Electrical Connections : Letters to Thomas Edison in Response to His Claim of Solving Incandescent Lighting, 1878

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When the New York Sun *reported that Thomas Edison had solved the problem of incandescent lighting, that purported invention generated immense excitement across many segments of the American population. The letters sent to Edison in the days following the September 16, 1878, story reveal the many discursive worlds that Edison's work touched on and had meaning for. They indicate how a technological accomplishment is also a multiple, complex social and communicative accomplishment, creating place and meaning for the new technology within the many discursive systems by which people assign value, identify uses, and create goals incorporating the technology. Edison's ability to connect with each of these meaning systems paved the way for the development of the technology, providing financial and social resources for Edison that his competitors did not enjoy.*

Electrical Connections

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Early science studies were concerned with the impact of science on the rest of society and culture and with the social conditions that allowed for the rise and maintenance of science (see Merton, *Science*; Barber; Ben-David). Next, attention was directed to the maintenance of the internal system of science,[1] but this sense of an internally structured science was weakened by looking at the continuity between science and all other social practices.[2] This more strongly social view of science led to issues of how the appearance of privileged internality was maintained through boundary work (Gieryn), black boxes (Latour), and ships in bottles (Collins, *Changing Order*). Internality, then, became an issue of how self-made insiders presented themselves to those not included as insiders. The history of the pursuit of internality-externality issues has become bound up with the issue of privilege, and the pursuit of these issues has done much to demystify the processes by which science maintains its privileges. Nonetheless, the pursuit of the privilege issue has

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placed into the background discussions about how science operates as a functional social institution both within its socially constructed boundaries and in relation to other social institutions. These matters are independent of privilege issues, except insofar as privilege influences or is a resource in the institutional operations.

Another way of looking at the appearance of an internal/external division (and considering the consequences of such a division) is by examining the circulation of texts within various social collectivities with different goals, transactions, and self-conceptions. One can even say that the status of insiders and outsiders is constructed and maintained by the networks of differential textual transactions; moreover, textual transactions can identify the points of contact between different groupings, the translations that occur when representations pass from one grouping to another (as Callon observed), and the influence thereby created.

THE CASE OF ELECTRIFICATION: SOCIAL NETWORKS OF POWER

The move of the electrical light from out of the workshops of Edison and other inventors onto the streets and into the offices and homes of America and Europe is, of course, the story of the stabilization and multiplication of a material product and its circulation to new and varied scenes of social use.[3] It is also, as Hughes has argued, a story of the development of complex, integrated technological systems to support the journey of the lightbulb throughout the world; for a lightbulb is only the visible end of generators, wires, transformers, insulators, and myriad other devices that must be matched and maintained in a coordinated system. But the story is not just of the circulation of the object; it is a story of the circulation of representations of the object through social networks; it is a story of language and texts; of structured communities of text producers and users; of patents and patent examiners, courts, and lawyers; of financial projections, production plans, and corporations and financiers; of commercial agents, contracts, and personnel recommendations; of government regulations, city councilmen, public debates, and voters; of the public, newspapers, journalists, readers, and heroic interviewees; of customers, advertisements, bills, and monthly magazines; of installers, maintenance workers, installation instructions, and performance standards. These and a thousand other texts,

in addition to readers and writers, sustain a pervasive and persuasive public technology. It is not just the object that enters our lives, it is the socially produced sets of meanings and relationships that surround the object that help it take a place in our complex life world.[4] To us, electric light means being able to read at night, investing in General Electric, establishing government policy, writing checks on receipt of bills, and recognizing the meter reader by an identification badge.

Much of this social reconfiguration and circulation of documents around the emergent technology necessarily comes only with or after the technological accomplishment—the monthly handout to customers appears only when electricity is delivered and billable. But the entrance of the technology into the life world also is abetted by, perhaps necessarily requires, the presence of appropriate social typifications (instantiated in the typified representations of circulated documents) that provide the means by which various groups and publications can place the representation, give it social meaning, and have it enter into the activity of the life world. That is, people have to know what to do with the object, what meaning to give it, what it is—based on social typifications.[5]

Typifications may not only allow for immediate recognition, social localization, and uptake of new technological objects; they may create a climate so prepared for a new slot filler—a technology that satisfies so many existing typifications, which fits so easily into meaning-investing textual categories—that the typifications literally call forth a social presence for the technology on the slightest of hopes, long before the technology is socially deliverable. Social typifications can create a self-fulfilling prophecy—granting credibility to the not yet existent—a credit that translates into resources and demands that aid and challenge producers to perfect the glimmer of the technology. The event of invention and product development can be so surrounded by potent social symbols activated by the wishful thinking of the social typifications that resources flow to the project and make it possible. One need think only of the space program or nuclear weapons or atoms for peace to see the potency of social symbols to evoke the political and industrial will, financial support, and public acquiescence to bring the technology into being. In a smaller way, that is also what each of us hopes to do every time each of us writes a prospectus or grant application—by pushing the right symbolic buttons to draw forth the resources (as well as the responsibility) to produce something new.

EDISON AND THE FULFILLMENT OF DESIRE

Edison's light is a particularly strong case for examining how one person's slight suggestion of a technological possibility creates a headlong tumble of expectations, journalistic enthusiasm, capital investment, consumer interest, civic planning, and willing labor to turn Edison's vanity that he could do what others could not into rapidly accumulating advantage (Merton, *Sociology*) and increasingly compelling public pressure. That advantage and pressure egged on the perfection of the technology and placed Edison at the forefront of a new industry. A few words spoken to journalists took on an imaginatively powerful reality in the worlds of the press, finances, the public, and government that ensured that light, if and when it came, would be Edison's.

Edison was a latecomer to the electrical light. Humphrey Davy's experiments in 1808 had demonstrated the possibility of electric arc lighting, which was then used by 1844 for the opera, by 1858 for lighthouses, and by 1870 for war (Franco-Prussian). By the mid 1870s, Jablockoff in Europe and Brush in the United States had produced commercially viable systems for the lighting of streets and large public halls. The earliest patents for the smaller incandescent lamp date from 1841, but despite various improvements, no viable system had been developed when Edison took interest in the problem in 1878. The main problem remained finding a filament that would reach sufficient temperature to glow without burning or melting.

In 1876, Edison had turned from his first inventive interests in telegraphy to telephone transmission and, even more startlingly, at the end of 1877, the phonograph. The phonograph brought Edison fame, news attention, and a hectic demonstration schedule (Wachhorst). In July of 1878, Edison took a break in his work to accompany a scientific expedition to the Colorado Rockies to measure a solar eclipse. He returned on August 26 filled with new projects, talk of using the great western falls for electrical production and the possibilities of electric lighting. The next day he immediately began some preliminary investigations while still pursuing other projects, and he soon arranged for a trip to Connecticut to observe William Wallace's new arc lighting system with its powerful generator. He visited Wallace's workshop on September 8 and, according to a newspaper account, was "enraptured." Back at Menlo Park on Monday, September 9, he began a series of excited experiments, and by Friday he wrote his first electrical lighting patent caveat, "Caveat

for Electric Light Spirals," and wired Wallace to send one of his generators. He shortly thereafter granted a newspaper interview to a *New York Sun* reporter in which he claimed to have solved the problem of the incandescent lightbulb. The story ran that next Monday, September 16, under the headline "Edison's Newest Marvel. Sending Cheap Light, Heat, and Power by Electricity." By Tuesday, his lawyer, Grosvenor Lowrey, was beginning negotiations to set up financial backing for what was to be the Edison Electric Light Company, producing a preliminary agreement by mid-October, and granting Edison a $50,000 advance for research and development. Gas stocks took a tumble and newspaper stories proliferated about Edison's marvels. Moreover, Edison's mail over the next months was filled with a variety of curious letters that took his invention claims as fact.

However, this was all on the word of a single gentleman on the basis of what turned out to be a rather minor improvement (and one that was soon to be discarded) based on the work of many others who were granted nowhere near the credibility. It soon became evident that Edison was not ready to deliver a workable bulb or system. It was to be over another year before Edison had a working lightbulb and an additional year before a full system was ready. When Edison made his bold announcements in September 1878 after only a week of concentrated attention, he was nowhere near the technology he would wind up delivering in 1881. The story of his technological struggle during those ensuing years is documented in his notebooks and comprehensively retold by Friedel and Israel. Given that there had been so many others working for so much longer and that Edison was evidently so far from a workable system, why were so many willing to grant Edison credibility, support, and faith, when he had no successful lightbulb in his hand? That is the question we will begin to examine here.

The simple answer is, of course, that the wonder of the phonograph had produced such amazement and celebrity that he had enormous credibility. He was the wizard of Menlo Park. Who else but a wizard would have journalists tailing him as he visited the workshop of a fellow inventor?

This simple answer, although correct, is too simple to tell us how one gets to have that kind of social credit and what it means. What are the social and individual requirements for the configuration of wizardry to arise, and what are the mechanisms by which it is accomplished and maintained?

LETTERS TO EDISON: WINDOW TO TEXTUALLY STRUCTURED EXPECTATIONS

Edison's correspondence from this period provides a window into the social meaning of his credibility. The letters people wrote to Edison in response to the premature reports of his accomplishment exhibit how the correspondents treated him, what they believed of him, what they hoped to get from him, and how they believed his imputed world intersected with their world.

The document file of the Edison *Papers*[6] consists largely of letters and telegraphs written to Edison and only occasional indications of Edison's response, if any, because this was before the general use of typewriters and/or carbon paper. Almost all the documents are by hand. The file on the electrical light indicates that Edison had a few preliminary conversations on the electric light as early as spring 1878, but the discussions were only general, and no experiments had been done to work on what Edison recognized as "one or two obstacles" to the development of the light (17: 916-17). The first letters indicating involvement with concrete work on electric light are some messages to and from George Barker to arrange the visit to Wallace's workshop (17: 922-24). Barker was a physicist friend who had been part of the solar eclipse expedition out west that summer. Five days after Edison's visit to Wallace's workshop, Edison telegraphed Wallace to send a generator: "Hurry up the machine. I have struck a big bonanza" (17: 925). This bonanza was in fact an idea for a temperature-regulating mechanism, which Edison was never able to develop successfully and ultimately abandoned. Up to this point, all the correspondence was with Edison as a peer who was requesting aid or discussing possibilities. This all changed with the September 16 *New York Sun* article.

On September 16, Barker immediately sent on a clipping of the *Sun* article and asked whether Edison had any new items available to display at a lecture Barker was to give in January (17: 927). On October 23, Barker wrote back expressing disappointment and upset at not being able to exhibit lamps, as though he assumed the lamps were already working and available for exhibit (17: 979-81). In early November, Barker renewed the request for the lamps and offered to postpone the lecture if that meant he could have them (17: 1031). He later wrote Edison with an account of the lecture, which went well despite the lack of the demonstration of Edison's light (17: 1048).

This sequence of letters bespeaks the existence of a well-established genre of public lecture, dating back to colonial times. These lectures, as education and entertainment, depended on the exhibit of the latest wonders. In the nineteenth century, there was some move to institutionalize these lectures and to ensure that speakers were legitimated authorities. Barker, as professor at the University of Pennsylvania and a public figure, was clearly part of this system of public edification. Lecturers necessarily had to keep in touch with inventors to gather material, the wonders that held public attention. The dependent relationship of the lecturer on the inventor led to speech acts characteristic of the dependency in Barker's letter of October 23, 1878. The letter begins by addressing Edison as Chevalier de la Legion d' Honneur and thanking him for some information. Then he describes upset at Edison's denial of a demonstration lamp. The petition for aid goes on for two handwritten pages and ends plaintively:

> Not to have one of your lights there at my lecture after all I have promised, places me in a position before this community which I would rather lose my right-hand than occupy. Only two weeks ago and you wrote that you would try and come over to the lecture. Now you dont know whether you can loan me even a light for the occasion. I beg of you not to desert me now. Do let me show something that represents your new invention. (17: 981)

Letters from other lecturers asking for Edison's cooperation are dated October 9 (17: 940), October 23 (17: 976), and November 21 (17: 1051).

If there were no public lectures built on the display of wonders, the means for publicizing Edison's light would be fewer and there would be that much less pressure on Edison to produce something workable. Throughout the developmental stage of the lightbulb, Edison was constantly under pressure from the press, lecturers, and financial backers to have something demonstrable, and the Christmas 1879 spectacular light show, illuminating the entire grounds at Menlo Park, is considered a crucial moment in the development of electrical technology. Such shows create an aura of the spectacular and celebrity surrounding inventors and the demonstration of their work, an aura that Edison could exploit but also had to live up to.

A different letter dated September 16 also mentioning the *Sun* article of that day alludes to another document-circulation system that pervades Edison's correspondence: the patent system. Patents tie the inventor's projection of a workable object into the legal system, providing the inventor ownership rights in courts and contractual

actions—making the inventions significant properties in the industrial and financial sector, regulated and protected by that legal system. This letter from A. B. Williams introduced Charles A. Shaw as a potential patent manager for Edison's consideration (17: 929-30). The letter was accompanied by a publicity brochure for Shaw based largely on a biographical article appearing in *Frank Leslie's Magazine* (17: 931-34). In addition to the formal legal correspondence concerning the filing of patents and caveats, Edison received a number of letters offering to buy, sell, manage, or otherwise trade in patents by Edison or the correspondent (17:954, 955, 1001, 1003, 1041, 1070, 1071).

The study of the patent system into which Edison entered his new work and that turned ideas into protected, marketable commodities is a major undertaking that I will not attempt here. Such an examination would examine the circulation of texts not only in government offices and courts of law but would reach back into how laboratory and even mental representations become stabilized and transformed into the legal entities of patents and then reach forward into industry and the financial marketplace to study the operative effect of patents on production, marketing, and financial dealings and the kinds of circulation and transformation of patent language into those domains.

If there were no patent protection, Edison or any inventor, for proprietary security reasons, would have little interest in publicity. The legal standing of patent representation opens up invention to public knowledge as well as sets the stage for future litigation over ownership and rights, as Edison was involved with at that time concerning both the telegraph and telephone.

Patents as valuable intellectual properties then become circulatable within financial markets, which provide their own networks of document circulation. A letter of September 23 from Hugh Craig, a schemer and developer whom Edison knew from the telegraph industry, provides a window into this world, where any representation of a new Edison invention promises wealth. Craig's letter consists only of a clipping of the *Sun* article and the note:

> Tom, Is this a true bill? Write me about it. (17: 935)

This is the first of many letters Edison received, including those from the broker J. G. Kidder (17: 949) and the telegraph executive George Walker (17: 951), either asking about the state of the technology with the aim of investment, directly making offers, or introducing investors. In mid-October, for example, W. C. Miller described a meeting he

had with "several men of ample means. . . . A desire was expressed on the part of two or three of the best of them that they might know at an early day as to your business plans on the light" (17: 967-68). Another letter passed on to Edison with an introduction asks, "Do you think telegraphers will be given the inside track?" (17: 982). Of course, by this time, negotiations had been almost completed with the group of favored and very high-powered investors who had been given the inside track the day after the first announcement in the *Sun*.

This tremendous activity bespeaks the highly developed financial markets and network of financial information that had been developing over the nineteenth century as well as the particular link that had been made between financial markets and technological developments in the latter half of the century, beginning with the development of railroads and gas companies. The nature of these enterprises also had the added characteristic of being large and dispersed endeavors, creating new kinds of corporate management and massive financial backing with tremendous rewards to be earned. Communications within the financial markets reflected these new realities.

One poignant example from Edison's correspondence of the way technological intelligence interacted with distant and widespread financial markets was a letter from a self-described "elderly woman in feeble health" dated November 5, after gas stock prices fell in response to Edison's confidence in electricity. After a number of financial reverses, this woman had invested a small inheritance, on which she depended, in gas. In desperation, she implored:

> I write this letter to beg you will write to me immediately, that you are sure, if you are sure of the electric light superseding the use of Gas and consequently lessening the value of Gas stock. So that I can dispose of my stock. (17: 1016)

As in the financial markets of our time a century later, everyone wants inside information. Notice how the concept of inside information implies a discourse-circulation network, although not usually relying on the written word once regulation was established to inhibit these communication channels. The written word endures time and can fall into the wrong hands of another discourse-circulation network to become criminal evidence in its new setting.

The development of large technological corporations changes not only the character and communication of the financial markets but also the communication networks within the corporation itself. New communication technologies and genres need to be developed to

manage far-spread enterprises (Yates). Anyone wishing to be part of the activity must affiliate or become subsumed by a large organization. Edison received several letters from individuals, people in small business, who offered to become local representatives or managers for an electrical power franchise in Clarksville, Tennessee (17: 1029); in Georgia (17: 955); in Wyoming (17: 1106); and in Buffalo (17: 959). By this act, they wished to step out from the limited and weak networks of small business into the powerful network that they assumed Edison would form. The most poignant is a six-page letter from Clinton Ball, a former clothes wringer manufacturer of Troy, New York, written on his bankrupt company's stationary topped with an illustration of the Ball clothes wringer. Mr. Ball had made a special trip to Menlo Park to offer his services, but Edison was busy, so Mr. Ball returned home and had to tell his story by letter. Having been cheated by his former partner, Mr. Ball was now out of work and wished to become representative to the Rensselaer district but was willing to relocate. He clearly saw the future in Consolidated Edison and franchising agreements (17: 986-991).

A new technology had a place not only in the money-speculation narratives of the financial markets and the personal narratives of businesspeople trying to project a career onto the marketplace but also on municipalities trying to be in the forefront of development. Modernization clearly had a significant place in the civic discourse of late nineteenth-century America. Within two months of the *Sun* article, Edison had inquiries from the city council of Louisville (17: 992), the mayor of San Francisco (17: 1034), and the city fathers of Innsbruck (17: 1107) about the possibilities of municipal systems. An investigation of the discourse of city planning and public deliberation should produce some interesting results as to the hopes projected onto technology and technological developers. In a similar vein, a mine owner makes an inquiry concerning the possible use of electric light in mines as a safer alternative to gas (17: 997).

NARRATIVE HEROISM IN DIALECTIC WITH MATERIAL ACCOMPLISHMENT

Although the generally brief letters to Edison themselves largely conform to the conventions of nineteenth-century America, each has clues as to the networks of texts that lie behind it and to which the letter writer, as intermediary, hopes to connect Edison and his new

invention. In each of those networks, Edison is projected as a potentially larger-than-life figure who will shape the course of the future. Thus the letter writer would gain some benefit from playing an intermediary role (even if only having touched the hems of greatness, as in one adulatory letter from a British military widow offering Edison and family a place to stay when they visited England [17: 960-962]).

One larger textual-cultural context for all of these attempted links is the narrative of heroic achievement, particularly scientific heroic achievement, especially as advanced in the press and popular communications of the period. Indeed, several amusing parodies of this heroic story appeared in the press, because Edison was at various times, proclaimed to have invented cures for most of the world's ills. A note from Barker includes a clipping from a California newspaper reporting that "Edison is said to be at work on an invention to keep Pantaloons from bagging" (17: 1081). Thus the habit was there, ready to be exploited by Edison. Many were ready to believe that the heroic individual could bring new and striking knowledge, new and powerful technologies, new and powerful investment opportunities, new and solid industrial empires, new and forward-looking municipal projects.

Only with a full investigation of each of these cultural stories, the document systems by which they were fostered, and the human networks through which they were circulated can we gain a detailed view of how representations spread themselves from one domain to another and translate power within one network to another.

Ultimately, the ability for Edison to take an enduring place within each of these social narratives was dependent on his being able to produce a viable material technology, thereby giving solidity and functional support to the discourse. But during the two years he was working to make good on his promises, the social narratives circulating in various channels ensured him the kind of credit, support, and leeway that he needed to bring the work to completion. They also created social structures within which his promises were made and to which Edison had to be responsible for finally producing the technology unless he were to lose his standing in each of them. Promises, hopes, projections of desire, and pressures for fulfillment all depend on imaginable narratives framed within recognizable channels of communication. Edison's promises made a lot of sense, because people had the terms to attribute sense to him and to attribute the power to make things happen.

NOTES

1. The foremost work of this nature has been carried out by Merton, his collaborators, and his students (see Merton, *Sociology*; Coser).

2. Landmarks in this tradition include Barnes; Bloor; Latour and Woolgar; Collins and Pinch. For reviews of social studies of science, see Shapin; Bazerman, "Scientific Writing"; Collins, "Sociology."

3. The story of the lightbulb has been often retold, but is retold most fully in Friedel and Israel.

4. For two striking discussions of the impact of electrical technology on general cultural understandings, see Schnivelbusch and Marvin.

5. The source of my thinking about typifications derives from Schutz and Luckmann but has developed in relation to concepts of genre (see Miller; Bazerman, *Shaping Written Knowledge*) and kairos (see Bazerman, *Constructing Experience*).

6. Edison's *Papers* have been released in a microfilm edition. The citations refer to reel and frame numbers of this edition.

REFERENCES

Barber, Bernard. *Science and the Social Order*. New York: Free Press, 1952.

Barnes, Barry. *Scientific Knowledge and Social Theory*. London: Routledge & Kegan Paul, 1974.

Bazerman, Charles. *Constructing Experience*. Carbondale: Southern Illinois University Press, forthcoming.

———. "Scientific Writing as a Social Act." *New Essays in Technical and Scientific Communication*. Ed. Paul Anderson, R. John Brockmann, and Carolyn Miller. Farmingdale, NY: Baywood, 1983. 156-84.

———. *Shaping Written Knowledge*. Madison: University of Wisconsin Press, 1988.

Ben-David, Joseph. *The Scientist's Role in Society*. Englewood Cliffs, NJ: Prentice-Hall, 1974.

Bloor, David. *Knowledge and Social Imagery*. London: Routledge & Kegan Paul, 1976.

Callon, Michel. "Some Elements of a Sociology of Translation." *Power Action, and Belief*. Ed. John Law. London: Routledge & Kegan Paul, 1986. 196-229.

Collins, Harry. *Changing Order*. Beverly Hills, CA: Sage, 1985.

———. "The Sociology of Scientific Knowledge." *Annual Review of Sociology 1983*: 265-85.

Collins, Harry, and Trevor Pinch. *Frames of Meaning*. London: Routledge & Kegan Paul, 1982.

Coser, Louis A., ed. *The Idea of Social Structure*. New York: Harcourt Brace Jovanovich, 1975.

Edison, T. A. *Papers*. Part I. Ed. Reese Jenkins. Microfilm. Frederick, MD: University Publications of America, 1984.

Friedel, Robert, and Paul Israel. *Edison's Electric Light*. New Brunswick, NJ: Rutgers University Press, 1986.

Gieryn, Tom. "Boundary-Work and the Demarcation of Science from Non-Science." *American Sociological Review* 48 (1983): 781-95.

Hughes, Thomas P. *Networks of Power: Electrification in Western Society, 1880-1930.* Baltimore, MD: Johns Hopkins University Press, 1983.

Latour, Bruno. *Science in Action.* Cambridge, MA: Harvard University Press, 1987.

Latour, Bruno, and Steve Woolgar. *Laboratory Life.* Beverly Hills, CA: Sage, 1979.

Marvin, Carolyn. *When Old Technologies Were New.* Oxford, England: Oxford University Press, 1988.

Merton, Robert. *Science, Technology, and Society in Seventeenth-Century England.* New York: Harper & Row, 1973.

———. *The Sociology of Science.* Chicago: University of Chicago Press, 1973.

Miller, Carolyn. "Genre as Social Action." *Quarterly Journal of Speech* 70 (1984): 151-67.

New York Mail. "A Great Triumph." 10 September 1878: 1.

New York Sun. "Edison's Newest Marvel." 16 September 1878: 1.

Schnivelbusch, Wilhelm. *Disenchanted Night.* Berkeley: University of California Press, 1988.

Schutz, Adolph, and Thomas Luckmann. *The Structures of the Life World.* Evanston, IL: Northwestern University Press, 1973.

Shapin, Steven. "History of Science and Its Sociological Reconstructions." *History of Science* 20 (1982): 157-211.

Wachhorst, William. *Thomas Alva Edison: An American Myth.* Cambridge, MA: MIT Press, 1981.

Yates, JoAnne. *Control through Communication.* Baltimore, MD: Johns Hopkins University Press, 1988.

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