



PART A of Emile Berliner

Emile (originally Emil) Berliner was born in Hanover, Germany, on May 20, 1851. He was one of thirteen children born to Samuel and Sarah Fridman Berliner. . . . His father was a merchant and a Talmudic¹ scholar, and his mother was an amateur musician. From both parents Berliner and his siblings inherited a great sense of integrity and a pride in accomplishment.

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Following a few years of school in Hanover, Berliner was sent to nearby Wolfenbüttel to attend the Samsonschule from which he graduated in 1865 at the age of fourteen. According to his own later statement, this marked the end of his formal schooling. Berliner then spent several years at odd jobs in Hanover helping to support the large Berliner family. Enticed by the offer of a clerkship in a store partly owned by a man named Behrend, a Hanoverian who had emigrated to the United States some time earlier, and perhaps by a desire to escape the military duty that faced most young men in the year of the Franco-Prussian War, Berliner persuaded his parents to allow him to accept the job offer and to emigrate to America. In late March 1870 he left Hanover.

The dry-goods store for which he was destined was located in Washington, D.C. For three years Berliner clerked for Gotthelf, Behrend and Co. until in 1873 he decided a better opportunity awaited him in New York City. There Berliner again took up onerous² jobs during the day while trying to improve himself by studying privately at night at the Cooper Institute. After a brief career as a "drummer" (traveling salesman) for a "gents' furnishings" (men's clothing and accessories) establishment in Milwaukee, Berliner again went back to New York where this time he was most fortunate in obtaining a position as general cleanup man in the laboratory of Constantine Fahlberg, the discoverer of saccharine. This experience in a research laboratory fired Berliner's ambition, and he decided that science, research, and invention were to be his destiny.

Work on the Telephone and the Microphone (1876–84)

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In 1876 Berliner returned to what was now Behrend and Co. in Washington and resumed his clerkship. That was the year of the American centennial celebrations, and among the outstanding events that took place in Washington was a demonstration of the new

¹**Talmudic:** of or pertaining to the primary source of Jewish law and tradition

²**onerous:** demanding



telephone of Alexander Graham Bell. Berliner saw the instrument for the first time and was filled with enthusiasm. He commenced to study the telephone. To his inquiring mind one of the instrument's weaknesses was its transmitter. Working alone in his rooming house, he fashioned a new type of transmitter which he called a "loose-contact" transmitter, a type of microphone, which increased the volume of the transmitted voice. That he was able to do this while still possessing only a rudimentary knowledge of electricity and physics was quite astounding. When the members of the newly formed American Bell Telephone Company were advised that a young and entirely unknown man in Washington had submitted a caveat³ (Berliner wrote it himself without the aid of a patent attorney) to the Patent Office covering a new transmitter, they could hardly believe it. Thomas Watson, the Mr. Watson of telephone fame, was sent to Washington to make inquiries. He returned such a glowing report of the transmitter and of Berliner himself that the company offered to buy the rights to the invention and to hire Berliner as a research assistant. For the next seven years, Berliner was employed by the ABT Co., first in New York City and then in Boston. During those years Berliner worked on numerous problems associated with the fledgling telephone industry and developed into a first-class theoretical electrician.

While working in Boston in 1881, Berliner became an American citizen and in the same year married a young woman of German descent named Cora Adler. In 1884 Berliner decided to set himself up as a private researcher and inventor, his cherished dream. He resigned from the American Bell Telephone Company, and he and Cora left Boston and set up housekeeping in Washington, D.C.

In his small house in Washington, Berliner began working on additional improvements to Bell's telephone, selling the rights to his patents to the telephone company. Then, in 1886, he began working on the invention that was to prove his most important contribution to the world. This was the development of the gramophone, the recording and reproduction of sound by means of disc records. Among his other inventions were:

Floor Covering

As early as 1883, while still working for the telephone company, Berliner obtained Patent 284,268 for a new type of floor covering which he termed Parquet Carpet. From time to time he returned to this work, and he obtained additional Patents 621,316 in 1899 and 656,162 in 1900.

³**caveat:** a legal notice

*Acoustic Tile*

As one who frequently attended orchestral concerts, operas, and other musical events, as well as lectures, plays, and sermons, Berliner was well aware of the poor acoustics of many halls, theaters, churches, and synagogues. Having studied acoustics for many years, he decided to do something about the situation. He soon came up with a new type of tile that could be affixed to the existing walls of rooms. Acoustic tiles were, in the inventor's words, "composed of porous cement, are as hard as stone, and yet have the resonance of wood when vibrated by a tuning fork." In 1926 he obtained Patent 1,573,475 for these tiles. They were eminently successful in the days before public address systems. Among the buildings that added these tiles were the auditorium of Drexel University in Philadelphia, Stanley Theater in Jersey City, the Church of the Messiah in Montreal, Leicester Theatre in London, Uptown Theater in Philadelphia, the Second Presbyterian Church in Pittsburgh, and the boardroom of the Karachi Port Trust in what is now Pakistan.

The Helicopter and the Lightweight Internal Combustion Engine

In 1906 or 1907 Emile Berliner became fascinated with the possibilities of the flying machine. This led to his involvement in the development of the helicopter which, as he himself said, was one of the earliest forms of heavier-than-air machines conceived, going back at least as far as the time of Leonardo da Vinci. Berliner designed and patented a new type of lightweight internal combustion engine to power the rotors. By 1909 he had constructed a working model that was capable of lifting the weight of two adult men, however, the helicopter was tethered to the ground and no free flight was attempted. Although Berliner had to relinquish his work on the helicopter, his son Henry continued it.



PART B of Emile Berliner

Berliner's Reputation and Other Inventors

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Emile Berliner is not known to have had any testy relations with his inventor colleagues; he appears to have been a man of remarkably even temperament. When certain slights came his way it was not Berliner but some of his admirers who took up arms in defense of his reputation. For instance, in the early years of the century, some writers took it upon themselves to declare that it was Thomas A. Edison who had invented the loose-contact telephone transmitter. Theodore Vail, president of the American Telephone and Telegraph Company, wrote a letter declaring that to his certain knowledge it was Emile Berliner who invented that type of microphone. Again, when Edison was presented with a statue of *Orpheus Discovering the Gramophone Record*, it was not Berliner but a host of his friends who complained, as they also did when Congress was considering awarding Edison a medal for the development of the gramophone, in addition to his numerous authentic inventions.

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Still, that Berliner was concerned about his reputation and noted the dubious claims of others is evident from the Library of Congress's collections. The Library has a scrapbook apparently compiled by Berliner with articles and letters relating to Thomas Edison's receiving credit for Berliner's invention of the gramophone. Likewise, Berliner wrote in the front cover of a volume of telephone litigation that it might be necessary to preserve this book in order to protect his reputation.

Involvement in Community and Social Causes

Emile Berliner for many years took an active role in community and social causes, particularly in the public health field. In 1909 he donated funds for an infirmary building at the Starmont Tuberculosis Sanitarium in Washington Grove, Maryland, dedicated to the memory of his father. Berliner was president of the Washington Tuberculosis Association for some years. In 1924, he inaugurated* the Bureau of Health Education to promote public hygiene and health education for mothers and children.

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The subject of children's health was close to his heart. In 1900 his youngest daughter,

***inaugurated:** made a formal beginning of



Alice, became desperately ill, very likely from bacteria picked up from some food or drink. Because of this illness, Berliner campaigned against the high mortality rate of babies and young children. He became a fervent advocate of clean milk, and by all means at his disposal, he preached to mothers to "scald the milk" before serving it. He also became disgusted by what he perceived to be the neglect of cleanliness in children. In 1919 he and some of his associates wrote and published a book of colored drawings with accompanying rhymes illustrating what happens to children who neglect cleanliness. Entitled *Muddy Jim*, the book was given to schools in the Washington area and elsewhere. All the rhymes were written by Emile Berliner. The book was soon translated into French, possibly for distribution in the Canadian province of Quebec. . . .

Berliner inherited a great fondness for music from his mother and was an avid concertgoer. That he could play the piano is attested by one of his assistants in the gramophone laboratory, who said that Berliner was the pianist on some of the very early recordings. In 1897 he wrote a song entitled "Columbian Anthem" in honor of the nation's capital, the District of Columbia. It was arranged for male quartet and was recorded in 1897 on Berliner record 4288 and seems to have been rerecorded several times before June 1900.

Berliner's Death (1929)

In a May 9, 1928, letter to his wife concerning the type of funeral he would want, Berliner expressed both his humanitarian and patriotic feelings:

When I go I do not want an expensive funeral. Elaborate funerals are almost a criminal waste of money. I should like Alice to play the first part of the "Moonlight Sonata" and at the close maybe Josephine will play Chopin's "Funeral March." Give some money to some poor mothers with babies and bury me about sunset. I am grateful for having lived in the United States and I say to my children and grandchildren that peace of mind is what they should strive for.

Emile Berliner died on August 3, 1929, in his seventy-ninth year.