

Living in the Past

Historical perspective

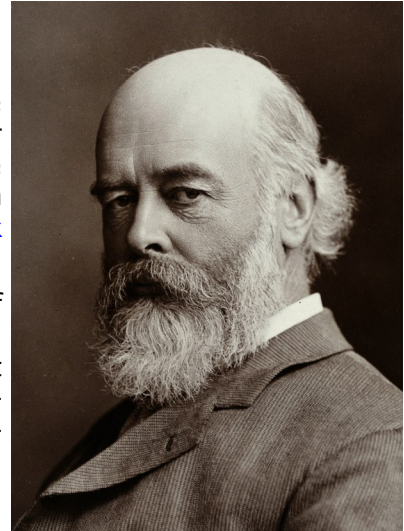


Inventor of wireless telegraphy

At the age of 16, soon after he had enrolled at the Royal College of Science in London, [Oliver Lodge](#) discovered he had a gift for science. By the time he earned his PhD at the University College of London, Oliver had crossed educational and career paths with many renowned physicists, including [John Tyndall](#), [James Clerk Maxwell](#), and [Heinrich Hertz](#).

Once he became captivated by the prospect and potential of wireless communication, Oliver soon developed a rivalry with [Guglielmo Marconi](#). Although Marconi is credited with the first radio broadcast in 1896, Oliver had actually demonstrated wireless telegraphy two years previous at Oxford University, culminating in over a decade of disputes over the invention of radio.

Thanks to Oliver Lodge, Marconi also used an improved version of the "coherer" detector, in which iron filings in a glass tube were positioned between two electrodes. When radio waves were applied to the electrodes, the filings would "clump" together and close the circuit. Lodge improved on this coherer by adding a "trembler" to shake the tube and dislodge the clump after each radio signal. The name arises from the behavior of the filings to stick together, or cohere, upon being charged.



Much of Oliver's exploration into electromagnetic (radio wave) phenomena came about as a result of a challenge presented to him by the Royal Society of Arts, to explain why lightning does not behave as many expect. Many structures had been damaged, in spite of lightning protection, because the huge electrical currents took alternate paths through them instead of through the cabling provided it, puzzling many. This led Oliver to experiment with high-capacity Leyden jars that held large amounts of charge, and carefully ob-

serve the results. He found that the charges took the shorter, higher-resistance paths rather than the longer, lower-resistant ones.

Among his other achievements credited to Oliver were the Lodge "igniter," an early form of the automobile engine spark plug, the loudspeaker (using a coil surrounding a permanent magnet and attached to a diaphragm), and an early form of a variable tuner.

For his many contributions to science, Oliver Lodge was knighted in 1902 by King Edward VII. You can read more about the life of Oliver Lodge on [National Inventors Hall of Fame](#) and [All About Circuits](#).