



Dial Log



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Jody Georgeson, Editor

Director's Report By Jody Georgeson

Exciting times in the neighborhood... As I write this, we've just finished watching the two national conventions --one in Denver and the other in Minneapolis. As always, telecom technology was integral to the success of both. On page 7, you'll find a follow-up article to the one we published last quarter about the DNC.

I'd like to welcome our newest volunteer, **Jack Bol**. Jack is retired from U S WEST, where he worked in Business Resources (more specifically, in Purchasing and Contracting Services). Herb and I have been hounding him for several years, so we're all very excited that he's joining us. By the way, there's always room for more, so if you are interested in helping out, give us a call. We'd be happy to put you to work!

I was able to attend the Society of American Archivists conference in San Francisco in August. Among the many excellent speakers were the Archivist of the United States, Allen Weinstein, and prolific author, John Dean. I made some

good contacts for THG and brought back a number of ideas for making our archives even better. I was also reminded that our volunteers do a pretty darned good job of caring for our historical materials. Thanks, guys!

Member **Ralph Crawford** and his wife **Carol** are downsizing, and contributed a marvelous collection of documents and artifacts to THG. Among the treasures are nearly a full set of Pioneers plates depicting telephone workers, and a number of rare Jim Beam telephone decanters, which we immediately put on display. Volunteers **Milo Masura** and **Roy Lynn** are putting the finishing touches on a display of two working magneto phones. (Thanks to our friend **Mike Boley**, there are even birds perched on the wires!)

Remember, October 2008 is **American Archives Month**. This year, THG will be reaching out to schoolchildren, sharing with them some of the fascinating stories to be found in our nation's archives and library special collections. If you have or know of children who'd like to tour our facilities, please give us a call. We'd love to show them around and introduce them to our treasures!



MUSEUM OF COMMUNICATIONS
Part of the TELECOMMUNICATIONS HISTORY GROUP, INC.

Kudos!

While the virtual tour on our website (at <http://www.telcomhistory.org/vm/exhibits/Seattle.shtml>) shows how great the Museum of Communications is, there's no substitute for seeing it in person. The volunteers in Seattle have been kept busy this summer giving on-site tours. One was for a group of convening prop masters, one of whom wrote the following letter:

We were recently in town for the SPAM (prop masters) convention and toured your museum; we were FLOORED by all the cool stuff you had, and how knowledgeable our tour guides were, and how well they explained everything to us. We'll be using the information you gave us for years in our work, and the pictures on your website and the pictures we took there will be an invaluable resource when we're trying to get just the right period look for an office desk in the '20's, or a turn-of-the century townhouse.

This was one of the most fascinating museums I've ever been in--I've been telling all my other friends in Seattle they shouldn't miss it. Thanks for a great time!

---Nancy Wagner, Kansas City Rep Theatre

Congratulations, guys! Keep up the good work...

The Telephone Gambit: Chasing Alexander Graham Bell's Secret

A review by George Howard



Since shortly after the U.S. Government awarded the first patent for a telephone to Alexander Graham Bell (1876), controversy has surrounded the invention. The patent was challenged in courts of law and, after the lawyers retreated from the field of inquiry, historians took over.

A new book has added scholarship to the query. Seth Shulman has written The Telephone Gambit: Chasing Alexander Graham Bell's Secret (New York: W.W. Norton & Company, 2008). Shulman is a journalist who specializes in science and technology. He spent a year as a visiting scholar at the Dibner Institute for the History of Science and Technology at the Massachusetts Institute of Technology (MIT) in Boston. His book is the result of that research into Bell's invention.

The journalist began his research by studying Bell's notebook, written as Bell conducted his telephone researches. If you have access to a computer, you too

can study Bell's notebook in the Library of Congress American Memory page: <http://memory.loc.gov/cgi-bin/ampage?collId=magbell&fileName=253/25300201/bellpage.db&recNum=21>.

The U.S. Patent Office granted a patent to Bell for the telephone before it was proven that the invention worked. Although the Patent Office normally requested that an inventor submit a model of the invention to ensure it worked before granting a patent, the Patent Office never asked Bell to submit a working telephone transmitter. That is only one of many odd things about the issuance of the telephone patent to Bell.

Bell's patent claimed two methods for transmitting the human voice. The first was the "magneto" generation of electrical currents. This involves the generation of electricity when an iron object (transmitter diaphragm) cuts across a magnet's lines of force. His laboratory notebook shows that he had worked for some period of time on this theory. The second method, not reflected in Bell's laboratory notebook until very late in his research, was the variable resistance of a direct electrical current.

It is undisputed that Bell invented the magneto transmitter. Unfortunately, the magneto transmitter yielded an electrical current that was so weak that it did not form the basis of a commercially feasible telephone. The variable resistance transmitter yielded a strong current, and would immediately prove to be the basis for a commercially feasible telephone. Inquiries into Bell's

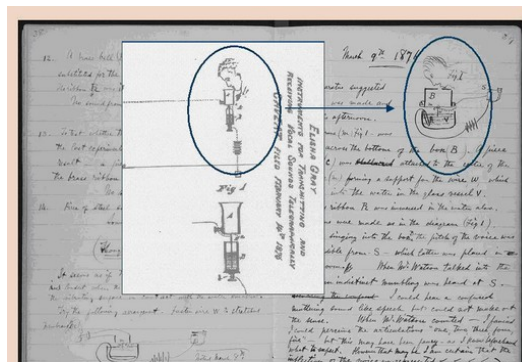
claim to the invention of the telephone are focused entirely on his claim to have invented the variable resistance transmitter.

Most of our readers are aware that Elisha Gray, at the time a much better known inventor of electrical gizmos, filed an application for a caveat the same day that Bell's application for a patent was filed – February 14, 1876. The subject of Gray's caveat was a variable resistance telephone transmitter.

Shulman studied Bell's notebook and noticed two important things. First, Bell took a two-week vacation from his research in the period February-March 1876. Second, on March 8th, 1876, his notebook recorded a radical and unexplained departure from his previous line of inquiry – from the magneto transmitter concept to the variable resistance transmitter concept. What had happened between the last entry on February 24th and the next entry March 8th? This question consumed

Shulman's further research and led him to write the book.

The author discovered that during Bell's absence from the laboratory, he had traveled to Washington, D.C. to support his patent application. It had been filed on February 14, 1876. On February 19th, the patent examiner had suspended consideration of Bell's patent application for three months. This was in accord with the rules at the time, designed to give Gray the opportunity to file a full patent application. Had Gray done so within the three-month period, the Patent Office would then have determined who the first inventor was.



Elisha Gray's caveat

However, Bell's attorneys had gotten that suspension canceled by approaching the Patent Commissioner directly with a novel legal theory – and without giving Gray an opportunity to respond.



In later correspondence (March 2, 1877) between Bell and Gray, Bell wrote: "I do not know the nature of the application for a caveat to which you have referred . . . except that it had something to do with the vibration of a wire in water – and therefore conflicted with my patent." This statement was a stunning admission that Bell had secured information from the Patent Office about Gray's caveat – entirely contrary to law. And in the Dowd case, Bell testified under oath that he had a conversation with the patent examiner about Gray's caveat and the point of interference between the two applications. Bell always maintained that he didn't actually see or read Gray's caveat. But the fact that he knew anything about the contents of Gray's caveat was entirely improper.

Upon Bell's return to Boston, his laboratory notebook entry, dated March 8, 1876, recorded his first work on a variable resistance transmitter – on the plan as outlined in Gray's caveat! Accompanying Bell's notes was a diagram of a head speaking into a liquid transmitter – a strikingly similar duplicate of the diagram found in Elisha Gray's application for a caveat. Two days later, Alexander Graham Bell succeeded in transmitting the human voice for the first time using a transmitter that Gray would have recognized as his own.

The author relates other suspicious activity surrounding Bell's patent application. As other historians have noted, it appears that the variable resistance theory was added to Bell's patent application after it was filed with the Patent Office – a clear breach of the rules. Why would it have been added, but for the purpose of claiming Gray's variable resistance theory as Bell's own? Of course, it was this added theory that formed the true basis for a commercially viable telephone.

The author's carefully documented research leads him to the conclusion that Bell did not invent the variable resistance transmitter.

Why would Alexander Graham Bell, an otherwise honorable man, stoop to use another's idea? The author noted that Bell was a young man, and young people often do things they later regret. Bell was under enormous psychological pressure to achieve a secure financial future, because he wanted to ensure that his future wife (Mabel Hubbard) would remain in comfortable circumstances. His future wife was the daughter of his business partner, Gardiner Hubbard. Lawyer Hubbard had already threatened to withhold his daughter's hand in marriage unless Bell performed inventive feats.



This reviewer strongly recommends that everyone interested in history read this book. It is unusually well written, with never a boring page. It can be purchased from bookstores, or on-line from www.amazon.com for about \$16.



Operator Dorm Deluxe

By Herb Hackenburg

All of the pictures in this story are provided by the Dickinson County Historical Society, in Abilene, Kansas.

The next time you're passing through Abilene, Kansas, note the tall butterscotch-colored mansion to your right (west) as you motor south on Buckeye Street near the corner of 1st Street. It's hard to miss; the mansion's tower rises 65 feet.

You may ask, "Why should I be interested in a butterscotch-colored mansion?"

"Because it was once a dormitory for telephone operators," we answer.

The idea of the mansion began in the 1870s when Abilene's richest banker, Conrad Lebold, and the city's other leading citizens began a campaign to move the Kansas State Capital from Topeka to the more centrally located Abilene. These civic leaders knew they had a big job in front of them, because—deserved or not—Abilene still had a reputation as a lawless cattle town on the edge of civilization, with gun fights breaking out every other day. All this and Wild Bill Hickok hadn't been the town marshal for years.

"Build!" This was the Abilene city fathers' plan. "Build modern, big, beautiful homes. Build the biggest and most showy houses right along the railroad tracks so the passengers can see them as they roll through town. If we build a town that *looks* like a state capital, we can *be* the state capital, and a capital in the middle of the state is better for everyone."

In 1880, Lebold backed his rhetoric with a 23-room mansion that was called the finest home west of Topeka. Other civic leaders did the same. Today, Abilene may have more exquisite Victorian homes per capita than any city in the nation. Unfortunately, all of Abilene's beautiful homes didn't do the job and Topeka continues to be Kansas' capital city.

The Lebold family lived in their mansion for less than ten years. A major downturn in the nation's economy caused Lebold to go bankrupt and he left Abilene in disgrace. A rich farmer purchased the Lebold mansion for pennies on the dollar and lived in and maintained the house for several years.



Tennis court on the grounds of the mansion

In 1898, Abilene's Clemson L. Brown decided to build and operate a telephone company in town. One of Brown's first customers was the gentleman farmer in the Lebold house.

Brown proved to be a better businessman than Lebold: his phone company prospered and grew. He purchased several small phone companies around Kansas, and began to buy phone companies throughout the nation. The little company became the United Telephone Company, one of the nation's largest independent (*not owned by the Bell System*) telephone companies.

United Telephone was based in Abilene and its operators handled local and long distance calls for a considerable area in central Kansas. It took a large force of operators to handle all the business—more than Abilene could provide.

When the Lebold mansion was offered for sale in 1920, the United Telephone Company purchased it as a rooming house for operators. Now, after graduating from high school, young ladies from the farms and small towns in central Kansas could find a fairly well paying job. Being a telephone operator was a respectable job--one that allowed unmarried young ladies to leave home and live on their own. And in the Abilene area, the young operators could live together in a large well-appointed rooming house while paying reasonable room and board. There was even a house manager to make sure that propriety was observed.



Operators enjoy the spacious living room



Orphans assemble in front of the old mansion

Over the years dial technology reduced the need for operators, and United Telephone sold the Lebold mansion. The big old house went through some rough times, first as a cheap apartment house, then as a “flop house”. For a time, it served as an orphanage. There was even some discussion about condemning the old place, but was still structurally sound and looked good enough to attract attention...if one didn't look too close.

A young married couple purchased it at a bargain price, and began to renovate the old house while living in it. A tradition began. After doing much of the dirty work, the young couple sold the house at a profit. Today a third pair of curators are living and working in the house. Both members of the current team are internationally known experts on Victorian houses and have been featured in national magazines and television shows.

Now the house is almost completely renovated, with each of its 23 rooms decorated and furnished in the Greek revival or renaissance style popular in late 1800's and early 1900's. Tours are conducted Thursday through Sunday at 11:00 a.m., 1:00 p.m. and 3:00 p.m.

By the way, for this telephone historian, part of the fun was spotting the old telephones that are scattered throughout the house. And they all work! I may even have heard "Number please," spoken softly in the background.

For more information about the Lebold Mansion, or to schedule group tours and special events, call 785.263.4356.

For information about the Dickinson County Historical Society and/or the Museum of Independent Telephony, in Abilene, call 785.263.2681 or email heritagecenterj@sbcglobal.net

Patron Saints



On August 6, 258 BC, St. Lawrence the Deacon (one of the patron saints of archivists) was murdered by being burned to death on a giant gridiron. His feast day is honored by archivists the world over by the eating of cold cuts (meats), in honor of the method he died. He protected the sacred books of the Church of Rome (probably including baptismal & marriage registers) from being seized by the pagan Roman authorities.

Because of his reputation as a messenger, the Archangel Gabriel is the patron saint of telecommunications workers. His feast day is September 29th.



1908-2008: Wiring Denver's Democratic National Convention

by Stephanie Walkenshaw

In our last issue, Herb wrote a story about the 1908 DNC. The people at Qwest liked it so well, that they included it in a national press release. We thought you'd like to read about what it's taking to provide service this year, so here are excerpts from the Qwest story, used with their permission.

"The Qwest network will facilitate an unprecedented digital experience for the delegates and the media at this year's convention. While such technology was unheard of in 1908, it highlights the need to stay connected with the people and the events that matter most in our lives," said Qwest's President in Colorado, Chuck Ward.

From a technology perspective, the upcoming convention in the Mile High City bears little resemblance to the 1908 convention -- when only 12 special telephone lines were installed to accommodate the event and enable national news bulletins.

By contrast, this year's convention sites -- the Pepsi Center and INVESCO field at Mile High -- are expected to have unparalleled digital connectivity, with 6,000 voice and data lines carrying real-time news, videos, blogs, phone calls, e-mail and other digital data to a global audience . . .

Qwest's fiber-optic network for the 2008 DNC has an aggregate data capacity of 50 billion bits per second, which could transmit an HD movie in two minutes, or the entire collection of print holdings at the Library of Congress in less than one hour.

Qwest has implemented infrastructure upgrades that required about 3,344 mile of single strands of fiber and 140 miles of single strands of copper and coaxial cable, installed video equipment with capacity to handle 130 simultaneous video feeds at both the Pepsi Center and INVESCO Field at Mile High, and added approximately 2,600 additional data lines and 3,400 voice grade circuits to serve both venues.

During *(the)* conventions, the Democratic presidential nomination and convention proceedings form the opening gavel to Barack Obama's acceptance speech ...*(were)* transmitted across Qwest's network for the world to watch in real-time at home or on the go.

Qwest used the same technology in Saint Paul at the Republican National Convention. The last major political convention in the Twin Cities was the 1892 RNC in Minneapolis. We could find no evidence of telephones being used at that convention, which leads us to assume that the organizers relied solely on telegraph. The media folks were concerned about having a convention so far from "civilization," fearing that storms might disrupt the transmission of messages.



The Advance of Science

By W.H.P.

*From the Journal of the Telegraph,
February 16, 1880*

By the spread wing of science,
so grand in its flight,
The fictions of old are outdone;
And the course is lit up by
electrical light,
Which vies with the rays of the sun.

From the land of the east
to the land of the west,
We speak in a moment of time;
And our cables outstretch
'neath the ocean waves crest,
To shores of the far distant clime.

Though hundreds of miles from
the friends that are dear,
In stranger lands, cheerless and lone,
The tones of their voices
fall sweet on the ear
Through the cords of the telephone.

And when death lays them low,
in the churchyard so green,
We hear their own musical laugh,
Reproduced as of old,
by a little machine,
Called the Edison phonograph.



1921 - The American Telephone and Telegraph Company established its historical library (later renamed the AT&T Corporate Archives) in New York City. Not until thirteen years later, in **1934**, was the National Archives of the United States established.



YOUR LEGACY

Nearly twenty years ago, a small group of volunteers undertook an enormous challenge...to protect the history of the telecommunications industry. With the help of members like you, we now operate one of the nation's largest telecom archives, and administer two well-regarded museums.

Your bequest can enable us to continue this important work. We have set up two endowment funds, which will ensure that THG is able to continue its mission of saving our historical record and artifacts. Here are some of the ways you can contribute and, in many cases, pay fewer taxes:

- ☎ Cash and in-kind gifts
- ☎ An amendment or codicil to your will
- ☎ IRAs and 401(k) rollover gifts
- ☎ Gifts of stock
- ☎ Charitable gift annuities
- ☎ Charitable remainder trusts
- ☎ Charitable lead trusts
- ☎ Life insurance policies

Talk to your attorney and financial planner to determine the best way for you to leave a legacy.

For more information about THG, the endowment funds, or other ways you can help, please contact us at telcomhist@aol.com or call us on 303-296-1221.

Looking Back

100 Years Ago - 1908

Work was begun by the Bell System engineers to design long distance, overhead cable, which would permit the use of phantom circuits. The first of these--called a duplex cable--was installed between Boston and Neponset in 1910.

75 Years Ago - 1933

Reproduction of symphonic music in "auditory perspective" was transmitted from Philadelphia to Washington, over underground cable.

50 Years Ago - 1958

June 30th marked the last performance of the *Telephone Hour*, the eighteen-year-old program that featured semi-classical music.

25 Years Ago - 1983

On the eve of divestiture, a restored "Golden Boy" statue was unveiled in the entrance lobby of AT&T's new headquarters building at 550 Madison Avenue in New York City.



Once again this November, we Americans go to the polls to elect our next President. We encourage each of you to exercise your right and responsibility by voting for the candidate of your choice.

Thanks for being part of our THG family!