THE "ELECTRIC EVE":
GALVANIZING WOMEN IN NINETEENTH- AND
TWENTIETH-CENTURY ART AND TECHNOLOGY

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During the nineteenth century, a remarkable series of electric inventions generated a heightened sense of expectation and wonder. Particularly important to many was the human impact of these electrical inventions, as the telephone and telegraph radically expanded communication and the incandescent light helped enhance human vision. Electricity was also used for reproductions and facsimiles of the human body, the telephone and electrically powered gramophone transmitting the human voice and, by the end of the century, early experiments in motion pictures creating facsimile images of moving bodies.

In his article "Electricity Man's Slave," published in the New York Tribune and reprinted in Electrical World in 1885, Thomas Edison used the body as metaphor to proclaim the wonders of electricity: of the many factors which had "stimulated the forces of progress during the last half of the century," he wrote, "none has played a part so radical and essential as electricity," adding that there was "hardly a single nerve or fibre of that complex body we call society, that has not thrilled and vibrated with its influence."
Electricity was also associated with the beautification of women's bodies and decorative electric jewels. One of the fashion fads of the late 1870s and 1880s was battery-powered “flash jewelry” for women, first made popular in France and England. *Scientific American* in 1879 illustrated three French examples that used small batteries: a hat ornament designed as a diamond-studded bird that moved its wings, a scarf pin in the shape of a golden rabbit holding a tiny mallet in each paw which beat a small gong, and a scarf pin in the shape of a skull with diamond eyes and an articulated jaw (the skull reportedly rolled its eyes and gnashed its teeth.) See Figure 1.

Women also wore imitation gemstone jewelry that used tiny electric lights to shine through colored glass to create the effect of sparkling expensive jewels worn in diadems or on brooches upon their shoulders. The lights were powered by tiny two-to-four-volt batteries worn hidden in women's dresses, the switch often carried in their pockets. As the *Electrical World* noted in 1883, by wearing the electric jewelry, “a dashing *demi-mondaine* can thus make a penny worth of glass eclipse a duchess' diamonds or rubies.” The facsimile jewels, it added, were also becoming popular with women higher in the social scale.

Three important themes emerge from these examples: the idea of electricity as “man's slave,” as Edison put it, the use of electricity to produce attractive-looking women, and the use of electricity to produce facsimile copies, to create the illusion of the “real thing.” These three themes were also embodied in late
nineteenth- and early twentieth-century cultural images of an “Electric Eve”: women as goddesses of electricity, and female androids created through electricity. The Electric Eve appeared in various guises: Mrs. Cornelius Vanderbilt photographed in her masquerade-ball dress as “The Electric Light” (1883); the Goddess of Electricity in advertisements for electric companies; and the female android Hadaly, so named by a fictional Thomas Edison in Villiers de l’Isle-Adam’s novel L’Eve future (Tomorrow’s Eve) first published in France in 1885. The Electric Eve also appeared as the diabolical android copy of the virginal Mary in Fritz Lang’s silent film Metropolis in 1926 (its script written by his wife Thea Harbou), and in popular early twentieth-century sheet music illustrations of “The Electric Girl” (see Figures 2 and 3).

These images of the Electric Eve reflected the allure of electrical inventions in the nineteenth century. They also represented another central nineteenth-century technological preoccupation: that of creating credible reproductions and imitations of costly, handcrafted original art works using the latest industrial materials and technologies. Beginning as early as 1838-1840, for example, sculptures of the human figure were reproduced using the new technologies of electrotyping and electroplating. The Electric Eve also represented a reflection and recasting of gender stereotypes: the ambivalent and ambiguous constructions of female identity portraying women as saintly virgin and diabolical femme fatale.

Villiers’ Tomorrow’s Eve joins these two themes. During the period 1877-1879, when Villiers’ novel Tomorrow’s Eve was written, Thomas Edison had developed the phonograph and was working on his incandescent lamp at Menlo Park. Edison, appearing as a central figure in the novel, seems to speak for Villiers himself. Tomorrow’s Eve centers on Edison’s use of electricity to create and activate a female named Hadaly, whose name, we are told, is the Iranian word for “perfection.” Hadaly is an exact copy of Alicia Cary, the mistress of Edison’s visiting British friend Lord Ewald. Lord Ewald is tormented by Alicia, whom he finds a beautiful goddess with a mundane mind. His all-too-human lover is a twenty-year-old actress-singer, an “almost superhuman beauty,” who is compared to “Venus Victorious,” the Venus de Milo in the Louvre. But in spite of her classic features, Alicia is also a woman whose every word is a mediocrity, who possesses a “vulgarity of mind.” She is even likened to a machine in the “mechanical fidelity” of her singing. Lord Ewald, filled with passion, finds himself both attracted and repelled by her, driving him to contemplate suicide.

To help his friend, Edison offers the possibility of creating a female automaton which will be Alicia’s exact copy, but with none of her mediocrity of mind. She will have Alicia’s same features, hair, even body perfume and will be created through a rather mysterious photosculpting process and activated through electricity. Electricity, “this vital, surprising agent,” will give the automaton “all the soft and melting qualities, all the illusion of life.” Most
Figure 2. Mrs. Cornelius Vanderbilt as "The Electric Light" at the Vanderbilt Ball, March 26, 1883. Photograph by Mora. Courtesy of the New-York Historical Society, New York City.
tellingly, Hadaly will not only be an exact facsimile but a technologically created reproduction that surpasses the original. Says Edison, “This copy, let’s say, of Nature … will bury the original without itself ceasing to appear alive and young.”

“Oh,” he insists, “it’s better than real!”

Lord Ewald is enthralled by Hadaly, whom he mistakes for the actual Alicia, and takes her, encased in a coffin, on a steamship voyage home to England. But, as Edison learns by telegram at the end of the novel, the steamship The Wonderful suffers an explosion produced by turpentine and gasoline. Hadaly is destroyed in the ensuing flames, and Lord Ewald kills himself in despair.
The story of Edison and his Electric Eve is, in one sense, a revealing mirror of the nineteenth century's absorption with new technologies and electricity. The Edison of the novel is a to a certain extent a stereotypic mad scientist intent on making scientific discoveries and not always mindful of the consequences. In developing methods to avoid railroad collisions, for example, the fictional Edison arranged to have two trains go at each other full force. The first experiment failed, however, and many people were killed.

But in his experiment to create the electric android Hadaly, Edison has a vision of both hopefulness and foreboding. He optimistically envisions the advantages of mass-producing female androids: not only will he provide life-giving solace to Lord Ewald, but he will also provide men everywhere with a beneficial alternative to what he considers the destructive influence of marriage-breaking mistresses. In making the android, however, Edison also has a premonition of a tragic outcome for his new technology.

The duality of vision—the hopes and fears—embedded in Edison's facsimile woman was an extension of larger currents of ambivalence associated with nineteenth-century electrical inventions. Contributors to nineteenth-century journals wrote optimistically, but also ominously, about the benefits and dangers of electricity. Although Edison's experiments heightened expectations for a new world illuminated by electric lamps, nineteenth-century engineering journals also warned of electrocution, and Edison himself was later engaged in the debate surrounding the use of electricity for the electric chair.

The creation of Hadaly in Villiers' novel is presented in pseudoscientific jargon. Edison announces he will use "electromagnetic power and Radiant Matter" to create her and that she will be covered with artificial flesh woven with induction wires. Though she will look convincingly life-like, she is very much an artificial being: her interior is made of metal armor and she gives forth puffs of smoke. Alicia's facial expressions and physical gestures are recorded in a pattern on the android's central cylinder. Hadaly even seems to breathe, for she takes in air and her breath is warmed by electricity. Hadaly's words are recorded on two golden phonographic disks set in motion by electricity and containing seven hours of language taken from famous writers and recorded by performing artists. (Edison himself invented a phonographic doll which he marketed in the 1890s, described in Scientific American as containing embedded phonograph records with the voices of girls singing songs such as "Mary Had a Little Lamb" [see Fig. 4]).

Hadaly as android is not only a product of nineteenth-century fantasies about technology, but also an extension of the eighteenth-century's love of mechanically driven toy automatons and the Cartesian and French philosophes' fascination with the human body as machine. Particularly fascinating to European audiences in 1873 was a mechanical female musician, created by the Swiss craftsmen Pierre and Henri-Louis Jacquet-Droz, which played the organ, rolled her eyes, and raised and lowered her chest as she breathed.
But in *L’Eve future*, Edison mocks early automatons as “monsters” which are obviously artificial with jerky movements. He notes that in his era, “the techniques of reproduction ... have been rendered more precise and perfect.” His electrically wired Hadaly is superior, for she moves without jerkiness and will appear completely natural and life-like, an exact simulacrum of a human being, a double of Alicia. Edison’s insistence of Hadaly’s verisimilitude reflects the nineteenth century’s fascination with manufacturing imitations and reproductions in the arts. The 1840s had marked the development of chromolithographs to mass-produce copies of art, and the 1830s and 1840s introduced the manufacture of decorative cast iron reproductions of original sculptures.

In 1838, Moritz Hermann von Jacobi in Russia and Thomas Spencer in England, simultaneously developed a method of electrotyping that included creating replicas of sculptural objects by either using an original object or first making molds in plaster of Paris, wax, and clay, coating the molds with a conductive material such as graphite or lead, immersing the mold in a chemical solution, and subjecting it to electric currents, leaving it coated with a thin layer of copper. The resulting replica was then electroplated with a thin layer of silver. Electrotypes of famous museum masterpieces, including a chalice by the Renaissance sculptor Benvenuto Cellini, for example, were highly valued as works of technological ingenuity.
Electroplating was a process developed in the 1840s whereby decorative objects such as die-stamped tableware and vases made of base metal, including nickel and zinc alloys, were similarly immersed in a chemical bath and subjected to currents which left a coating of copper or more often silver deposited in a thin veneer. The resulting ornately decorated tea sets and vases became a commercial success in both Europe and America.

Nineteenth-century British art critics, such as A. W. Pugin and John Ruskin, fretted over the fact that these wares, with their thin veneers of precious metals, covered base metals and their machine-made ornamentations were crude versions of delicately wrought originals. But nineteenth-century manufacturers and the popular press, as well as cultural commentators, often suggested that these reproductions were equal, if not superior, to the original models. In 1876, America’s Art Journal concluded confidently that the high aesthetic, educational, and moral value of electrotyping had virtually eliminated the differences between the reproduction and the original: “For all the purposes of Art—to give pleasure, to refine taste, to convey instruction—the electrotype is quite as good as the original in costly metals of gold or silver; indeed, it may be a question which would be preferred.”

Similarly, Edison in Villiers’ novel argues that Hadaly is “better than real” because, among other reasons, she will be an idealized woman: a woman whose every response is technologically controlled, whose words are beautiful, elegant, and predetermined. By phrasing his questions properly, Lord Ewald can receive one of Hadaly’s artfully articulated programmed responses to match his every mood. Referring to Alicia, the original model, Edison insists “the present gorgeous little fool will no longer be a woman, but an angel;... no longer reality, but the IDEAL!”

The Electric Eve in Villiers’ novel is a female facsimile, a simulacrum made through electricity that embodies central stereotypes about women: woman as obedient slave, as saint or angel, and as alluring and dangerous siren. As biblical Eve and Virgin Mary, women are at once innocent virgin and sexual temptress, the degraded and the sublime. Hadaly herself is conceived of as virginal and pure, and she and Ewald will have no sexual relations: she tells Ewald, “You had better not touch that deadly fruit within this garden!”

The Alicia of Tomorrow’s Eve, however, is a fallen woman. Seduced earlier by her fiancé, she could no longer be married. Like the nineteenth-century electroplated vase, she has a beautiful exterior but is essentially base. In the novel, Edison was motivated to create an idealized version of a woman by the experience of his married friend Edward Anderson. At a performance of Gounod’s Faust, Anderson was seduced by the evil ballet dancer, Evelyn Habal, and committed suicide in despair.

Real women in Villiers’ novel are portrayed as inherently artificial and mechanistic. When Ewald voices his fear that Hadaly can “never be anything but a doll, without feeling or intelligence,” Edison tells him to contrast a real
woman with the automaton and see if "it isn't the living woman who seems to you the doll." The dancer herself is a mechanical woman: she is "the Artificial giving the illusion of life" (italics in original). She has her own buried machinery: metal corsets, wigs, makeup. Women like Evelyn are morally degraded as well; they are essentially a fraud, with attractions plastered on like the nineteenth-century electroplating and veneers, their thin exteriors covering base metals. Concludes Edison, "Any woman of the destructive sort is more or less an Android." It is to save the world's marriages from these duplicitous temptresses that Edison proposes to create his facsimile women.18

Hadaly herself has a mechanized existence, one called into being by Ewald as an "objectified projection of your [Ewald's] own soul." She is literally a push-button automaton, aroused or activated by touching one of her rings, which have sensitized stones. Says Edison, "Living women too have rings one must press." While Alicia's words to Ewald often sounded a "dissonant note," Hadaly's words, those of eminent writers encoded on metal cylinders or phonograph records within her, will offer him pleasing answers to his every thought.19

The nineteenth century's fascination with and fears about technology and about women were also evident in the novel's Faustian references, in the epigraphs quoting from Milton's Paradise Lost, and in the references to the story of Noah in Genesis as God repents for having created humanity. All suggest the dire consequences of flirting with evil—and with the new technologies that transcend the "natural" and cross dangerous frontiers into the artificial. Again showing the dual views toward technology, dire news of the steamship disaster comes from a telegram—itself one of the nineteenth century's new electric wonders. Hadaly herself is both life-saving and life-destroying.

As in Tomorrow's Eve, technological catastrophe also figures in Fritz Lang's 1926 film Metropolis. The film opens with an explosion caused by rising steam boiler pressure in an underground factory world peopled by robotic "machine men," depicted as slaves to the factory system and dominated by the Master of the Metropolis, J. Fredersen. Fredersen's son Freder is haunted by factory accidents and the oppressive clockwork actions demanded of the workers.

Beneath the city, the saintly Maria offers comfort to the workers in a sanctuary among the catacombs and pleads with them to remain peaceful. Freder is enthralled by this vision of the angelic Maria, but his father feels threatened and asks a mad scientist, Rotwang the Inventor, to build a robot in Maria's likeness to sow discord among the workers and destroy their confidence in her.

The film's android Maria is created through electricity amid flashing rays, floating rings of light, and bubbling tubes. Although she first looks clearly like a fabricated, stylized metallic robot, she is later seen as Maria's exact double. In contrast to the pious, nurturing, angelic Maria, the machine Maria is a
seducive dancer and *belle dame sans merci* (see Fig. 5). "The copy is perfect," says Fredersen, and orders the facsimile to stir the workers up to criminal acts, which will allow him to destroy them in the ensuing melee. Maria, in this filmic formulation, becomes a version of what Joy Kasson, in her study of nineteenth-century sculptural images of women, sees as an enduring view of woman's transformation: "The persistent vision of woman's transformability suggests a nightmarish world where good and evil, safe and dangerous, domestic and demonic, prove indistinguishable."20

In a hallucinatory, surreal montage, a vampish version of Maria as siren rises out of a huge caldron, the centerpiece at a party attended by male guests in black tie who reach toward her with leering eyes. Rushing to Maria's underground sanctuary, Freder the son finds only images of the seven deadly sins. Meanwhile, the "witch" version of Maria incites the workers to riot and to destroy everything, as the real Maria is held prisoner at Rotwang's house.
Maria escapes, while her diabolical double is burned at the stake and reverts back to the look of a mechanistic android. In a hellish Armageddon, the electric dynamos explode amid a huge flood and the fleeing workers collide with black-tie celebrants. The film ends on a pietistic note. Fredersen, his son, and Maria stand with hands joined as the screen text proclaims the value of the heart as mediator between the hands that build and the brain that plans.

The Electric Eve in *Metropolis* projects the contradictory views of women and the fear that women are not what they seem. What looks like the savior Maria is really a subversive siren. The film also presents a dualistic vision of a technological world that is both uplifting and degrading. As with the nineteenth-century factory-made imitative arts, the elevated original Maria is rivaled, and almost supplanted, by her degraded double.

Whereas nineteenth-century images of goddesses of electricity and female androids showed women as static icon or passive servant, women by the end of the century were taking a more active role, employing the power of electricity to drive electric cars and using electric machinery in the home (however enslaving these new machines would prove to be). But it was women artists, starting in the early twentieth century, who actively seized upon electricity as an intriguing subject for their art. In her painting *Electric Prisms* (1914), the avant garde French artist Sonia Delaunay presented whirling color disks as a bold, early formulation of the century’s infatuation with electricity and electric dynamos. Remembering her strolls down the Boulevard Saint-Michel when electric lights were replacing gas lamps, Delaunay wrote: “At night, during our walks, we entered the era of light, arm-in-arm…. We would go and admire the neighborhood show. The halos made the colors and shadows swirl and vibrate around us as if unidentified objects were falling from the sky, beckoning our madness.”

During the 1930s, Delaunay extended her fascination with electricity by producing advertising posters for Mica-tube, a light bulb and neon manufacturer, and *Zig-Zag*, a two-dimensional neon light relief sculpture also used as an advertising poster. Through her work, she helped give shape and form to electricity as cultural icon, offering an alternative to the mythic imagery of goddesses of electricity and of passive electric androids. As a woman artist, she created her own compelling image of the electrical technologies so central to the era.

More recently, New York artist Nancy Burson has used electricity in the form of computer imaging technology to create composite photographs of women-dolls. Through electronics, Burson’s work probes the ambiguities of human identity—producing images that are technologically impersonal and yet eerily penetrating. Two of her more startling photographs present the fusion of a girl’s face with doll’s eyes, and a mannequin’s face with woman’s eyes. The ambiguously artificial girl with doll’s eyes invites us in, draws us closer with her demure and friendly smile, while the mannequin with woman’s eyes remains impassive and impenetrable, keeping us at a distance (see Fig. 6).
Figure 6. Nancy Burson, *Untitled*, (89-3).
Courtesy of the Jayne H. Baum Gallery, New York
© Nancy Burson

The representational discourse of postmodernism brings us full circle. Electronic reproduction—film images, television images, computer-generated
photographs, and animation—have, in a sense, become a primary reality, the mediator between the viewer and direct perception of "the real thing." Contemporary experiments in three-dimensional computer imaging and synthetic, computer-generated "virtual reality" environments have created artificial worlds that again evoke the earlier hopes and misgivings about the copy displacing the original and the artificial replacing direct experience.

As Donna Haraway has written in *Simians, Cyborgs, and Women*, we live in a cyborg world, a world of electronic communications in which the difference between artificial and natural remains ambiguous, a world in which "our machines are disturbingly lively and we ourselves frighteningly inert." It is also an age of "transgressed boundaries, potent fusions"—an age in which women confront the task of retaining feminine identity while being unafraid of embracing "partial, contradictory, permanently unclosed constructions of personal and collective selves." Burson, with her images of cyborg women, continues the dialogue of Villiers' *L'Eve future*, presenting a compelling and disturbing late twentieth-century vision, through the medium of electricity, of our own problematic "potent fusions" and fractured identities.

**NOTES**

5. The photograph of Mrs. Vanderbilt is in the collection of the New-York Historical Society. The advertisements for the General Electric Company and other manufacturers featuring images of women as goddesses of electricity can be found in the Archives Center, the Warshaw Collection, Smithsonian Institution, National Museum of American History, Washington, DC. Villiers de l'Isle-Adam's *L'Eve future* has been edited and translated as *Tomorrow's Eve* by Robert M. Adams (Urbana: University of Illinois Press, 1982). All page references will be to this edition.
8. Ibid., pp. 37, 43.
9. Ibid., pp. 60-61.
10. Ibid., pp. 64-65.
12. In his *Discourse on Method* and *Philosophical Letters*, René Descartes had argued that human beings, except for having a mind or soul, were essentially machines—machines analogous to the popular eighteenth-century automata. Julian Offray de La Mettrie, in his essay *L'Homme machine* (1748), extended the metaphor of humanity as well-tuned mechanism akin to a self-functioning timepiece, writing: "The human body is a machine which winds its own springs. It


17. Ibid., p. 199.
18. Ibid., pp. 64, 122-123.
19. Ibid., pp. 68, 81, 133.


