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On Sather Gate, the symbolic entrance to the University of California at Berkeley completed in 1910 to designs by John Galen Howard, allegorical representations of the liberal arts betray more than the emerging disciplines of the modern university (Figure 1).[1] Howard played fast and loose with traditions of representation by reconfiguring the liberal arts. Law, Letters, Medicine, and Mining, all male, face intramurally; Agriculture, Architecture, and Art, all female, face the commercial axis of Telegraph Avenue. Completing the latter group is Electricity. While one might quibble with Howard's choice of Letters as masculine or Architecture as feminine—in fact, Architecture was a late replacement for Education—they were more or less conventional (Howard). The men would fill the core professions and the pivotal California industry of mining, the aesthetes among them becoming belletrists. The women take on the arts and the earth. Electricity, however, was an odd choice of discipline and gender. She nominally provided the lone science among the disciplines on the gate, modernizing the idea of the natural sciences by way of this still mystical force. At the time, electricity had become a major part of the curriculum at Berkeley.[2] Making electricity a woman looked backward to nineteenth-century associations of women with enlightenment and abundance even as it modernized the disciplinary schema (Lears, "Reconsidering Abundance" 452–54).

The sculptures themselves complicate matters.[3] The men, bodies taut, faces concentrated, stand flexed in naked splendor, a Beaux-Arts cliché of the Greek gymnasium (Figure 2). By contrast, womanly Agriculture, Art, and Architecture all draw one foot subtly forward, forcing their hips to shift and their necks to tilt ever so slightly (Figure 3). The torque turns their eyes away.

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Color versions of one or more of the figures in this article can be found online at www.tandfonline.com/gwst.

[1]Howard seems to have invented the sculptural scheme with input from Benjamin Ide Wheeler, who was a classicist and president of the university. See Howard's correspondence in Records of the Office of the President, Bancroft Library.

[2]In the 1880s, the meager course offerings on electricity were housed in Physics. By the turn-of-the-century, many courses on the subject had become standard and in 1901–02 the Department of Mechanical Engineering had become the Department of Mechanical and Electrical Engineering. See the University of California course catalogs from these years.

[3]They were sculpted by Melvin Earl Cummings, "Professor of Modeling" in the Department of Architecture. "Melvin Earl Cummings, Architecture: Berkeley, 1876–1936."

Figure 1. John Galen Howard, Sather Gate, University of California, Berkeley, 1910. Author's photograph.

Figure 2. Melvin Earl Cummings, "Mining," Sather Gate, University of California, Berkeley, 1910. Photograph by author.

Figure 3. Melvin Earl Cummings, "Art," Sather Gate, University of California, Berkeley, 1910. Photograph by author.

As they ponder some inward ideal, they also fail to meet our gaze directly. It is a gesture of submission, one reinforced by the soft flesh of their bodies, the gentle bend of their arms, and the weightlessness of their attributes. Their curves—and their femininity—thus revealed, these artsy and earthy hostesses of the university welcome town to gown.

And then there is Electricity (Figure 4). Erect, resolutely forward, arms held ready at her sides, she buzzes stiffly with bolts of energy that crackle from her fingers and head. She has the same hips and breasts as Art, Architecture, and Agriculture, but none of their easy charm. Who is this more complicated, formidable woman? Is she the ambiguous cultural delta between nineteenth- and twentieth-century paradigms of production, transcribed to the context of the university and preparation for work in these fields? Or is she the redoubtable daughter of Western pioneers come to carry the frontier myth into new territories of the mind and still unknown professional domains unfolding in California? Even as she embodies the power she represents, something in her balks. Like her sisters, who avert their eyes, she gazes ambiguously forward, avoiding eye contact. Even Electricity, then busy revolutionizing mining and metallurgy—two of her male cohort—was not self-possessed enough to confront the public directly.

The anomaly on Sather Gate was anything but an oddity in Europe and America. Turn-of-the-century society commonly represented electricity as a

Figure 4. Melvin Earl Cummings, "Electricity," Sather Gate, University of California, Berkeley, 1910. Photograph by author.

woman.[4] Similar images can be found on stock notes, paper money, and advertisements, and in every medium from painting and sculpture to the decorative arts. Many of these were high-profile, public commissions. Puvis de Chavannes painted Electricity in his mural in Boston Public Library at roughly the same time that Secessionist artist, C. Theodor Kempf-Hartenkampf, created a sprite-like one for an exhibition on electricity (Figure 5).

As Electricity took her womanly form in these decades, she encountered the electrification of homes and cities, the development of time and space shattering technologies, the rise of the consumer culture, the Suffrage Movement, and the outbreak of World War I. Between the wars, however, Electricity gradually underwent a sex-change operation. Male gods and brawny men who did mature industrial work displaced the winged women who had ushered electricity into society. Allegories of electricity as woman would continue—and even appear now—but increasingly she became a man. More recently, Electricity has become a woman again. This essay attempts to explain why.

Singing the body electric

In fact, modernity had changed electricity's gender in the first place. Premodern manifestations of electricity (as lightning) most often appear as

[4]For example, see Graeme Gooday 197–217; David E. Nye, *Image Worlds*; "The Electric Eve," in Julie Wosk 68–88.

Figure 5. C. Theodor Kempf-Hartenkampf, "Electricity," *Allegorien, Neue Folge*, 1897, Vienna. Courtesy Michael Pabst, *Wiener Grafik um 1900*.

powerful male figures. This is true of the Norse Thor, Greek Zeus, Slavic Perun, and Hindu Indra. Similar masculine figures can be found in Asian, African, Meso-American, and Afro-Caribbean traditions. As electricity was domesticated in the nineteenth century, however, its gender changed. Electricity was simultaneously indispensable for capitalism and undependable, harnessed for production and part of the tumultuous economic cycles of the period. It was implicated in many disorienting subversions of modern society. It made day of night, and thereby disengaged work from daylight hours, while doing the same for leisure. This invisible force diminished earthbound cycles of time and warped spatial relationships.

By the 1880s, its complex resonance triggered a new symbolism. The old gods faded away and while powerful male figures did appear occasionally, Electricity became a woman.[5] The new allegories appeared, moreover, as high art distanced itself from allegory. Electricity's complicated nature in society and the pressures on allegory itself churned out a pantheon of shifting electrical women, effulgent and fickle, enlightened and saturnine, liberated and enslaved, maternally life-giving and undead, servilely conductive and dangerously repulsive.

The mysterious force that Benjamin Franklin had plucked from the air, a force of nature, entered modern culture as a woman, and it did so seemingly

[5]The figure of *la fée électricité* originated earlier, but became a common icon in French culture at the turn of the century. See Gooday 198–200. Also Alain Beltran and Patrice-A. Carré.

without premeditation; consequently, it came densely packed with assumptions. As historian Jeffrey L. Miekle has written, "electricity is formless, invisible, yet capable of nearly infinite transformations." All the more reason to give it form, make it visible, and when possible fix it in place. Yet, like electricity itself, its personification in female form was labile, ambiguous, and unfixed in meaning. Because of the nature of the phenomenon—beyond easy everyday observation, dangerous, and unpredictable—it found cultural parallels in the ineffable, invisible, inscrutable, and dangerous, including women.

Turn-of-the-century culture mysticized electricity. It was often thought of as both a physical and spiritual phenomenon. In 1898 science writer Henry Raymond Rogers claimed with absolute certainty: "Electricity is substantial. It may be amassed, condensed, and rarefied; and mass, condensation, and rarefaction are properties [of] matter" (6). Two years later William Hemstreet wrote: "The ether, or electricity, being such a mighty force as to crush and dissipate physical matter, is substantial enough to form and maintain a spiritual or ethereal body in the future life, and this without any violence to physiological analogy" (16). Electricity could clearly be anything: an empirically physical force or the "manifestation of the God in nature," a kind of élan vital *avant la letter* (Tyndall).

For spiritualists in the period, it was a short step from the widespread representation of electricity as a spirit, an extension of the French *fée électricité*, to locating that spirit in the real bodies and beings of women. "The electrical character of animation or vitality in both animals and plants," wrote transcendentalist minister Edward Cornelius Towne in 1887, revealed the "electrical agency" of all life and the "true origins of species" superior even, he thought, to Darwin's ideas (3–5). For Towne, electricity was at the root of creation. "Creative parentage" (5) created the embryo, but "creative motherhood" expressed "the power over offspring of influences reaching the young through the mother" (30). This was more than a Whitmanesque singing of the body electric. For Towne, sexual distinction was merely a matter of electricity's positive and negative forces, but he directed his theory at women, particularly mothers. Mothers delivered a "charge" to their children, not merely through birth, but also through a "charge of tendency" "given by ardor of mother concern." "Great and peculiar genius has no other secret than creative motherhood," he wrote (30–31). Women were seen as natural conduits, if not sources, of electricity.

Spiritualism's electrical mother infused the electrical fairies used by consumer culture to sell products. Both were expressions of the "electric theology" of the era (Thomas de la Peña 98). George A. Scott, a British "medical electrician" (i.e., mountebank), manipulated these associations to market electric "flesh brushes," plasters, corsets, and other cure-alls. An image from his 1888 *A Treatise on Electricity and Electro Magnetism*—in reality a promotional pamphlet—shows a woman as conduit, a great spirit floating above the earth

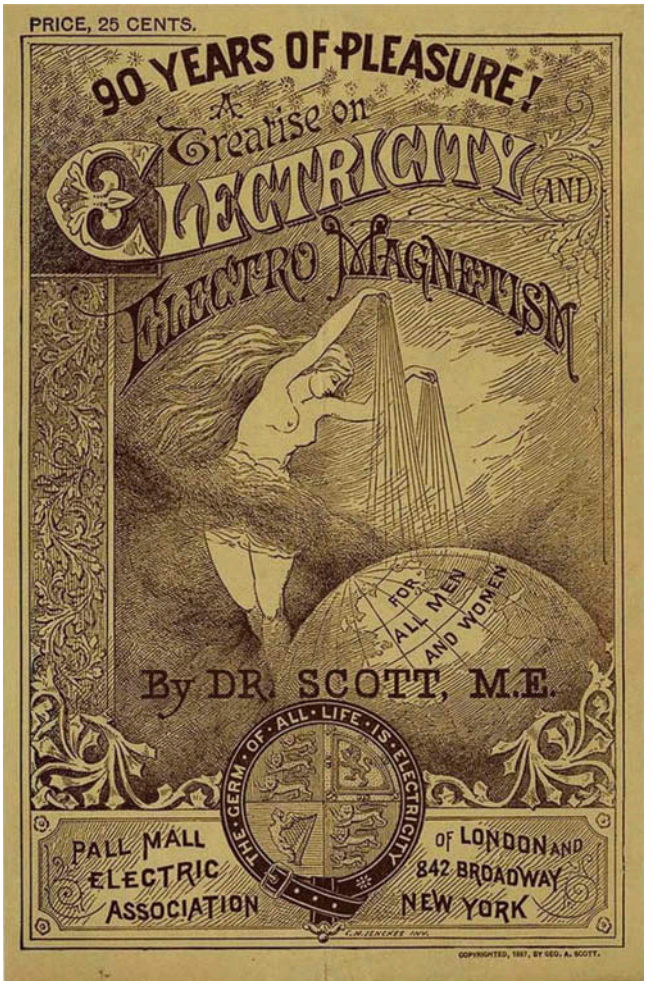

Figure 6. Cover, George A. Scott, *Ninety Years of Pleasure: A Treatise on Electricity and Electro Magnetism*, 1887, Warshaw Collection of Business Americana—Archives Center, National Museum of American History, Smithsonian Institution.

(Figure 6). As in so many allegorical images of electricity in this period, electricity issues like magic from her fingertips. A clue to the image comes in the corset just below her body, which carries the motto: "The germ of all life is electricity." Here is Edward Cornelius Towne's "creative mother" in pictorial form delivering her "charge of tendency" to the entire world through Scott's gadgets (Waits). Similar imagery can be found in *The Electric Era*, a trade catalog published by the German Electric Belt Agency of New York City.[6]

The association between electricity and women's bodies had a darker side, as well. If women provided the germ of life and genius, women's ailments could be understood as failures in their nature, failures that could be treated

[6]See the Warshaw Collection, Smithsonian Institution.

with the very thing they were missing. Doctors sought direct and eminently physical applications of electricity to treat mysterious and elusive problems. Although electrical treatment for medical issues originated much earlier and was applied to men as well as women, the era witnessed a proliferation of psychological and gynecological experiments with electricity.[7] Physician George Betton Massey, who founded the American Electrotherapeutics Association in 1891, wrote of "the chemical action of a strong current brought to a focus on the bared surface of a single pole, which has been placed directly at the seat of the disease" (1). Similar treatments for neurasthenia would persist into the teens (Jones).

Doctors experimented with special zeal on women's bodies, which were seen as repositories of mysterious ailments susceptible to the equally mysterious power of electricity. By 1890, currents had been used to treat fibroid tumors in the uterus, metrorrhagia, chronic metritis and endometritis, stenosis of the cervical canal, subinvolution, and chronic pelvic indurations. It had been applied directly to the vagina, uterus, and bladder for the relief of pain (Massey). Doctors and quacks—categories that had not yet been sorted out—applied electricity, invisible and mystical, but also natural, to women's highly concealed, mysterious, and earthly bodies (Rice).

Electricity as slave

This darker side of electricity echoed the anxieties that arrived alongside the new technology. Electricity and women began to inhabit parallel metaphorical universes. Like women, electricity could be curative, the germ plasma of all life, but it could also be threatening. The still untamed force was part of what David E. Nye has called the "technological sublime" (*American Technological Sublime*). Electricity, like most technology, participated in aesthetic experience and could be both attractive and fearsome. It promised to extend the reach of modern comforts and communication. In this guise, it often appeared as a benign spirit or magical creature. But behind electricity's comforts lay terrors: disfigured landscapes and choked air, subsistence labor and the factory system, and perhaps most frightening, social change itself.

What to do with the technological sublime but subdue it? In order to overcome fear of the dangers of electricity, consumer culture often represented it as a servant (Gooday 61–90). Writers and artists went further. As a dangerous force of nature tamed to do society's work, electricity, when embodied, sometimes entered the social ranks as a slave as a way of asserting moral and physical control over it.[8] Such rhetorical subjugation has accompanied the development of many new technologies. Thomas Edison wrote "Electricity Man's Slave" in

[7]For more on this subject, see A. W. Beveridge and E. B. Renvoize 153, 157–62; Margaret Rowbottom and Charles Susskind; and Carolyn Thomas de la Peña 89–136.

[8]For more, see Anne Clendinning.

Figure 7. Frontispiece, Albert Robida, *La vie électrique*, 1892, Librairie Illustrée, Paris. Public domain.

1885, using a common motif found in writing about technology during the Industrial Revolution.[9] Five years after Edison's article, Albert Robida, a French writer and caricaturist, allegorized the idea in his frontispiece for *Le vingtième siècle: La vie électrique* (Figure 7). Here ample-thighed Electricity cranks the gears of a generator in a Hephaestean scene of power and production. Behind her back, diminutive demons, the laboring *putti* of this underworld, work a treadmill. A wide-eyed owl with a monstrous body holds up a light bulb, taking the place of the ready cliché of Liberty or Enlightenment. As a symbol of night vision, he relieves Electricity to do other work—and to play other roles. A slave can be neither Liberty nor Enlightenment! Machine cranks shackle her left arm and ankles. Her neck, collared, but not to anything discernible, makes her enslavement a moral as well as a practical matter.

[9]See Wosk 73 for analysis of Edison's piece.

Robida's image reversed more benign ones like Scott's. Her silvery mane becomes the electric lines that were beginning to transform the landscapes of modernizing cities. A visual pun on static electricity, it foreshadows the iconic scene in *The Bride of Frankenstein* (1935) where the bride is brought to life by bolts of electricity, her hair streaked with white lightning bolts. Robida's dungeon-like setting clearly recalls the Gothic aura of Mary Shelley's original monster; but instead of nature gone awry, Electricity's eerie eyes reveal an undead bride who is thoroughly enslaved by modern society. The sublime has been tamed, but the moral cost is dear. The change from the male monster in the novel of 1818 to the female Electricity parallels fear of the public manifestation of women in cities at the same time. Woman is again the conduit, but now of dark forces.[10]

It is a darkness both literal and figurative. As electricity came to be associated with the "colonization of the night," it ushered in upsetting social changes. Artificial light liberated women, who overcame "nature's curfew (Thrift 267–68). In the 1880s, incandescent bulbs began to light commercial buildings. Soon cities began installing electric lights. By 1903, 17,000 electrical lights illuminated New York City (268). Crowds enjoyed the vast public spaces of the International Expositions of the era, which were not just lit at night, but became spectacles of the new social order ushered in by artificial light (Nye, "Electrifying Expositions"). Such social changes brought anxiety. Electricity was seen as a perversion of nature's most fundamental characteristics, which brought with it other unsettling dilemmas. Now people could see things that were not meant to be seen and step out of nature's cycles. Where electricity was once natural, now it was artificial, invasive, toxic.

Electricity as power

Not surprisingly, turn-of-the-century artists also fashioned electricity as emancipator, the Statue of Liberty being the most obvious icon that embodied liberty as a woman bearing electric light.[11] The Statue of Liberty narrated the relationship between freedom and power as the United States became a major imperial presence. Liberty's dependence on power was allegorized on the five-dollar bill in 1896 in the form of Walter Shirlaw's "Electricity Presenting Light to the World," a clear reference to the statue in New York, also called "Liberty Enlightening the World" (Figure 8). Here Electricity seems to have been liberated. But aside from the pun on currency, what is electricity doing on a bill? The foundation of paper money in the nineteenth century hinged on convincing people that a

[10]For more, see Linda Simon's *Dark Light*.

[11]While the statue's electrical lighting has been understood in terms of Franco-American cultural competition, it was also associated with freedom. For more on the Statue of Liberty as a demonstration of electricity, see Shelley Wood Cordulack.

Figure 8. Walter Shirlaw, Five-dollar bill, 1896. Courtesy National Numismatic Collection at the Smithsonian Institution. Public domain.

piece of paper had the value of the silver or gold that backed it. As an abstraction, paper money dematerialized value. It transformed it from a precious metal mined at great cost and with palpable physical labor, and formed into measurable quantities, into an image created through mechanical reproduction and inked onto ephemeral organic fibers that had been pressed into two-dimensional sheets. Wisps of inky paper supplanted seemingly eternal symbols of wealth. Paper money *represented* the amount of gold or silver that stood behind it. Such modern alchemy called for a suspension of disbelief—not unlike the mental gymnastics surrounding the assimilation of electricity in society.

Paper money as a form of credit required a form of faith. The etymology of credit, from the Latin *credere*, to believe or trust, brings the point home. It is now easy to forget how difficult it was to introduce this faith into society.[12] The tumultuous beginnings of a federal banking system overcame the fragility of the Early Republic, repeated failures of the Bank of the United States, perpetual counterfeiting scams, the War of 1812 and the Civil War, and the dramatic swings of the business cycle during the most volatile decades of the century. The Depression of 1893 was among the deepest, and Shirlaw's image betrays some of the residual anxiety.

The 1893 Depression had focused debates over the basis of money, pitting advocates of hard money, who wanted currency backed specifically by gold, against those who favored soft money, or a more flexible relationship between the money in circulation and what backed it—in their case, silver. In 1896, William Jennings Bryan gave his "Cross of Gold" speech at the Democratic National Convention in Chicago, which put the contest between gold and silver standards into high relief. It was a central issue in the presidential campaign of that year. In its allegorical form on the five-dollar bill, Electricity joined these anxieties about how emerging technologies, or more generally industry, backed

[12]For more on this process, see Stephen Mihm.

the value of the bill, rising above the factions of the debate. The uncertain economic climate called for an imagery of confidence.

Now far removed from the abstraction of credit, we have come to use our bills to express ideas of national patrimony. Paper money puts in everyone's hands a pantheon of heroes to whom we, not ironically, express our debt. By contrast, as the United States transformed from a rural nation to an urban one, and from a series of interconnected local or regional economies to a fully national economy with a mature consumer culture, the images on money told the tale of this change. The displacement of value from metal to paper thus met a parallel abstraction in electricity, another invisible force then connecting the nation through telephone and telegraph lines. Its exact nature still mired in mystery at the turn of the century, electricity, like paper money, was a dematerialized force that had to be taken on faith. "At the start of the nineteenth century, electricity was a scientific curiosity, a plaything of the laboratory"; by century's end, it had "become a commercially useful form of energy" (Landes 284) utterly tied to the economics of American industry, urbanization, and empire. A catalyzing force for modernity, electricity joined those Promethean technologies that drove the century (and economy) lurching forward, but it did so by creating power (and value) out of nature and by driving the latest technologies through which financial business was done. In other words, electricity and money grew modern together through heavy industry, the telegraph and telephone, as well as the train and the myriad ways in which it powered the machines that made modern accounting and life possible.

All the more surprising that, while technology has generally been understood in Western culture as male, electricity was allegorized as a woman. Alongside changes in currency and electricity, the figure of the woman was also undergoing rapid transformation in the formative decades of consumer culture and industrialization, as she strode unaccompanied into anonymous cities, populated the burgeoning suburbs and the labor force, and became an important actor in the economy. These were the decades of the New Woman, when newly empowered women sought a place in the public sphere.[13] As women's work and domestic arrangements shifted across the century, so did their social figuration change, and with it their allegorical potential. As the nation moved from an agricultural to an industrial system of production, new imagery emerged. Men replaced women as figures of production.[14] With electricity, however, the mystery and instability—if not the continued fear of the medium itself—found a better representation in the body of the woman.

With the New Woman in mind, Shirlaw's image on the five-dollar bill can tell us more. Fame trumpets in winged Electricity, who holds an electric lamp

[13]For further discussion of the New Woman, see Estelle B. Freedman and Carroll Smith-Rosenberg.
[14]See T. J. Jackson Lears.

up to the United States and bares her breast, as Liberty in Delacroix's "Liberty Leading the People" (1830). But hers is liberation by war, lucre, and electrons, not revolution: forces backed and kept under control by Jupiter. The Roman Zeus, king of the Gods, ruler of the sky, and the father of father figures who repeatedly has his way with women, grabs bolts from the heavens to power Electricity's lamp as he reins in his horses. Are they the charging economy, the charge of electricity, the advance of American imperialism, or the charms of women? The allegory offers no firm answer. Jupiter's whip-like gesture links the horses with Electricity, whose softer gesture echoes those of the god, the contrast revealing that she serves merely as the manifestation or conduit and not as the violent source of power herself. This electrical Liberty is not so free after all.

Electricity was mistress, a vessel for the birth of the new technology. But she served another master, as well. To her left, Peace stands guard over the Western Hemisphere. Flanked by the dome of the United States Capital, Peace's olive branch becomes a pendant to Jupiter's raw power drawn from the sky. This allegory of taming modernity and the economy toward a political end appeared just before the Spanish-American War. The leap of faith in these forces, including paper money, electricity, and government, was in no small measure necessary for the United States to take itself seriously as a world power. The bill advanced a form of economic Imperialism. The semi-nude Electricity softened the message, linking it simultaneously to enlightenment and to the earthy, productive forces of the nineteenth century. Electricity thus tied a narrative of liberty, progress, and expansion to one of nation, technology, and land.

By the time of the Spanish-American War, these connections were explicit. Winslow Homer explored them in "Searchlight on Harbor Entrance, Santiago de Cuba" (1901), where electricity, in the form of an unseen naval ship's searchlight, pushes back the night (Figure 9). Instead of earthy

Figure 9. Winslow Homer, "Searchlight on Harbor Entrance, Santiago de Cuba," 1901. Courtesy of the Metropolitan Museum of Art, New York.

enlightenment or mythic force, here electricity plays the spoiler. It casts an unnatural glow, piercing the Spanish fortification, which sits in profound shadow; through the contrast itself, the searchlight renders it a ruin. Its revelatory light, applied to the corner of the parapet like harsh primer, even threatens the moon, which cannot match its indiscriminant light. How has the mood darkened so rapidly? Electricity, once flanked by Peace, wages war in the service of controlling the Western Hemisphere.

It hardly matters that Shirlaw, the artist of the five-dollar bill, used allegory while Homer turned to the changing quality and meaning of light itself. Almost exact contemporaries, the two aging artists wrestled with the same forces as they played out at the turn of the century, making the five-dollar bill and "Searchlight" unlikely companions in the history of art.[15]

Electricity as man

Within a few years, electricity would become a man. From the teens through the 1930s, electric and telephone companies turned to masculine allegorical figures, both in Europe and North America. In 1915, AT&T commissioned one of the best-known allegorical sculptures of electricity: the "Spirit of Communication," also called "Golden Boy." The sculpture originally stood atop the old AT&T building in Manhattan, but a graphic version appeared on the globe in the company's logo and on Bell Telephone directories from 1938 through the 1960s (Figure 10).[16] Other male figures of electricity emerged in the same period. In 1919, Maxfield Parrish, who created playing cards and calendars for Edison Mazda with a range of mystical and orientalist images, painted Electricity as Prometheus. It was a conventional allegory, a return to classical gods as bearers of power.

By the 1930s, the electrical women, whether pliant, enslaved, or emancipatory, were almost entirely replaced by brawny, crudely potent men. The loin-clothed figure on the Commonwealth Edison Power Station in Chicago (Sylvia Shaw Judson, 1931) is nearly a golem, a cautionary tale about the misuse of power (Figure 11). Far from a figure of enlightenment, he dwarfs the city he supposedly serves. In another example, the Atlantean Electricity on the Municipal Power Plant in Windom, Minnesota (Don Gregory, 1936) transfers bolts from the sky to electrical lines (Figure 12). Unlike the more passive female conduits, he is a muscular transformer in keeping with heroic Social Realist imagery of work. This masculine figure circulated widely. A male Electricity graced the back of the Canadian five-dollar bill beginning in 1935, a gender swap from Shirlaw's earlier American note. A monstrous Electricity dances in Cecil B. DeMille's *Madam Satan* of 1930.

[15]Homer would have known Shirlaw's work well. They would have crossed paths at the National Academy of Design in New York; and Homer, who began as an illustrator, surely knew Shirlaw's graphic work.

[16]For more, see Margaret Samu.

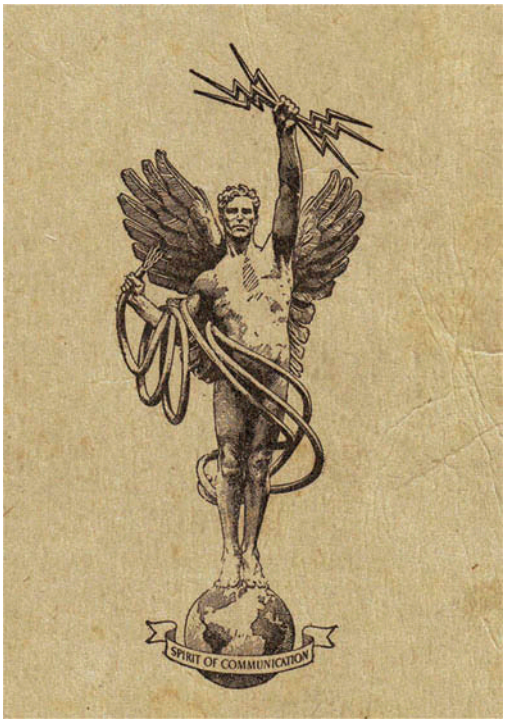

Figure 10. Evelyn Beatrice Longman, "Golden Boy," 1915, AT&T Building, Manhattan. Public domain.

Figure 11. Sylvia Shaw Judson, Sculpture of Electricity, Commonwealth Edison Power Station, Chicago, Illinois, 1931. Photograph by author.

Figure 12. Don Gregory, Sculpture of Electricity, Municipal Power Plant, Windom, Minnesota, 1936. Courtesy David M. Versluis, *Electricity: A relief carving by Don Gregory for Windom, Minnesota, c. 1938*, 2009. Private collection.

One explanation for the masculinization of technology looks to "the instability of the gender of the early twentieth-century machine—an instability later eradicated by fascism (among other masculinist technocracies)" (Jones 147). The explanation is no less correct for being rote. An "overwhelmingly masculinist discourse of hardened, technological male bodies" (150) permeated early-twentieth-century modernism.[17] Electricity bucked this convention, at least until the "masculinist technocracies" of the period turned vigorously to masculine imagery. Consumer culture witnessed similar shifts. T. J. Jackson Lears has shown how the "disembodiment of abundance imagery involved a movement away from the ancient impulse to symbolize the source of plentitude as female" (19). In corporate iconography at the turn of the century, "women were reduced to the conduit for corporate-sponsored largesse" (19). The description could easily be applied to many allegories of Electricity in the period. In other words, female Electricity took part in a broader "devaluation of female authority" (118). This squares up with Martha Banta's observation that there was "something trivial in the scale of these Electricity Girls, something hand-me-down about the aesthetic traditions behind their unsexy bodies and smooth faces" (532–33). The allegorical tradition teetered. As Light, woman became banal; as Abundance, she was replaced by the machine; as Power, she was tamed, transformed into a consumer rather than a producer in an age that valorized the latter. The reason to use the imagery of subjugation disappeared.

Yet one might venture that it was not Electricity who changed gender—it was people. The newly empowered New Woman, reimagined and visually changed, was represented as "mannish" and thereby rendered unfit to represent electricity, which for a generation had been a servant, slave, passive receptacle, or enchanted vessel. In fact, the image of the New Woman itself shifted, especially after World War I, "in a range of negative reactions against supposedly mannish, efficient females in dark and unconfining clothes,

[17]Wosk's *Women and Machines* balances out this view.

wearing heavy makeup, perhaps, but possessing brazen desires to vote, to smoke, and to control their own sexuality and reproductive lives" (Jones 151–52). It is also fair to wonder if the "mannish" New Woman nudged men to more masculine self-definition, especially as they went to war in the teens. It is in this moment of shifting gender boundaries that man would be called on to lead the charge.

A sex-change operation

Since technology has most often been understood in masculine terms in modern Western culture, the appearance of male allegories of electricity is less surprising than the change itself. Electricity did not become a brute overnight. She transitioned in stages and did so in the context of gender questioning. Gender underwent transformation in multiple fields at once. Between the wars, artists in particular experimented with gender. In 1921, Marcel Duchamp began to dress as his female alter ego, Rrose Sélavy. Man Ray created portraits of Sélavy throughout the decade while his own pieces of art played similar games. His "L'Homme" (1918) and "La Femme" (1920), nearly identical photographs of the same egg beater, show how labile gender could be (Jones 147–49). Even Man Ray's name goes straight to the shifting relationship between gender and technology, if not electricity itself. In Virginia Woolf's *Orlando* (1928), Orlando wakes up as a woman after centuries of living as a man.

Art was one step behind medical science. Magnus Hirschfeld coined the term transvestite in his pioneering work *Die Transvestiten*, which appeared in 1910. Shortly thereafter he and others began to explore the possibilities of surgery as a solution for people who identified with a different gender. The first attempt to alter gender surgically probably took place in Berlin in 1912, but other documented attempts date from around the same time.[18] By the 1930s, several celebrated athletes had transformed their bodies from female to male. The first successful surgical "gender reassignment" is commonly attributed to the Danish artist Einar Wegener, who became Lily Elbe in 1930–31 with the help of Hirschfeld's Institute for Sexual Research. National Socialism put an end to the Institute, but the idea would not be quashed. Sensational stories of sex-change operations and more broadly "sexual metamorphoses" began to appear in American newspapers and magazines at least as early as the 1930s (Meyerowitz 15). Crossing gender, sartorially or bodily, is not modern, per se, but the early twentieth century mapped the shift emphatically onto other contemporary cultural concerns.

[18]Surprisingly little is written about this early history. See Vern L. Bullough, Richard Green, and Joanne Meyerowitz, *How Sex Changed: A History of Transsexuality in the United States*, especially pp. 14–21.

In these years, electricity could be either male or female—or, tellingly, something more ambiguous. Already, at the turn-of-the-century, Spiritualists had dreamed up electricity as androgyne, a coming together of male and female, anode and cathode. Artists occasionally echoed this imagery. In Ignacious Taschner's *Elektricität*, reproduced in *Gerlach's Allegorien* (1898), smoke from two braziers twist into male and female figures whose passionate embrace kicks up an electrical storm. By the 1920s, Maxfield Parrish's series for Edison Mazda went back and forth between male and female allegories. At times, figures of electricity would introduce ambiguity themselves. Hermes, for instance, was the bearer of electricity on a Bavarian stamp of 1920. As the messenger god, he has often been associated with communication and business, and so is an apt symbol for a stamp. But he is also a trickster god, and thus calls to mind electricity's lack of dependability. And further, he is a god of transitions and boundaries. This extends to his sexuality, if only indirectly. Hermes's union with Aphrodite produced Hermaphroditus, a handsome boy who, through his own union with a water nymph, became an androgynous figure. He gives us the word hermaphrodite. A distant echo of this fusion of male and female continues in the nomenclature of plugs and outlets as male and female.

In similar fashion, the New Woman of the late nineteenth century gave way to the suffragettes of the early twentieth century, who critics often masculinized. When artists allegorized suffrage sympathetically, they created the same light-bearing ladies who had represented electricity.[19] In one cover of the magazine *Suffragette* of April 1913, in place of an incandescent bulb, light radiates from a liberating key. Electricity met her allegorical *Dopplegänger* in Suffrage: the former entered society as a slave; the latter sued for her freedom. The twinning stands to reason. It reflects the range of allegorical possibilities. Women's Suffrage had to be a woman, and as a cause directly associated with democracy and freedom, it played into the same ideals that stimulated the association of electricity with liberty and enlightenment—two traditionally female figures. How could Liberty be both a radiant woman in white and a red-faced rabble-rouser shouting in the streets? This cross wiring of images would short circuit allegorical lines of contact. If women threatened the social order—in fact, the very nature of Democracy—they could no longer represent the solidity of the banking system, or the force behind national identity, or stand in for the source of power behind the industrial changes on which both depended.

Fittingly, Caroline A. Jones has argued for a direct relationship between the New Woman and changes in representation. Across Euro-American culture, the "emergence of the 'new woman' was accompanied almost immediately by the derisory shadow categories that dogged her liberatory march of

[19]This is a persistent image, one still used for the annual "Take Back the Night" marches on university campuses.

progress" (152). Jones writes: "*Femmes nouvelles* in the 1890s were stigmatized from the outset as '*hommesses*,' linked to technology and described by contemporary males as having 'active, public, mobile, and agitated character … associated with the tension and new electrical energy of the city streets and the 'brand new sparks' of the century of technological inventions and 'eternal motions'" (152).

The *hommesse* image transmogrified the femme fatale. New York Dada artists in particular worked over this theme in terms of gender ambiguity. While Man Ray changed the gender of his egg beater, Francis Picabia created "mechanomorphs" like the spark plug girl in "Portrait d'une jeune fille américaine dans l'etat de nudité" (1915) (Figure 13). This "phallic woman" or "metaphorical hermaphrodite" "is rendered quite explicitly unthreatening by her very 'nudity' and controllability" (Jones 160) by being extracted from the combustion engine that makes her spark. Of course, the analogy between sexual and electrical impulses looks back to Spiritualism but within a wholly changed framework of gender and technology. In fact, just as Spiritualists had posited an androgyne ideal as the union, or sometimes as the origin, of

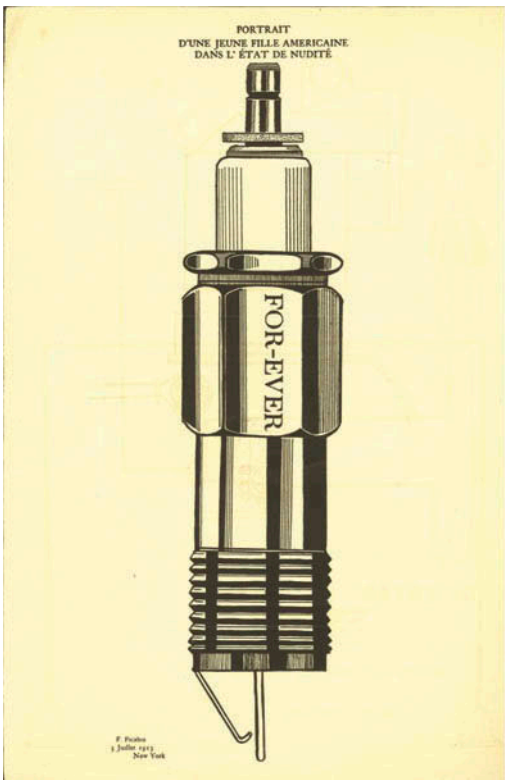

Figure 13. Francis Picabia "Portrait d'une jeune fille américaine dans l'etat de nudité," *291*, no. 5–6 (1915), pp. 2–4. With permission of the Marquand Library of Art and Archaeology, Princeton University. Public domain.

the two genders—an idea that frequently entered Symbolist art at the turn of the century—Picabia's "mechanomorphs" seem to be modernist daughters of these earlier ideas.[20]

Another Picabia drawing, "Américaine" (1917), draws out these connections and in some ways tilts backward (Figure 14). The artist altered an image of an Edison Mazda light bulb, adding the words "flirt" and "divorce" twice, as if in reflection. Jones reads it as a fearsome *hommesse*, a sexually ambiguous woman who seduces and rejects (152–56). Wanda Corn likewise sees the image in terms of the empowered, independent women of the era (66). Reinforcing these readings, the words read not backwards but merely upside down. It is an impossible and false reflection, suggesting the view of dangerous and deceptive femininity commonly seen in the image.

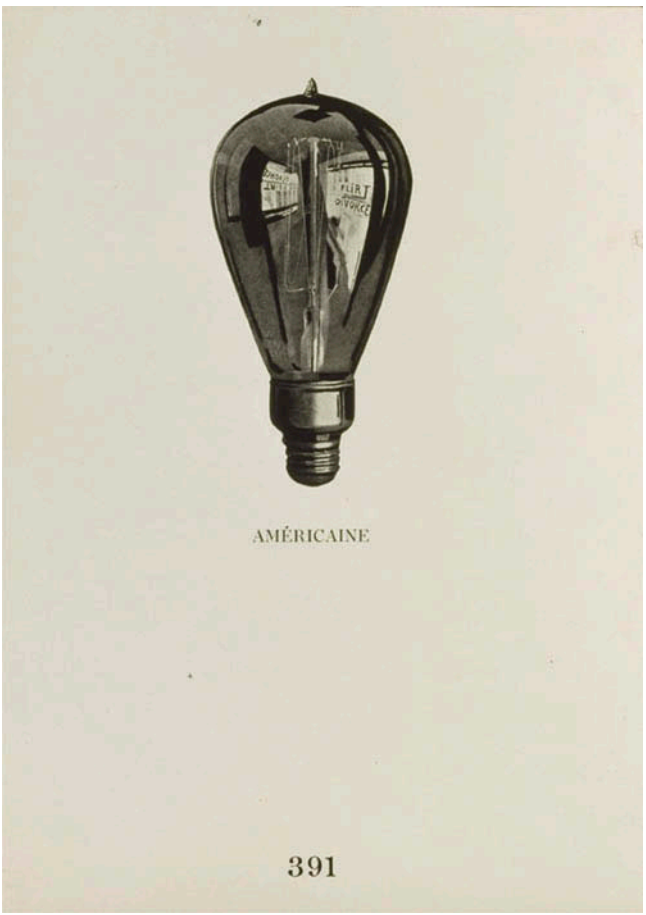

Figure 14. Francis Picabia, "Américaine," *391*, no. 6 (July 1917). Public domain.

[20]See Joy Dixon 418, 431–32 and Dario Gamboni 779–80.

Another observation invites a stronger reading. "Américaine" is *art trouvée* monstrously modified. Picabia inserted a deathly woman inside the bulb, a burnt out figure with blackened eyes who connects the filaments, but who can no longer light the bulb (Figure 15). Trapped in her bell jar and dangled like a puppet from the filaments, she reprises Robida's enslaved Electricity, but with great equivocation. "Américaine" also echoes other allegories and timely images. Her long white dress draws on the uniform of Liberty, but when paired with her short-sleeve black blouse, it brings to mind the protesting suffragette, who often wore black or white—but not black and white. Much like the false reflection, her odd dress interjects her own ambivalence. The ghoulish wired woman in Picabia's bulb is also a perverse Columbia, the female personification of the United States, a figure that registered closely with Liberty, as the light-wielding Columbia Pictures icon introduced in 1924 reminds us even today. Why did Picabia feminize and imprison electricity just as Euro-American culture masculinized and liberated it? "Américaine" may have been a double transgression. She countered the Western association of technology with masculinity, and, in a more local sense, she undercut the tendency in the interwar period to re-imagine electricity as a man.

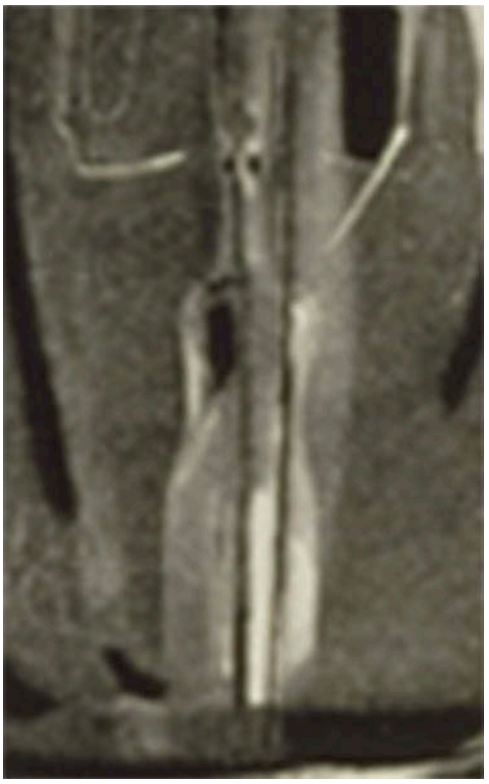

Figure 15. Francis Picabia, "Américaine," *391*, no. 6 (July, 1917), detail. Public domain.

Allegory

Yet these remain unsatisfying readings. The oddity of this ambiguous woman, a flirt and divorcée, passively waiting for the filaments to light her up yields so many possible readings that one wonders if Picabia used the corruption of gender as a metaphor for the corruption of allegory itself. Gender, after all, has been at the core of allegorical assignment in Western art. A look back at the figures on Sather Gate recalls how Electricity, whose positive and negative charges even then were so often understood in terms of gender, began this process of confusing allegorical roles. Picabia's "Américaine" merely comments more pointedly, and with cynicism, on a process that had been underway for decades. It is not enough to declare that modernity discredited allegory in art or, as Mark Rothko would later put it, "a time came when none of us could use the figure without mutilating it" (qtd. in Ashton 26). The attenuation of allegory is twinned with the confusion of gender in the early twentieth century. There are surely links that Electricity cannot illuminate fully, but they are part of the same circuit of changes, as Picabia seemed to intuit.

The example of Electricity complicates the scholarly view that allegory declined in the eighteenth and nineteenth centuries with the Enlightenment claim that it was essentially an arbitrary system and hence irrational. By this line of thinking, it suffered for being divorced from the intrinsic meaning of the work of art, as opposed to symbols, which were seen as immediate, inseparable from the idea they convey. The Romantic search for immediate, universal symbols devalued allegory by putting it in tension with realism. The attempt in the nineteenth century to reconcile the ideal with the real ultimately failed: "With the emergence of Symbolism, allegory as opposed to symbol was no longer regarded as an adequate means of expressing transcendental truth" ("Allegory").

The suspicion of allegory, however, must be regarded strictly in terms of one trajectory in the development of art. In popular and graphic arts, in some public sculpture, and in the commercial art of, for example, corporate stock certificates, allegory remained a vital mode of visual communication. Whatever dilemmas philosophers posed and artists explored, allegory posed no dilemma in this context. Even the eroding possibility of clarity to the masses posed little threat. The new forces of the Industrial Revolution—steam and coal or commerce and communication—were part of everyday experience. They were universally known and their technologies—the light bulb and spark plug, for example—were ubiquitous parts of modern culture. One need not see through Electricity to Minerva, goddess of peace, chastity, and, more to the point, a defender of the arts and sciences, in order to understand the image on the Shirlaw five-dollar bill. New technologies made new allegories socially accessible.

In many turn-of-the-century images, Electricity functions as much as a symbol as it does allegory, intrinsically tied to the bolts that reveal her identity. She merges with the thing itself. This made allegory immediate and raised the possibility that it could be populist, democratic, and therefore viable for expressing the lines that connected art, technology, and commerce. To come at this another way, Courbet's "Painter's Studio" (1854–55), the work often tied to the absurdity of allegory for how the painter interjects realism into it, did not so much mark its decline as it signaled the beginning of the end of a discrete tradition within art that predated the allegorical demands of late nineteenth-century technologies of everyday life. Thus Henry Adams's realist paean to the dynamo, which opposed the monumental power source to the "virgin," articulated the death of allegory at the hands of the machine by using allegory (Adams 380–90). "An American Virgin would never dare command; an American Venus would never dare exist," wrote Adams (385). An American Electricity? She flourished.

Realism, in fact, could not fully fathom the machine because the latter had deformed reality, transforming the spatial and temporal fact of everyday life. By the late nineteenth century, a light bulb could no more reveal the meaning of the light bulb than an obscure allegorical figure could reveal the idea of purity. Hence a double dilemma, one solved through the use of allegories for realities like electricity.

Conclusion

Soon gender would all but disappear. In Lester Beall's poster of "Light" for the United States Rural Electrification Administration in 1937 a monumental light bulb symbolizes light and electrification, reprising Picabia's light bulb but free of the gendered imagery.[21] A light bulb could be a light bulb after all —a heroic one. It was the sort of image that thirty years before might have included a female allegorical figure. Eventually electricity would vacillate between direct representation and abstraction. The technology had been fully assimilated and no longer needed the veil of allegory.

Exceptions to this historical trajectory can be found throughout the twentieth century. Frank Baum's Electrical Demon in *The Master Key* (1901) is male, as is St. Gauden's allegory of electricity on Union Station (1912).[22] On the other hand, both Man Ray and Raoul Dufy turned to female allegories of Electricity in the 1930s, the latter for the 1937 exposition in Paris. Both artists were well aware of the gendered history of the subject; Dufy's elaborated the long-standing figure of the *fée électricité*, which persisted in France long after similar personifications waned elsewhere. In the hands of less skilled artists,

[21]See Michael J. Golec.

[22]Gooday discusses the masculine figures, but not in the context of a change: pp. 207–12.

the imagery became unconvincing. On the other side of the Cold War divide, sculptor Tibor Velt's heroic Soviet Social Realist sculpture stands in front of the Power Station in Tiszalök, Hungary—more accurately, she storms clumsily, a lightning bolt in place of the hammer or sickle. In a stock note for Louisville Gas and Electric (1979, but possibly using an earlier image), a more familiar version of Electricity appears as if she has just changed into something more comfortable (Figure 16). It would not take much to turn her into a hostess offering a drink at a party—and depending on when the image first appeared on the stock, it may have been an appropriate association.

In two recent images, woman has re-emerged as Electricity, as if through some recovered collective memory. Artist Phillip Toledano's Electricity landed in an article in *Fast Company* magazine in 2009 (Figure 17) (Hochman). The image recycles many of the older conventions—white dress, darkened eyes, floating light bulb—to narrate a new mysterious chapter in the history of electricity: wireless connectivity. Her far-off gaze recalls Electricity on the Sather Gate. She is now physically emancipated from both power source and

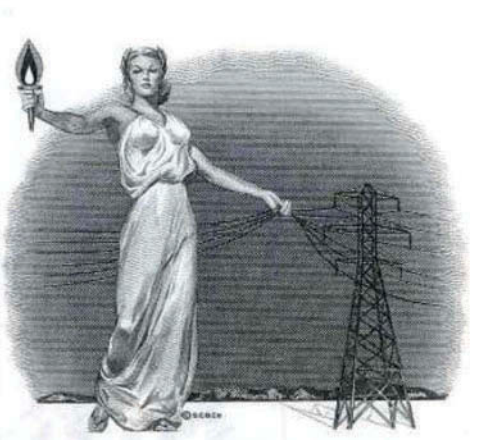

Figure 16. Stock note, Louisville Gas and Electric, 1979. By permission of Scripophily.com—The Gift of History.

Figure 17. Phillip Toledano, photograph in Paul Hochman, "Wireless Electricity Is Here (Seriously)," *Fast Company* (February 2009). By permission of the artist.

Figure 18. Jam Jam, poster for Low-Fi Fest 2014, Oaxaca, Mexico. By permission of the artist.

bulb, but she remains a dispirited conduit. More recently, graphic artist Gama Jam Jam reprised the imagery for the eighth annual Low-Fi Fest in Oaxaca, Mexico in 2014 (Figure 18). Here is Electricity as a hot vamp, holding aloft the wires that long enslaved her. Yet she is ambiguously liberated. Naked and bound, she is also unplugged and clearly dangerous. A self-possessed wireless conduit, her yellow body courses with power, as she amps up the volume, presumably with her sexual energy. She is, in fact, energy incarnate. These images attest to the continued resonance of the initial allegory. They suggest another moment of transition as we attempt to comprehend the shift to the wireless world of our computers, phones, and other gadgets that place our bodies again in a radically new relationship to machines and one another—at the very moment, no less, that gender is once again undergoing radical change.

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