# DR. BELL, INVENTOR OF TELEPHONE, DIES

## Sudden End, Due to Anemia, Comes in Seventy-Sixth Year at His Nova Scotia Home.

## NOTABLES PAY HIM TRIBUTE

### Lived to See Speech Reproduced Across the World—Pioneered in Aeronautics.

SYDNEY, N. S., Aug. 2.—Dr. Alexander Graham Bell, inventor of the telephone, died at 2 o'clock this morning at Beinn Breagh, his estate near Baddeck.

Although the inventor, who was in his seventy-sixth year, had been in failing health for several months, he had not been confined to bed, and the end was unexpected. Late yesterday afternoon, however, his condition, brought about by progressive anemia, became serious, and Dr. Ker of Washington, a cousin of Mrs. Bell, a house guest and a Sydney physician, attended him.

With Mr. Bell when he died were Mrs. Bell, a daughter, Mrs. Marion Hubbard Fairchild, and her husband, David G. Fairchild of Washington. The inventor leaves another daughter, Mrs. Elise M. Grosvenor, wife of Gilbert Grosvenor of Washington, who now is with her husband in Brazil.

At Sunset on Friday, on the crest of Beinn Breach Mountain, the body of Dr. Bell will be buried at a spot chosen by the inventor himself. The grave of the venerable scientist, the immensity of whose life work was attested by scores of Telegrams which came today to the Bell estate from the world's prominent figures, is at a point overlooking the town of Baddeck, Cape Breton, the sweeping vista from the mountain top, so admired by Dr. Bell, stretches far over the Bras d'Or Lakes. Sunset, chosen as the moment when the body will be committed to the sturdy hills, gilds the waters of the lakes until they are really what their name means—"the lakes of the arm of gold."

Dr. Bell asked to be buried in the countryside where he had spent the major portion of the last thirty-five years of his life. The inventor came to Cape Breton forty years ago, and five years later purchased the Beinn Breagh estate. His last experiments, dealing with flying boats, were made on Bras d'Or Lake.

American specialists who were rushing to the bedside of Dr. Bell were today returning to the United States. They were told of his death while aboard fast trains, bound for Baddeck, and, being too late, turned back.

*Special to The New York Times.*

WASHINGTON, Aug. 2.—Because of his long residence in Washington, his scientific position and his wide circle of friends, news of the death of Dr. Alexander Graham Bell shocked many in the national capital.

Officials of the National Geographic Society, of which Dr. Bell was a founder and a benefactor, received the news that Bell had "passed away peacefully" from his son-in-law, David S. Fairchild of the United States Department of Agriculture.

On learning of his death President Harding sent this telegram to Mrs. Bell:

"The announcement of your eminent husband's death comes as a great shock to me. In common with all of his country men, I have learned to honor him as one of the great benefactors of the race and among the foremost Americans of all generations. He will be mourned and honored by human kind everywhere as one who served it greatly, untiringly and usefully."

President Thayer of the American Telephone and Telegraph Company ordered the Bell system throughout the country to half-mast flags on its buildings. Mr. Thayer sent this telegram to Mrs. Bell:

"In behalf of all the men and women of the telephone and telegraph business, we extend our deepest sympathy and express grief in the passing of Dr. Bell. History will record the inestimable value of your husband's work. We who are carrying on the telephone art founded on his great discovery are peculiarly appreciative of his genius."

Dr. Bell's Washington home at 1,131 Connecticut Avenue is closed. A cousin, Charles J. Bell, President of the American Security and Trust Company and a civic leader, lives here.

News of Dr. Bell's death was cabled by the National Geographic Society to Dr. and Mrs. Gilbert Grosvenor, who are on their way to Rio de Janeiro, Brazil, where Dr. Grosvenor, who is President of the National Geographic Society, was to attend the Congress of Americanists as a delegate from the United States to that scientific gathering.

WEST ORANGE, N. J., Aug. 2.—Thomas A. Edison today paid the following tribute to his fellow-inventor, Alexander Graham Bell:

"I am sorry to learn of the death of Alexander Graham Bell, the inventor of the first telephone. I have always regarded him very highly, especially for his extreme modesty."

MIAMI, Fla., Aug. 2.—Dr. Alexander Graham Bell, who spent last Winter at the home of his son-in-law, Dr. David Fairchild, at Cocoanut Grove, near here, devoted much of his time to an attempt to develop a process to distill salt water in the event of disaster at sea, an invention which he declared would be of great benefit to the human race. He had not completed his experiments when he left for the North.

*Special to The New York Times.*

HARRISBURG, Pa., Aug. 2.—The death of Alexander Graham Bell recalls the litigation that extended over a period of eight years to determine whether Bell or Daniel Drawbaugh, noted inventor of Eberlys Mills, Cumberland County, was the original inventor of the telephone. Mr. Drawbaugh died eight years ago.

The first suit was started in 1880 by the American Bell Telephone Company against the Peoples Telephone Company, which had purchased Drawbaugh's invention. Through a number of courts the case was taken on appeal until a decision finally was rendered in favor of the Bell Company by the United States Supreme Court on March 10, 1888.

Drawbaugh, who was called the "Edison of the Cumberland Valley," and who invented many labor-saving devices, never took out a patent on his talking machine, although he is known to have conceived the idea of creating it before 1875, the earliest date Bell is known to have started similar experiments.

Bell's patents were taken out in 1876 and 1877, and he claimed that his first work on the telephone was done on June 3, 1875. The final decision in Bell's favor was rendered by a divided court. Chief Justice Waite casting the deciding vote when the six Justices were evenly divided in their opinion.

Although a subsequent suit was brought in 1890 to invoke the Court to find to determine whether Drawbaugh or Bell was the inventor of the telephone, this suit was dragged out by counsel for Drawbaugh until the Bell patents had expired and there was no further reason to prosecute the action.

*Special to The New York Times.*

SCHENECTADY, N. Y., Aug. 2.—In paying tribute to Dr. Alexander Graham Bell, E. W. Rice Jr., honorary Chairman of the Board of Directors of the General Electric Company, said today:

"The news of Dr. Bell's death will come as a great shock to all those who ever had the rare pleasure of his acquaintance. His cheerful greeting and the stimulus of his great intellectual activity will be sorely missed. It seems too bad that such a personality cannot live forever in this world. However, of no man can it be more truly said that his deeds will live after him. He will, of course, be acknowledged as one of the world's greatest benefactors. His contribution of the telephone has made possible the achievements of modern business.

"His invention was not due to his knowledge of electricity. While Bell had a limited knowledge of electricity at that time, his profound knowledge of the nature of sound waves which accompany human speech and of the mechanics of its transmission and reproduction led him to his great discovery."

OTTAWA, Ont., Aug. 2.—Premier Mackenzie King tonight sent the following message to the widow of Dr. Alexander Graham Bell:

"My colleagues in the Government join with me in expressing to you our sinse of the world's loss in the death of your distinguished husband. It will ever be a source of pride to our country that the great invention, with which his name is immortally associated, is a part of its history. On behalf of the citizens of Canada, may I attend to you the expression of our combined gratitude and sympathy."

Alexander Graham Bell lived to see the telephonic instrument over which he talked a distance of twenty feet in 1876 used, with improvements, for the transmission of speech across the continent, and more than that, for the transmission of speech across the Atlantic and from Washington to Honolulu without wires. The little instrument he patented less than fifty years ago, scorned then as a joke, was when he died the basis for 12,000,000 telephones used in every civilized country in the world. The Bell basic patent, the famed No. 174,465, which he received on his twenty-ninth birthday and which was sustained in a historic court fight, has been called the most valuable patent ever issued.

Although the inventor of many contrivances which he regarded with as much tenderness and to which he attached as much importance as the telephone, a business world which he confessed he was often unable to understand made it assured that he would go down in history as the man who made the telephone. He was an inventor of the gramophone, and for nearly twenty years was engaged in aeronautics, associated with Glenn H. Curtiss and others whose names are now known wherever airplanes fly, he pinned his faith in the efficacy for aviation of the tetrahedral cell, which never achieved the success he saw for it in aviation, but as a by-product of his study he established an important new principle in architecture.

Up to the time of his death Dr. Bell took the deepest interest in aviation. Upon his return from a tour of the European countries in 1909 he reported that the continental nations were far ahead of America in aviation and urged that steps be taken to keep apace of them. He predicted in 1910 that the great war would be won in the air. It was always a theory of his that flying machines could make ever so much more speed at great heights, the rarefied atmosphere, and he often said that the transatlantic flight would be some time made in one day, a prediction which he lived to see fulfilled.

### A Teacher of Deaf Mutes.

The inventor of the telephone was born in Edinburgh, on March 3, 1847. Means of communication had been a hobby in the Bell family long before Alexander was born. His grandfather was the inventor of a device for overcoming stammering and his father perfected a system of visible speech for deaf mutes, which Alexander was about 15 years old he made an artificial skull of guttapercha and India rubber that would pronounce word tones when blown into by a hand bellows. At the age of 16 he became, like his father, a teacher of elocution and instructor of deaf mutes.

When young Bell was 22 years old he was threatened with tuberculosis, which had caused the death of his two brothers, and the Bell family migrated to Brantford, Canada.

Soon after he came to America, at a meeting with Sir Charles Wheatstone, the English inventor, Bell got the ambition to perfect a musical or multiple telegraph. His father, in an address in Boston one day not long after, mentioned his son's success in teaching deaf mutes, which led the Boston Board of Education to offer the younger Bell $300 to introduce his system in the newly opened school for deaf mutes there. He was then 24 years old, and quickly gained prominence for his teaching methods. He was soon named a professor in Boston University.

But teaching interfered with his inventing and he gave up all but two of h's pupils. One of these was Mabel Hubbard of a wealthy family. She had lost her speech and hearing when a baby and Bell took the most acute interest in enabling her to hear. She later became Mrs. Bell.

### Works Three Years on Telephone.

Bell spent the following three years working, mostly at night, in a cellar in Salem, Mass. Gardiner G. Hubbard, his future father-in-law, and Thomas Sanders helped him financially while he worked on his theory that speech could be reproduced by means of an electrically charged wire. His first success came while he was testing his instruments in new quarters in Boston, Thomas A. Watson, Bell's assistant, had struck a clock spring at one end of a wire and Bell heard the sound in another room. For forty weeks he worked on his instruments, and on March 10, 1876, Watson, who was working in another room, was startled to hear Bell's voice say:

"Mr. Watson, come here. I want you."

On his twenty-ninth birthday Bell received his patent. At the Centennial in Philadelphia he gave the first public demonstration of his instrument. He had not intended to go to the exposition. He was poor and had planned to break up his teaching again. In June he went to the railroad station one day to see Miss Hubbard off for Philadelphia. She believed he was going with her. As he put her on the train and it moved off without him, she burst into tears. Seeing this, Bell leaped ahead and caught the train, without baggage or ticket.

An exhibition on a Sunday afternoon was promised to him. When the hour arrived it was hot, and the judges were tired. It looked as if there would be no demonstration for Bell, when Dom Pedro, the Emperor of Brazil, appeared, and shook Mr. Bell by the hand. He had heard some of the young man's lectures. Bell made ready for the demonstration. A wire had been strung along the room. Bell took the transmitter, and Dom Pedro placed the receiver to his ear.

"My God, it talks!" he exclaimed.

Then Lord Kelvin took the receiver. "I does speak," he said. "It is the most wonderful thing I have seen in America."

The judges then took turns listening, and the demonstration lasted until 10 o'clock that night. The instrument was the center of interest for scientists the rest of the exposition.

The commercial development of the telephone dated from that day in Philadelphia.

### His Other Inventions.

While Alexander Graham Bell will be best remembered as the inventor of the telephone, a claim he sustained through many legal contests, he also became noted for other inventions. With Sumner Tainter he invented the gramophone He invented a new method of stenography, a photophone, and an induction balance. He invented the telephone probe, which was used to locate the bullet that killed President Garfield. He spent fifteen years and more than $200,000 in testing his tetrahedral kite, which he believed would be the basis for aviation.

The inventor was the recipient of many honors in this country and abroad. The French Government conferred on him the decoration of the Legion of Honor, the French Academy bestowed on him the Volta prize of 50,000f., the Society of Arts in London in 1902 gave him the Albert medal, and the University of Wurzburg, Bavaria, gave him a Ph. D. Dr. Bell regarded the summit of his career as reached when in January of 1915 he and his old associate, Mr. Watson, talked to one another over the telephone from San Francisco to New York. It was nearly two years later that by a combination of telephonic and wireless telegraphy instruments the engineers of the American Telephone and Telegraph Company sent speech across the Atlantic.

In 1915 Dr. Bell said that he looked forward to the day when men would communicate their thoughts by wire without the spoken word.

"The possibilities of further achievement by the use of electricity are inconceivable," he said. "Men can do nearly everything else by electricity already, and I can imagine them with coils of wire about their heads coming together for communication of thought by induction."

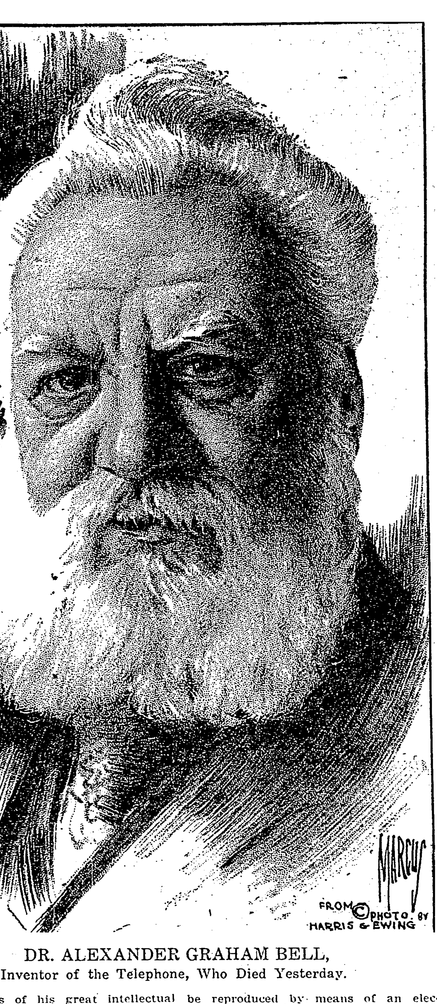
In April of 1916 he declared that land and sea power would become secondary to air power. He expressed then the opinion that the airplane would be more valuable as a fighting machine than the Zeppelin and urged that the United States build a strong aerial fleet.

The inventor's last few years were spent in energetic efforts to materialize new dreams and in seeing wider and wider applications of his greatest one. In December, 1920, he was in London when that city talked by wireless with Geneva. That same year he perfected a device for cooling houses. Always he kept working at something, more often than not a something far afield from his earlier interests.

The telephone, in fact, had palled on him. There had piled up 3,000 patents atop his original basic one, and meantime he had put in some of his hardest years trying to develop flying. It was on his seventy-fifth birthday that he disclosed that he would not have a telephone in his own study, and that there was no telephone in the Cocoanut Grove home of his daughter-in-law, Mrs. Fairchild, in the Miami suburb where he was spending the Winter working toward fresh inventions.

Dr. Bell went abroad the last time two years ago, paying a farewell visit to his native Edinburgh and returning to say that he had found himself a stranger in a strange land, and that he was glad to get back to America, where he had lived most of his life.

Throughout his life Dr. Bell maintained his interest in deaf mutes. He founded the American Association to Promote Teaching of Speech to the Deaf and contributed $250,000 to its support. He was a member of many of the leading American societies of learning.




DR. ALEXANDER GRAHAM BELL,
Inventor of the Telephone, Who Died Yesterday.

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