



Alexander Graham Bell

In 1876, at the age of 29, Alexander Graham Bell invented his telephone. In 1877, he formed the Bell Telephone Company, and in the same year married Mabel Hubbard and embarked on a yearlong honeymoon in Europe.

Alexander Graham Bell might easily have been content with the success of his telephone invention. His many laboratory notebooks demonstrate, however, that he was driven by a genuine and rare intellectual curiosity that kept him regularly searching, striving, and wanting always to learn and to create. He would continue to test out new ideas through a long and productive life.

He would explore the realm of communications as well as engage in a great variety of scientific activities involving kites, airplanes, tetrahedral structures, sheep-breeding, artificial respiration, desalinization and water distillation, and hydrofoils.

With the enormous technical and later financial success of his telephone invention, Alexander Graham Bell's future was secure,

devote himself to his scientific interests.

Toward this end, in 1881, he used the \$10,000 award for winning France's Volta Prize to set up the Volta Laboratory in Washington, D.C. A believer in scientific teamwork, Bell worked with two associates, his cousin Chichester Bell and Charles Sumner Tainter, at the Volta Laboratory. Their experiments soon produced such major improvements in Thomas Edison's phonograph that it became commercially viable.

After 1885, when he first visited Nova Scotia, Bell set up another laboratory there at his estate, Beinn Bhreagh (pronounced Ben Vreeah), near Baddeck, where he would assemble other teams of bright young engineers to pursue new and exciting ideas.

Among one of his first innovations after the telephone was the "photophone," a device that enabled sound to be transmitted on a beam of light. Bell and his assistant, Charles Sumner Tainter, developed the photophone using a sensitive selenium crystal and a mirror that would vibrate in response to a sound. In 1881, they successfully sent a photophone message over 200 yards from one building to another. Bell regarded the photophone as "the greatest invention I have ever made; greater than the telephone."

Alexander Graham Bell's invention reveals the principle upon which today's laser and fiber optic communication systems are founded, though it would take the development of several modern technologies to realize it fully.

Over the years, Alexander Graham Bell's curiosity would lead him to speculate on the nature of heredity, first among the deaf and later with sheep born with genetic irregularities.

His sheep-breeding experiments at Beinn Bhreagh sought to increase the numbers of twin and triplet births.

Bell was also willing to attempt inventing under the pressure of daily events, and in 1881 he hastily constructed an electromagnetic device called an induction balance to try and locate a bullet lodged in President Garfield after an assassin had shot him.

He later improved this and produced a device called a telephone probe, which would make a telephone receiver click when it touched metal. That same year, Bell's newborn son, Edward, died from respiratory problems, and Bell responded to that tragedy by designing a metal vacuum jacket that would facilitate breathing. This apparatus was a forerunner of the iron lung used in the 1950s to aid polio victims. In addition to inventing the audiometer to detect minor hearing problems and conducting experiments with what today are called energy recycling and alternative fuels, Bell also worked on methods of removing salt from seawater.

However, these interests may be considered minor activities compared to the time and effort he put into the challenge of flight.

By the 1890s, Bell had begun experimenting with propellers and kites. His work led him to apply the concept of the tetrahedron (a solid figure with four triangular faces) to kite design as well as to create a new form of architecture. In 1907, four years after the Wright Brothers first flew at Kitty Hawk, Bell formed the Aerial Experiment Association with Glenn Curtiss, William "Casey" Baldwin, Thomas Selfridge, and J.A.D. McCurdy, four young engineers whose common goal was to create airborne vehicles.

By 1909, the group had produced four powered aircraft, the best of which, the *Silver Dart*, made the first successful powered flight in Canada on February 23, 1909.

Bell spent the last decade of his life improving hydrofoil designs, and in 1919 he and Casey Baldwin built a hydrofoil that set a world water-speed record that was not broken until 1963.

Months before he died, Bell told a reporter, "There cannot be mental atrophy in any person who continues to observe, to remember what he observes, and to seek answers for his unceasing hows and whys about things.

August 2/1922 Alexander Graham Bell dies and is buried at Beinn Bhreagh, Nova Scotia.