nineteenth-Century Technofeminism, Constructions of Physical Strength, and Scientific Expertise

Elizabeth Lowry

Abstract: *Lulu Hurst, an iconic nineteenth-century "electric girl"—that is, a young female performer ostensibly endowed with extraordinary strength— uses her autobiography to explain scientifically how her stage illusions are accomplished. Hence, Hurst helps to create a new social identity for women when she trades in the mythos of supernatural strength for an unusual Victorian-era scenario: a woman "expert" in science. Drawing on Sarah Hallenbeck's scholarship on "technofeminism" I argue that Hurst helped to transform perceptions about women's bodies by resisting the fetishization of feminine weakness; challenging exoticized and mystical explanations for feminine strength; and creating a rhetorical space for women in scientific discourse.*

Keywords: *Women, technofeminism, science, nineteenth-century, performance, identity, supernatural, morality, literacy*

Introduction

Sixteen year-old Lulu Hurst, also known as the "Georgia Wonder," first traveled to New York City with her parents in the summer of 1884 to provide public demonstrations of her allegedly superhuman powers of resistant strength.[1] Hurst's demonstrations as an "electric girl" typically involved a gentleman from the audience joining her onstage along with his walking stick or umbrella. According to various newspaper reports, Hurst casually broke these umbrellas and walking sticks with her bare hands, but audiences were infinitely more thrilled by the way that she hurled male opponents (whom she refers

1 In the 1850s and 60s, women who offered demonstrations of so-called occult phenomena were typically harassed and accused of witchcraft, but in the 1870s, the social climate began to change. By the 1880s, when Hurst was performing, exhibitions of this ilk were mostly understood to be entertainment and no longer seemed to engender fear or hostility.

to in her autobiography as "experimenters") to and fro as if they were "jackstraws." Notably, Hurst never came into direct physical contact with her opponents; rather, they would attempt (usually unsuccessfully) to pull a walking stick or umbrella from her iron grasp. Following Hurst's success, a number of young women imitated her act—they were known as "electric girls" or "magnetic girls" because their uncanny strength was likened to the unseen forces of electricity that powered engines and machinery (52). Again and again, with their mysterious displays of resistant strength, these electric and magnetic girls defied the commonplaces that dictated women's "natural" physical abilities.[2] But with the publication of her 1897 autobiography *Lulu Hurst: Georgia Wonder*, Hurst attempts to de-mythologize herself—that is, to separate herself from discourses of the supernatural in order to publicly embrace empirical science and positivism. This article contextualizes the autobiographical writings of the "Georgia Wonder" with respect to Victorian-era discourses of gender and technology in order to illuminate how such discourses intertwined to form a proto "technofeminist" movement—a movement that ultimately helped to transform nineteenth-century commonplaces about women and science.

In *Claiming the Bicycle*, her work on nineteenth-century "technofeminism," Sarah Hallenbeck describes the "collected" rhetorical activities of women—with respect to technology—as being "highly varied" and "broadly distributed" (246). According to Hallenbeck, such rhetorical activities are performed by women

> who are not part of a discrete organization or collective and whose individual actions are not significant in themselves, but whose loosely coordinated efforts nevertheless generate rhetorical effects through their repetition and visibility. (246)

The "rhetorical effects" to which Hallenbeck refers resonated across multiple communities. The idea of social transformation occurring through "collected" rhetorical activities applies to the "electric" and "magnetic" girls of the nineteenth century because, although these women acted independently of one another, all engaged in repeating a highly gendered performance in the public sphere. However, while I draw on Hallenbeck's scholarship to support my argument about the transformative potential of Lulu Hurst's rhetorical activities as an electric girl, I also discuss how Hurst's work offers a unique perspective

2 Hurst-inspired performances were to be found "springing up all over Georgia: Mattie Lee Price of Bartow County, Mamie Simpson of Marietta, and Dixie Haygood of Milledgeville" (Harrington 207). Dixie Haygood, who later took the stage name "Annie Abbott," was nicknamed the "Georgia Magnet," and she was perhaps Hurst's most celebrated successor.

on current understandings of nineteenth-century gender roles and technology. That is, Hurst's autobiography becomes a feminist intervention in that she acknowledges how, in the nineteenth-century public sphere, discourses of the mystical and supernatural were often feminized and constructed to be at odds with reason and mainstream science. Hurst explains how these discourses became a site of rhetorical invention for her self-construction as an electric girl, but perhaps more significantly, she highlights and then challenges these discourses in order to formulate her new identity as a scientist. As a scientist, Hurst uses her autobiography to take ownership over discourses of empirical truth, ultimately asserting that dismantling superstition is a moral imperative.

Further, Hurst's autobiographical writing becomes a feminist intervention in that she uses it to exhibit feminine strength—but the strength that she dramatizes in her writing is neither the hard-won physical strength exhibited by Hallenbeck's cyclists or the illusion of physical strength demonstrated by the electric girls on stage. Rather, through her autobiography, Hurst demonstrates an intellectual strength and rhetorical acumen that was rarely recognized in a woman of that era—that is, Hurst defers exhibitions of her "real" intellectual strength until after she garners an audience for her illusory displays of strength. She then trades the supernatural and spurious for the scientific and genuine. However, like physical strength, this intellectual strength—this aptitude for hard science—must also be enacted. With their anomalous expressions of strength, the electric girls built ethos as skillful performers, but were not necessarily recognized as being consistently strong, adept, or capable women. Hence, through her discussions of how the electric girl used science to create her illusions, Hurst convinces audiences not only of her skill as a performer, but of the fact that she is intellectually capable also. As such, she imagines new social roles for women and presents unorthodox ways of challenging commonplaces about feminine limitations.

Part I: Challenging Cultural Commonplaces

Although Hurst describes herself as a "country lass," she was likely quite well-educated. Born in 1869 in Cedartown, Georgia, Hurst was home schooled by her mother, who had apparently benefitted from excellent schooling herself. According to historian Christie Ann Farnham, Southern women of the antebellum era were far better educated—particularly in the sciences—than Northern women, because Southern men were more permissive. That is, Southern men did not see educated women as likely to compete with them for jobs within the region's agrarian economy. Farnham stresses that in the South, female graduates were allowed to read their commencement speeches before an audience and were encouraged to show off their talents. In contrast, Northern women were expected above all to be modest and were strongly discouraged

from speaking in public (Farnham). Hurst, who was only in her teens when she began her electric girl demonstrations, seemed unusually comfortable before an audience. But at eighteen, after only a few years of performing, Hurst retired rather abruptly, married her manager Paul Atkinson, and was not heard from again until she published her autobiography in 1897. Once Hurst had retired, the media speculated as to why her career had ended so quickly. It was rumored that Hurst's "powers" as an electric or magnetic girl had dissipated. (Hurst's critics noted that she had never been one hundred percent successful in overpowering all of her "experimenters.") Moreover, Hurst was rumored to have (inevitably) worn out her allegedly freakish strength and to have a retired out of sheer embarrassment. And finally, many assumed that public exposure had been unhealthy for Hurst, and that she had sought a quiet domestic life—one more suited to a young lady.

The issue of women entering the late nineteenth-century public sphere was hotly contested. When it came to "the woman question,"[3] scientific findings seemed to give patriarchs "a decisive authority in matters social as well as strictly scientific" (Russett 63-69). Laws of nature alleging male superiority were considered to be objective truths, meaning that nineteenth-century science saw a "stress on differentiation and hierarchy;" and biologically predetermined attributes were thought to form character (Russett 146-50). More specifically, women were believed not only to have weak bodies, but also weak minds—the assumption being that the female body was so intent upon preparing itself for reproduction that it could have no energy left for the cultivation of intellect. Or, as Elaine Showalter puts it "medicine and science warned that...ambitions would lead to sickness, freakishness, sterility, and racial degeneration" (39). But *fin de siècle* constructions of the New Woman suggested that there was such a thing as women's physical strength, capability, and intelligence. The rise of the New Woman suggested that it was time to *be* strong rather than simply to *appear* strong, and—as Hallenbeck aptly notes—strength was often defined by adopting and transforming activities, interests, and behaviors that had previously been coded masculine. In her discussion of Burke's concept of "perspective by incongruity" Hallenbeck explains that "technofeminists" of the *fin de siècle* often "paired femininity with what audiences believed to be the most masculine of activities" (3491). To the nineteenth-century audience, "femininity" was not a monolithic concept, yet

3 In the late nineteenth century, social roles were changing for women as they pushed for civil rights and social equality. For patriarchal power-holders, engaging the "woman question" meant discussing women's rights and deciding how and when certain privileges of citizenship should (or shouldn't) be granted. (Parkman 16).

a focus on clothing, particularly skirts, dresses, and hats made specifically for cycling suggested that women were finding more convenient and flexible ways to be "feminine," while successfully engaging in "masculine" activities. Women engaged in strenuous activities such as cycling proved that gendered science could be challenged by providing conflicting physical evidence: With respect to the appearance of nineteenth-century women cyclists in the public sphere, Hallenbeck notes "the cumulative force of firsthand embodied performance and observations can serve as a powerful rhetorical resource for combating medically or scientifically authored cultural commonplaces" (445). Hallenbeck describes how women cyclists acted as role models for one another, undermining commonplaces about women's physical weakness and general ineptitude. Women cyclists provided evidence that countered prevailing cultural beliefs, suggesting that the "scientific truths" about women's bodies needed to be re-examined. Similarly, I assert that the images of the nineteenth-century magnetic or electric girls in pretty dresses flinging grown men to the ground must have offered a comparable rhetorical resource. Hence, with the rise of the electric girl, images of women exhibiting physical strength came alive in the public consciousness. For instance, images of Hurst as the Georgia Wonder circulated extensively through cities in which she performed, appearing in newspapers and on billboards. While seeing these images must have had an effect on the public, viewing the performance in a theater must have been more powerful still.[4]

Promotional images of electric girls reflect ways in which they challenged gendered nineteenth-century commonplaces. For example, in these images, the electric girl was depicted surrounded by men, but she was always the center of attention. Posters of both Annie Abbott and Mattie Lee Price produce a memorable effect by visually separating a vibrant electric girl from a group of drab-looking men. In a colorful poster print of Annie Abbott, Abbott wears a red dress, while the men around her appear in black, looking identical to

4 According to *New York Times* articles about Hurst's limited run at Wallack's Theater in 1884, her audience would have mostly been middle class or upwardly mobile Americans. Hurst herself suggests that her audiences were predominantly male and describes them as "a splendid class of gentleman," referring to herself as a mere "country lass" in comparison (82). The posters and billboards advertising her show would therefore most likely have been placed in areas where such men would have seen them—in the business and theater districts of the city. Further, Wallack's Theater was not known as a vaudeville venue, rather as a theater that produced dramas and comedies (Burnham 74).

one another. With a coquettish smile, Abbott reaches out to one of the men. Below her likeness, a caption reads: "Can you lift her? Twenty men a night try and fail." **[Fig.A]**. Similarly, in a promotional photograph of Mattie Lee Price, Price appears in a bright white dress—in sharp contrast to the shadowy men around her. Here, Price stands to the left of the frame, her hand touching the middle of a walking stick, while three men contort themselves in a collective attempt to hold the walking stick in place. The electric girl looks calm and relaxed, exerting almost no effort at all, the pallor of her hand set off by the dark suits of her experimenters. **[Fig. B].** As electric girls, these women's bodies were depicted as being sources of power, energy, and vitality. For instance, in separate pen and ink illustrations, Hurst and Price are both constructed not only as conduits, but as generators of electricity, their bodies pulsing with a seemingly uncontainable power **[Figs. C and D]**. Significantly, Mattie Lee Price occupies the entire frame of this illustration surrounded by what appears to be a force field of power, energy emerging from every part of her body. Sparks of "electricity" form an aureole around her head, and the ground beneath her feet appears to be breaking apart as a result of her power. Price wears a pale floor-length dress, and has a serene look on her face, staring off at something to the side of the frame. **[Fig. C].** In an illustration of Hurst, the electric girl occupies center-frame with what look like lightning bolts shooting from her hands. Hurst looks directly at the audience. The eye is drawn to her form as the "electricity" emerging from her hands seems to be moving the men around her up into the air, as if she were the center of the cosmos with the experimenters in orbit around her. **[Fig. D]**. Finally, and perhaps most significantly, these "electric girls" are represented not only as figures of strength and capability but also as being able to outperform and to physically overpower men. For instance, pen and ink illustrations of Annie Abbott **[Fig. E]** and Mattie Lee Price **[Fig. F]** both show multiple men piled uncomfortably upon a single chair that is easily lifted by the electric girl. For instance, Abbott stands to the right of the frame, her head the highest point in the image. On a single chair, her male experimenters face each other, one straddling the other, while a third man lies across their laps. Abbott gazes at them impassively, stooping slightly to lift the chair upon which they sit **[Fig. E]**. Price is only a small figure to the bottom right of the frame. She wears a pale dress and is lifting a chair. The chair, with the three men on it, occupies the center of the image, emphasizing the size and weight of the men in contrast to Price's petite frame **[Fig. F].** With the exception of this final image, which highlights the size of Price's hapless experimenters rather than Price herself, electric girls are depicted as being unusually visible both as individuals and as women. In these images, women command physical and metaphorical space, asserting their authority within the public sphere. In this sense, while these images reify the notion of the

supernatural feminine, they also counter prevailing cultural beliefs about the passivity and weakness of the female body

Part II: Exigency

Hurst's autobiography responded both to sexism and to what she saw as the dangerous popularity of Spiritualism. Her text promotes reason and scientific knowledge, warning that Spiritualism's discourses of the supernatural render the American public vulnerable to exploitation. The central tenets of Spiritualism—a New Religious Movement—maintained that the living could communicate with spirits of the dead and appeal to them for guidance. Expressing guilt over her former career as an electric girl (in which she ostensibly tricked her audience into believing she had supernatural powers), Hurst suggests that she has a moral obligation to promote scientific literacy in the face of Spiritualism's threat to empirical truth and rational thought. In this manner, Hurst uses Spiritualism as an exigency to reveal the "truth" behind her seemingly mystical manifestations.

Hurst demonstrates her knowledge of mechanical science in her autobiography in order to undermine Spiritualist ideology. Although she counted many Spiritualists among her friends, Hurst did not balk at publicly opining that she considered their beliefs about the spirit world to be backward and dangerous, referring to Spiritualists as being warm and generous although (sadly), "deluded" by their beliefs (Hurst 143).[5] But Hurst's relationship with Spiritualists was decidedly complicated because—in part—she owed her success to them. Hurst's act as an electric girl attracted numerous Spiritualists who believed that she was a psychic medium and that her powers of resistant strength were due to the assistance of the spirits. In deploying the exigency of disproving Spiritualist beliefs as a reason to write her autobiography, Hurst builds her ethos as a reasonable and truthful person. Significantly, in order to address her audience's potential resistance to a woman writing about science, she argues that she writes not for her own gain, but from a sense of social responsibility: "I greatly preferred the sweet, domestic calm, peace and solitude of my home life to any notoriety or emolument I might gain by the publication of this volume. But outside of and above all other considerations, I realized as I grew older that the consciousness of a duty faithfully performed is in itself the greatest reward" (262). Not only is Hurst aware that she is supposed to prefer the womanly sphere of the hearth; she also deploys a trope typical of female

5 Hurst does not explicitly name her Spiritualist friends, but in the preface to her autobiography, she dedicates the book in part "to my dear friends of beautiful Cedar Valley, all of whom were most steadfast and enthusiastic believers in the occult nature of 'the great unknown power'."

autobiographers at that time, that is, to claim that her autobiography was produced because of a sense of civic obligation—as a form of public service. Hurst strives to create the impression that, as she grows older, she realizes her social responsibility and recognizes the need to sacrifice her preference for "domestic calm" in favor of a higher calling that may mean the added burden of "notoriety."

But by publishing (as part of her autobiography) a didactic account of how an electric girl's illusions are accomplished, by emphasizing her text's scientific worth, and by declaring her own technological prowess, Hurst also reclaims rhetorical control over her narrative, relinquishing her faded reputation as a public figure and reinventing herself as a promoter of scientific literacy.[6] Believing that it is her duty to correct misinformation, Hurst apologizes to her readers for having helped—through her stage performances—to perpetuate a belief in Spiritualism, expressing guilt for having done so (109). Hurst insists that, as a general rule, she has always "viewed everything by nature's rules, which are never set aside by freak nor accident, and whose laws are never abrogated" (145). Because of this, Hurst repeatedly claims that superstition is an assault on rationality and that she must atone for prior deceptions by teaching people the "truth" about her manifestations of power. Thus, in her autobiography, Hurst promises to reveal exactly how—as an electric girl—she accomplished her feats of strength: "I will make an explanation of the 'MYSTERIOUS FORCE' which so astonished and mystified the entire public, and demonstrate the fact that I have at last succeeded in unraveling and solving the 'GREAT SECRET'" (1). Having made this pronouncement, Hurst eventually reveals that the 'great secret' is basic mechanical science and claims that now, having studied physics, she is in a position to offer a tutorial of how her illusions are accomplished. She therefore closes her autobiography by emulating a science textbook, complete with photographs, diagrams, and didactic descriptions.

6 The idea of Hurst reclaiming control over her own experience is especially meaningful when considering that she may have done so in response to her debunkers. In penning her own account of how her illusions were created, she was able to wrest narrative authority from scientists like Dr. Nelson W. Perry, whose article "An Expose of the Electric Girl" appeared in the December edition of *The Telegraphic Journal and Electrical Review*. In this article, Perry explains how a so-called "electric girl" such as Lulu Hurst (who is mentioned by name) deployed the basic principles of leverage to use her experimenters' weight and strength to her advantage as she moved them (695).

Part II is dedicated to "Explanation and Demonstration." In the first chapter of this section, Hurst begins by disclosing that "part of the explanation was to found in an *undiscovered or unrecognized principle of leverage applied in the* DEFLECTION OF FORCES" (206). As Hurst crafts this didactic portion of her text, she makes frequent use of capital letters and italics to set off key information. In order to explain how leverage, resistance, and deflection work, Hurst labels the first photograph of herself and a man with a billiard cue. The cue and the experimenters on either side of it are marked with different letters in order to facilitate Hurst's explanation of what happens when pressure is exerted on (or released from) different points on the cue.

> I hold the cue *B A* out in front of my chest, grasping it at *D* and *C*, with the elbows bent at almost right angles, the experimenter taking the position as shown in the cut. I request them to push as hard as they please directly against me, as shown by the line *E F,* and not upward toward my head, and to push steadily. Now you will observe their lines of force begins at their feet, as a base, continues through the muscular system of the body and passes along the arms and hands to the billiard cue. They necessarily strain and bend forward their bodies, as shown in the cut, in their efforts to push me, and this position naturally prevents their force from being exerted toward my head in the direction of the line *G H,* but tends rather to carry it horizontally toward my chest, and rather in a downward direction than upward…I exert only enough resisting force to hold the billiard cue up and in place and keep it from being pressed downward by the reclining weight and somewhat downward pressure of my opponent in the test….With the parties in the position shows in figure 1, no amount of pressure could push me off one foot. (214)

Hurst labels all of the photographs (which she refers to as "cuts") in this manner, using letters of the alphabet to explain where and how pressure is being exerted. She describes each image in detail, focusing on how a particular feat—a man struggling to throw her off balance, or move a stick or an umbrella—is achieved. Essentially, she is asking her audience to imagine—as if they were watching a motion picture—to visualize a sequence of steps and their accompanying mechanics. The language that Hurst uses is purely didactic—she does not refer to herself as an electric girl in these descriptions, making it clear that this is a role she is no longer identified with. Significantly, the language that Hurst uses here is quite different from the language that Dr. Nelson W. Perry uses to debunk Hurst in his 1891 article in the *Telegraphic Journal and Electrical Review*. Below, Perry describes the same experiment that Hurst describes above. Along with this description, Perry includes a pen and

ink illustration showing a very small woman facing two men, a billiard cue between them:

> [...] the subject is enjoined to hold the stick perfectly rigid. The girl, on account of the immense leverage she has, with but very slight pressure on the ends of the stick can move not only the stick but the arms and body of the subject. This she does slightly at first, increasing her efforts gradually. These are opposed with increasing force until she thinks he is exerting himself sufficiently, when she suddenly either relaxes her efforts entirely or exerts them in another direction. Totally unprepared for this change of base the victim is thrown off his balance and is then at her mercy (695).

While both descriptions discuss the concept of leverage, Hurst's description is more detailed, providing an account of how resistant force works in this scenario. She invites the audience to understand the experiment not only scientifically but from her point of view—from the perspective of the person who is in control of it. On the other hand, Perry's description appears to anticipate hapless male "experimenters" as an audience, and hence attempts to help them to avoid becoming "victims" should they decide to confront an electric girl onstage. Perry warns experimenters that by taking up certain positions in relation to the electric girl they are "unconsciously assisting" her and that they are succumbing to her "trickery" (695). In this sense, the small innocent-looking electric girl in Perry's illustrations is cast as being a wolf in sheep's clothing, whereas, in Hurst's "cuts" or photographs, Hurst and her male "experimenter" are cast as collaborators in the production of knowledge—with Hurst playing the role of a dedicated instructor of science. Apparently, Hurst hoped that such schooling would turn Americans who had fallen prey to New Religious Movements into more reasonable, and therefore (by implication) "better" people. Hence, Hurst's autobiography becomes part of a moral reform effort.

Hurst links discourses of science and truth to discourses of moral reform by repeatedly referring to her beliefs about what is "right": namely, the importance of empirical science in determining a universal and objective truth (216). As a pastor's daughter, and as a proponent of empirical knowledge and scientific literacy, Hurst seems also to associate reason with virtue. Hurst's rhetoric when she discusses the relationship between reason and superstition is similar to, and perhaps influenced by, that of nineteenth-century moral reform movements such as the Women's Christian Temperance Union (WCTU). Specifically, while the WCTU argued that women were morally superior to men and could therefore temper an assumed male penchant for alcohol and violence, Hurst argues that science and rationality is morally superior to superstition and must be used to curb unruly discourses of the supernatural. But,

although Hurst's linkage of morality to scientific literacy reflected some social purity arguments (such as those used by some members of the WCTU), they were different in that social purity rhetoric relied on gender essentialism—that is, moral reformers argued that, because of their biological makeup—women were inherently morally superior to men.[7] In contrast, Hurst's moral pursuit of scientific truth pushes back against essentialist arguments. While temperance rhetoric tended to assert that women had a natural "ability to stand above politics as extraworldly angels" (Hoganson 129), Hurst insists that women are not "other" or "extraworldly." By pulling electric and magnetic girls out of the realm of fantasy, Hurst symbolically reclaims women's participation in the public sphere. Women were not to "stand above" or "other" from men—they were to educate themselves so that they could be equal rather than essentialized.

Hurst's preoccupation with scientific literacy is especially significant within the context of the nineteenth century when literacy (of all kinds) was, as Deborah Brandt describes, "a moral imperative" (485). That is, according to Brandt, in the nineteenth century, literacy was directly tied to the notion of being a "good person." To be "better," one had to be more literate. Thus, by promoting scientific literacy in her autobiography, Hurst believes herself to be promoting morality and the pursuit of "truth." She declares that "every real, true fact" must be explained by Nature's "external laws of cause and effect" and "that anything which contradicts these laws is a snare and a delusion, and is neither a truth nor a fact, and…in every department of thought and knowledge these eternal laws of Nature and Reason are and must be supreme and immutable! He Who engraves this supreme law on the tablets of his mind can never be a slave to superstition or a dupe to any form of delusion" (216). Hurst's dogmatic language suggests that as "the supreme law" science is godly and that only science can reveal the absolute truth. Similarly, in his work on

7 Despite leaning toward gender essentialism, moral reformers such as Francis Willard, founder of the WCTU, also championed women's education—particularly in the sciences. To Willard, reason and knowledge-building are linked to virtue. For instance, Willard writes: "Innocence may be founded on ignorance, but virtue is ever more based upon knowledge. In the presence of temptation, one is a rope of sand, the other a keen Damascus blade" (326). Willard goes on to explicitly connect Christianity with "knowledge" and "virtue," asserting that Christianity is responsible for "individualizing woman, uplifting her to higher levels of education and hence of power" (327). Thus, science becomes "Christianity's handmaid" (336). The universal truths discovered through empirical science are nothing less than sacred—and are accessible primarily to the literate.

ethical ideals of science, Randall Collins explores what "truth" means to scientific idealists. Collins describes truth as "a Durkheimian sacred object" in that

> it refers to a transcendental world in the same way that the sacred sphere of its totems and gods rises beyond the mundane life of a tribe. To be more precise, Truth is most similar to the sacred object of a monotheistic religion. Scientific Truth has no other gods before it…Like Durkheimian religious symbols, scientific truth arises from a social community and symbolizes membership in it. One recognizes a scientist first of all as someone who participates actively in this Cult of Truth. (303)

Here, Collins compares scientific idealism to a kind of religion, a sacred discourse analogous to a god. To scientific idealists, truth, or more specifically, "Truth" arrived at via the scientific method, is reason's guiding principle. Much of Hurst's language, in particular the "god terms" she uses to describe scientific truth, is comparable to what Collins describes as the discourse of "scientific idealists." Hurst speaks frequently of being a "seeker after truth," a term that is often used in reference to a spiritual quest. And when Hurst refers to "the supreme law" committed indelibly upon the "tablets of…[the] mind," she invokes the tablets upon which Moses engraved the Ten Commandments. To Hurst, scientific truth is no less than the word of god.

The battle between superstition and science was in full force at the *fin de siècle*. Discourses of the supernatural were feminized (Spiritualism was often associated with women because the majority of mediums were women), while empirical science and discourses of reason were masculinized. Like Hallenbeck's nineteenth-century woman cyclists, Hurst's autobiography challenged gendered scientific discourse in that she (a woman) explained mechanics to her audience and depicted herself performing and teaching its principles. Drawing on her knowledge of mechanics, Hurst confirms in her autobiography that the supernormal "strength" exhibited by the electric or magnetic girl is not otherworldly in origin—rather, it is merely a stage illusion. In demystifying and demythologizing the figure of the electric girl, Hurst points out that women are no more capable of superhuman strength than men, but by the same token, she challenges beliefs that women are unable to "do" science or work with the kinds of complex mechanical principles typically associated with male stage magicians. Hence, Hurst's autobiography destabilizes longstanding convictions about women's physical and intellectual limitations by re-entering the public sphere to challenge cultural commonplaces about women's "natural" abilities and proclivities. As an electric girl Hurst had challenged preconceived notions about women's potential for physical strength and how such strength

could or should be used—however, as an autobiographer, Hurst challenges preconceived notions about women's intellectual capacity.

Part III: A Scientific Explanation

In her autobiography, Hurst demonstrated the principles of science with as much alacrity as she had once performed her role as electric girl, providing images and information about how she achieved her illusions of strength. Further, she undermined gendered commonplaces by "teaching" masculinist discourses of science and by moving into a dominant, active "instructor" role. In this manner, Hurst was able to correct unsubstantiated information disseminated to the public and to relieve herself of the guilt she felt as a result of having once taken advantage of people's credulity.

The first half of Hurst's autobiography appeals to those intrigued by her occult persona, and the second half debunks occult beliefs in order to deliver a lesson about science. The narrative arc of Hurst's autobiography therefore moves from the mystical to the rational, from superstition to enlightenment, and from the occult to the transparent. In keeping with its ostensibly supernatural subject matter, the cover page of Hurst's text bears an illustration of a young woman with lightning bolts shooting from her hands, wreaking havoc upon a stage full of men **[Fig. D]**. Here, one frightened looking gentleman hovers in a chair several feet off the ground, and another is trapped between what look like dueling billiard cues. Two men hang for dear life onto a chair carrying them toward the ceiling, two struggle with inside-out umbrellas, and two more assume undignified poses on the floor; one lies flat on his face, while another has evidently just endured a painful pratfall. The scene evokes both the sublime and the ridiculous, whetting the reader's appetite to learn more about Hurst's "Marvelous Power." Thus, it is the Spiritualist insistence on the presence of mysticism that initially draws the reader in.

The opening chapters of Hurst's autobiography describe peculiar phenomena at her childhood home: hickory nuts from the tree outside raining into rooms through closed windows, pebbles falling from the ceiling, and her aunt's undergarments strewn around the house. But later, toward the end of the autobiography, Hurst offers a confession; the "phenomena" supposedly sparked by her extraordinary powers had all been her own childish pranks:

> I mischievously adopted other methods to deepen the mystery and carry on my childish fun. It is simply astonishing to me now how slyly and dexterously I carried it out. I slyly took garments out of my cousin's trunk, and placed them in other rooms, hanging them on pictures, cornices, etc. Sometimes I would secrete these garments about my person, and then when we were all sitting in a room would

> dexterously flirt them across the room on to a picture or chair. My quick movements being unseen by the family, they would be completely mystified by these occurrences. In the same way I tossed pebbles and pieces of sulphur and glass etc. about the house. No one ever suspected me for a moment...In the same sly way, and with the same mischievous motive in view, I tossed hickory nuts about the house and through the rooms—doing this often while the windows were closed, so that these nuts could not be thought to have bounced in through the open windows in falling from the 'Electrical Hickory Nut Tree' as the hickory tree had gotten to be called. (253)

Hurst explains how she orchestrated each of the mysterious events that were rumored to have occurred at her childhood home. The repetition of the word "dexterous" evokes comparisons with male stage magicians who were admired for their cleverness and manual dexterity. Hurst also attempts to frame her actions as being mischievous—attributing her misbehavior to that of a playful child rather than a duplicitous woman. As for Hurst's public performances as an electric girl, she confirms that there was no ethereal "electricity" involved, only the mundane machinations of stagecraft: the use of simple physics. Here, Hurst makes a rhetorical shift by attributing her abilities to mechanical engineering, which was at that time considered to be among the most rational and "masculine" branches of science (Namenwirth 19; Keller 78). The effect of this—a description of the strange phenomena followed by a confession—seems intended to support Hurst's own claims to veracity when she discusses the science behind her performances as the "Georgia Wonder." Hurst's movement from supporting rumors of otherworldly powers to promoting the laws of hard science thus marks a sharp break with the past—a journey from falsehood to fact.

In her scholarship on women's autobiography, Leigh Gilmore defines confession as a "discursive practice that both produces and polices 'truth,' 'gender,' and 'identity'"(14). That is, female narrators were considered to be untrustworthy and thus often needed to be endorsed by a male authority figure. But a woman could build her authorial ethos in other ways—for instance,

if she "confessed" to times at which she had resorted to telling falsehoods.[8] Coming clean about her childish pranks indicates Hurst's ability to self-police with regard to truth claims. The revelation of truth—that is, Hurst's confession—is deferred until the final section of her autobiography, perhaps to ensure that readers finish the book with a clear sense of what is sanctioned "truth" and what is not. In addition, Hurst's deferral of information prompts readers to recognize their own credulity (and thus, complicity) in believing the tale recounted at the beginning of the autobiography, their susceptibility to accepting an unexamined "truth." In her discussion of the "relationship between truth-telling and agency," Gilmore notes that "authority in autobiography springs from its proximity to the truth claim of the confession—a discourse that insists on the possibility of telling the whole truth while paradoxically frustrating that goal through the structural demands placed on how one confesses" (107). In other words, the more truthful an autobiographer is believed to be, the more authority she is able to claim, which paradoxically allows her to bend the truth. The confession therefore becomes a rhetorical trope by which an author attempts to convince readers of a commitment to a fixed truth by disclosing potentially embarrassing information—perhaps to avoid disclosing *even more* embarrassing information. And, as Gilmore points out, this confession can arouse suspicion in that the disclosure of one truth may serve to obscure others, due to the "structural demands" of the confession itself—that is, the construction of oneself as a reliable narrator—precisely because one has strategically chosen to admit to unreliability. Further, "structural demands" of the confession reinforce the authority of the writer over the reader, in that the writer is able to make choices about which information to disseminate at certain points in the narrative for maximum effect.

8 According to Sidonie Smith and Julia Watson, the "confession" as a literary genre emerged in the fourth century with St. Augustine's *Confessions*—a genre characterized by a "double address…directed to God and the human reader who needs a narrative explanation of sinfulness and redemption" (104). The purpose of confession is absolution and personal transformation, usually through a higher power. Smith and Watson write "Confessional life narrative may be a record of some kind of error transformed; it may also be the narrator's attempt to reaffirm communal values or justify their absence" (78). In this case, Hurst is attempting to point out the dangers of Spiritualism, and the importance of science literacy, suggesting that she feels compelled to "confess" for the greater good. But Hurst's confession is not just about absolution, or atoning for her prior work as an "electric girl." It is also a form of self-justification—explaining that the adults around her encouraged her performance.

Gilmore's claim regarding the female autobiographer's bid for truthiness, her quest to be perceived as reliable by offering "confessions," addresses a gendered assumption that women are inherently duplicitous. By structuring her autobiography as a confessional, and by exhibiting—and then correcting—a falsehood (after which she reveals still more truth), Hurst partially reifies nineteenth-century assumptions of feminine duplicity. However, Hurst also uses her autobiography to challenge gendered assumptions by going beyond simply "confessing" to her prior falsehoods and proclaiming her commitment to truth: specifically, Hurst lays bare the inner machinations of how she achieved her stage illusions. By explaining how such illusions were accomplished, Hurst more than atones for her prior infractions. In essence, she earns back her ethos as a truth-teller by debunking her own alleged production of otherworldly phenomena. Finally, Hurst's confession demonstrates that she has reclaimed control over her own narrative. She uses the confession to wrest the agency of determining the "truth" from her audience and claims it for herself. In doing so, she illuminates a moral journey—a process by which she corrects misinformation and chooses fact over falsehood.

To further dramatize the move from falsehood to fact, images included in Hurst's autobiography corroborate her narrative in that they begin with sensationalized illustrations—such as Hurst shooting lightning bolts from her hands **[Fig. D]**—and end with sedate photographs of the author performing the techniques that allow her to create her illusions of strength **[Fig. G and Fig. H]**. The photographs are a form of bona fides—at that time, the photograph was believed to be a near-transparent reflection of reality (Corbey). Similarly, during that period, technical writing was widely believed to be transparent. Hallenbeck speaks of "the false notion that writing—whether technical, personal, fictional, or otherwise—is *peripheral to*, rather than *constitutive of*, a technical object itself and is thus not a transparently or neutrally written directive, but a rhetorically crafted, ideologically significant mediator of material realities" (174). Acknowledging that technical writings are not transparent helps us to reinterpret them—to understand how they can become sites "for reproducing, transforming, and challenging dominant values and power relations of the contexts from which it emerges" (Hallenbeck 313). Hence, Hurst's tutorial, along with her photographs, becomes a site for "challenging dominant values" in that the sepia photographs of a staid Victorian-era couple **[Fig. G and Fig. H]** posing with billiard cues and walking sticks depict and reflect a knowledge of physical and mechanical science but also "transform and challenge" the status quo in that the woman will ultimately deploy her scientific prowess to overpower the man.

These two photographs contrast strongly with earlier images of Hurst—particularly with the iconic illustration in which Hurst appears to be

using a supernatural power to throw men up into the air **[Fig. D]**. The photographs evoke seriousness, and a sense of reverence for the scientific method, whereas the illustration of Hurst as an electric girl **[Fig. D]** evokes the sensational. In this illustration, Hurst boldly faces audience members as if she is challenging them, whereas in Hurst's photographs **[Fig. G and Fig. H]** she does not face the audience. Instead, Hurst keeps her gaze fixed on the implements she is using to demonstrate how she will conduct her illusions. She portrays herself as a scientific expert, dressed in a demure but fashionable women's suit. She appears somber and professional, conveying her rejection of heavily feminized discourses of superstition and mystification and confirming her commitment to positivism and objectivity. As the instruction of mechanical science is considered to be a "masculine" activity, Hurst ensures that her pictures will project a certain gravitas, even as she poses daintily with a billiard cue. Further, the careful placement of her arms, hands, and feet are exaggerated to help demonstrate the importance of positioning in order to gain leverage over her opponent. The precision in these photographs of Hurst, a sensible woman on equal footing with a man—her ostensive "experimenter"—provides a dramatic contrast to the chaotic scene depicted in the electric girl illustration **[Fig. D]**. Finally, while in the electric girl illustration men are seen to be humiliated and defeated, Hurst's male opponent in the photographs joins her in teaching viewers how to accomplish stage illusions. The man is also an instructor, one who demonstrates that a man who understands Hurst's science need not end up humiliated.

Conclusion

Hurst's leveraging of power by intellectual means draws on nineteenth-century discourses regarding viable ways to achieve gender equality. That is, the intellect was considered to be a viable way to leave essentialist arguments about gender roles behind. However, feminist scholars such as Elizabeth Grosz have long argued that this assumption is a double-edged sword because it suggests that women must transcend their bodies in order to be taken seriously—that they are considered successful *in spite of* their bodies. While electric girls attempted to transcend the female body's perceived limitations through their apparently supernormal powers, Hallenbeck illustrates how women achieved such transcendence by learning how to ride bicycles. Significantly, these women succeeded in the world of bicycling not through mystical means, but in the same way that men did: through perseverance, practice, and hard work.

However, Hurst's story of her involvement in the physical sciences is told not (as Hallenbeck describes) to provide evidence of female strength and endurance. Instead, Hurst uses physics and the genre of the textbook

(positioning herself as a scientific authority) to explain how she *appeared* to her audience to have had supernormal strength. Thus, while Hallenbeck's cyclists were able to defy sexist medical science and to blur gender boundaries by exhibiting *genuine* physical strength, electric girls could only provide an *impression* of strength. Nonetheless, Hurst's rhetorical activity brings legitimacy to the notion of her work as an electric girl as having been a feminist intervention. Although Hurst does not possess Herculean strength, she deploys the scientific method, meaning that her "strength" is not entirely illusory: if a woman knows the right science, she can overpower a man metaphorically, and perhaps literally. Hence, Hurst implies that knowing the technology means that the ostensive manifestation of "electric" or "magnetic" strength is not necessarily a hoax because technological skill requires a kind of strength in its own right. Technological skill means intellectual strength. This skill, coupled with Hurst's claim to have studied physics, is designed to earn her an ethos above and beyond that of a mere stage performer. However, the significance of Hurst's work extends beyond her contribution to the collected rhetorical activities of nineteenth-century technofeminists and reflects broader cultural efforts to distinguish between science and the supernatural and to strengthen the relationship between morality and empirical "truth."

Acknowledgements

The author would like to extend a special thanks to Wendy Sharer for her generosity and insight.

Appendix

Fig. A

Fig. B

Fig. C

Fig. D

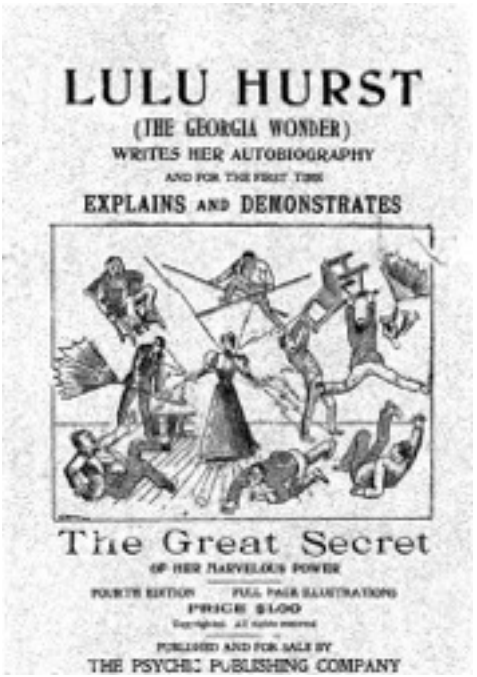
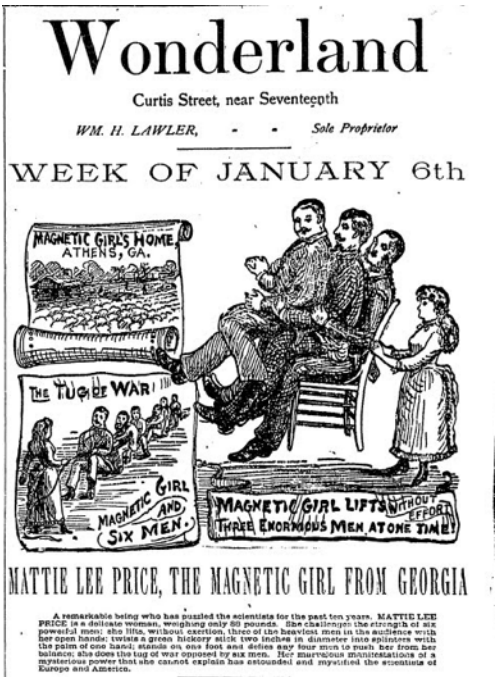


Fig. E

Maskelyne's illustration of
Annie Abbott's chair lift,
as discussed in Hugh and Susan Harrington's
Linking Ring article

Fig. F



Wonderland

Curtis Street, near Seventeenth

WM. H. LAWLER, - - Sole Proprietor

WEEK OF JANUARY 6th

MAGNETIC GIRL'S HOME, ATHENS, GA.

THE TUGGEE WAR!!!

MAGNETIC GIRL AND SIX MEN.

MAGNETIC GIRL LIFTS WITHOUT EFFORT THREE ENORMOUS MEN AT ONE TIME!

MATTIE LEE PRICE, THE MAGNETIC GIRL FROM GEORGIA

A remarkable being who has puzzled the scientists for the past ten years. MATTIE LEE PRICE is a delicate woman, weighing only 88 pounds. She challenges the strength of six powerful men; she lifts, without exertion, three of the heaviest men in the audience with her open hands; twists a green hickory stick two inches in diameter into splinters with the palm of one hand; stands on one foot and defies any four men to push her from her balance; she does the tug of war opposed by six men. Her marvelous manifestations of a mysterious power that she cannot explain has astounded and mystified the scientists of Europe and America.

Fig. G

Fig. H

Works Cited

"Amusements: General Mention." *New York Times* [New York] 5 July 1884. *Proquest Historical Newspapers*. Web. 1 July 2011.

"An Audience at Wallack's Watching Her Performance." *New York Times* [New York] 8 July 1884. *Proquest Historical Newspapers*. Web. 1 July 2011.

Brandt, Deborah "Drafting U.S. Literacy." *College English* 66.5 (2004): JSTOR.

Retrieved December 2016.

Burnham, Charles. "The Passing of Wallack's" *The Theatre* 21:168 (1915): JSTOR.

Retrieved January 2018

"Children in Her Hands: Twenty Club Athletes Retire Discomfited." *New York Times* [New York] 10 July 1884. *Proquest Historical Newspapers*. Web. 1 July 2011.

Collins, Randall "Ethical Controversies of Science and Society: A Relation Between Two Spheres of Social Conflict" *Controversial Science: From Content to Contention* Eds. Thomas Brante, Steve Fuller, William Lynch. Albany: SUNY Press. 1993.

Farnham, Christie Ann. *The Education of the Southern Belle: Higher Education and Student Socialization in the Antebellum South.* New York: NYU Press, 1994. AZW file

"Georgia Girl Who is to Mystify New Yorkers Next Week." *New York Times* [New York] 19 July 1884. *Proquest Historical Newspapers*. Web. 1 July 2011.

"Georgia Wonder." *New York Times* [New York] 18 July 1884. *Proquest Historical Newspapers*. Web. 1 July 2011.

Gilmore, Leigh. *Autobiographics: A Feminist Theory of Women's Self-Representation*. Ithaca: Cornell University Press, 1994. Print.

Grosz, Elizabeth. *Volatile Bodies: Toward a Corporeal Feminism*. Bloomington: Indiana University Press, 1994.

Hallenbeck, Sarah *Women, Rhetoric, and Technology in Nineteenth-Century America (Studies in Rhetorics and Feminisms*) Carbondale: Southern Illinois University Press: December 21, 2015

Harrington, Susan J. and Hugh T. *Annie Abbott: "The Little Georgia Magnet" and the True Story of Dixie Haygood.* Hugh T. Harrington and Susan J. Harrington Press, 2010.

Hurst, Lulu. *Lulu Hurst: the Georgia Wonder*. Rome, GA: Psychic Pub., 1897. Print.

Keller, Evelyn Fox. *Reflections on Gender and Science*. New Haven: Yale University Press, 1985. Print.

"Ladies Day With Lulu: The Georgia Girl Exhibits Herself to an Audience of Ladies." *New York Times* [New York] 17 July 1884. *Proquest Historical Newspapers*. Web. 1 July 2011.

"Lulu Hurst's Many Dresses: The Close of Her Exhibitions at Wallack's Theater." *New York Times* [New York] 20 July 1884. *Proquest Historical Newspapers*. Web. 1 July 2011.

"More Queer Women in Georgia" From the Atlanta Ga. Constitution. *New York Times* [New York] 11 July 1884. *Proquest Historical Newspapers*. Web. 1 July 2011.

"Muscle of Lulu Hurst Her Mysterious Force: How the Georgia Wonder Has Been Fooling the Public and Breaking Umbrellas Regardless of Expense."

New York Times [New York] 12 July 1884. *Proquest Historical Newspapers*. Web. 1 July 2011.

Namenwirth, Marion. "Science Seen Through a Feminist Prism" Ed. R. Bleier. *Feminist Approaches to Sciences*. New York: Pergamom Press 1986.

Parkman, Francis "The Woman Question Again" *The North American Review* 130: 278 (1880): JSTOR. Retrieved January 2018

"People Moved at Will: Lulu Hurst Exhibits Her Strange Power." *New York Times* [New York] 6 July 1884. *Proquest Historical Newspapers*. Web. 1 July 2011.

Perry, Dr. Nelson W. "An Expose of the Electric Girl" *The Telegraphic Journal and Electrical Review*. Dec 18, 1891, 69

"Phenomenon No Longer: The Muscle of Lulu Hurst Her Mysterious Force." *New York Times* [New York] 12 July 1884. *Proquest Historical Newspapers*. Web. 1 July 2011.

Russett, Cynthia. *Sexual Science: The Victorian Construction of Womanhood*. Cambridge: Harvard UP, 1991. AZW file.

Showalter, Elaine. *Sexual Anarchy: Gender and Culture at the Fin de Siecle*. New York: Virago, 1992. Print.

Smith, Sidonie and Julia Watson. *Reading Autobiography: A Guide for Interpreting Life Narratives, Second Edition* Minneapolis and Chicago: University of Minnesota Press; 2nd edition, 2010.

Willard, Francis. "A White Life for Two" 1890. *Man Cannot Speak for Her. Vol II: Key Texts of the Early Feminists* Ed. Karlyn Kohrs Campbell. Westport, CT and London: Praeger, 1989.

About the Author

Elizabeth Lowry *is a Senior Lecturer at Arizona State University. Her research interests include public spheres, material culture, and gender studies. She is the author of Invisible Hosts: Performing the Nineteenth-Century Medium's Autobiography (SUNY 2017) The Seybert Report: Rhetoric, Rationale, and the Problem of Psi Research (Palgrave, 2017) , and Indigenous Rhetoric and Survival in the Nineteenth Century: A Yurok Woman Speaks Out (Palgrave, 2018)*

.