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## Landell de Moura, Father Roberto 1861–1928

### Brazilian Wireless Pioneer

In the 1890s and early 1900s, Father Roberto Landell de Moura produced a series of wireless communication devices that were as original in their day as they were unrecognized.

#### Origins

Roberto Landell de Moura was born in Porto Alegre, the capital of Rio Grande do Sul, on 21 January 1861. Graduating as a distinguished student from a local Jesuit high school, he moved to Rio de Janeiro to study at the Polytechnic Institute. Unable to pay tuition, however, he took a job as a store clerk.

In 1881 his brother, on his way to Rome to study for the priesthood, visited him; Roberto decided to accompany him and also become a priest. He studied theology at the seminary in Rome for students from the Americas and physics and chemistry at the Gregorian University. He also became aware of scientific developments in Italy and Europe. Ordained in 1885, he returned to Rio de Janeiro and for a brief period was a temporary chaplain in the Brazilian imperial court, occasionally conversing with Emperor Dom Pedro II, who had met Alexander Graham Bell and later introduced the telephone to Brazil.

From 1887 through the 1890s Landell de Moura had a series of parish assignments in Rio Grande do Sul and then in São Paulo. He had a difficult temperament and had to be transferred several times to different parishes.

#### Wireless Inventions

It was during the 1890s, while posted in Campinas, São Paulo, that he formulated theories about controlled, wireless conduction of vibratory movements and light beams, believing that any sound, including the human voice, could be transmitted over land, through the air, and under the water.

During 1893 and 1894 he demonstrated these ideas in the center of the city of São Paulo. He transmitted sound without wires between two of the highest points in the city, over five miles apart, using a type of three-electrode conductor lamp. These demonstrations occurred in the presence of the British Consul and years before similar demonstrations were made by Marconi and de Forest.

Despite presenting his inventions before a representative of one of the most inventive and commercial countries in the world, however, he failed to attract interest or investment. Worse, word about his strange, “diabolical” inventions aroused the suspicions of his parishioners. They invaded his rectory and destroyed his machines.

Undismayed, he rebuilt and refined them, by 1900 obtaining Brazilian patent 3,279 for a machine transmitting sound with or without wires via space, land, or water. Continuing to find no local interest, however, he moved to the United States. Taking up residence in New York City in 1901 and surviving on a subsistence income, he remade his inventions and obtained U.S. patents 771,917 (11 October 1904), 775,337 (22 November 1904), and 775,846 (22 November 1904) for a sound wave transmitter, a wireless phone, and a wireless telegraph, respectively. The wave transmitter produced electrical oscillations of light from sound vibrations generated by the human voice or other source. The sound waves passed through a receptor with induction coils and condensers that changed them into electric or light waves, allowing their wireless transmission to a receptor that could convert them to voice or sound or light signals. His wireless phone transmitted and received voice via light waves. The wireless telegraph transmitted and received signals via various types of sound waves.

EDWARD A. RIEDINGER

*See also* Early Wireless