

Edison by Leo Rosten

¹NEVER WAS A PROPHET more honored in his time. Delegations, dignitaries, Boy Scouts, politicians descended on his laboratory to present him with medals, scrolls, titles, encomiums. His birthday was celebrated nationally; his name graced every public-opinion poll on the greatest living men, or the benefactors of mankind. For all the adulation, he impressed Robert Millikan, the discoverer of cosmic rays, as “a much greater man than I expected to find, simple, direct, intelligent and unspoiled.”

²Thomas Alva Edison was an American folk hero, adored by every boy who tinkered in the basement, and by all the self-made men who chortled that “the Wizard of Menlo Park” had had only three months of formal schooling. He was a new Ben Franklin, the archetype of genius-plus-common-sense, a beloved oracle on whatever topic he chose to discuss. His homely aphorisms delighted the world: “Genius is 1 percent inspiration and 99 percent perspiration,” “Work heals and ennobs.”

³He was born February 11, 1847, in Milan, Ohio, and worked as newsboy and “candy butcher” on a train when he was 12. His career was pure Horatio Alger, even unto the rescue of a child from the path of a speeding train. The father, in gratitude, taught 15-year-old Tom Edison how to be a telegraph operator. He landed in New York at 22, penniless. Within a year, he had \$40,000—for inventing a stock ticker.

⁴We think of him as the inventor of the electric light, but how very much more than that he conceived, improved, made--and made possible! Incandescent light liberated mankind from kerosene lamps; the dynamo generated genies that leaped over mountains, rivers, plains, plateaus to build undreamed-of

technologies; electric motors replaced horses, coal, steam. Electricity ended the night, adding how many hours to every day—for work or talk or laughter; how many years to all our lives—for reading, meetings, self-enrichment.

⁵Even the barest catalogue of his inventions still strains belief: the phonograph, the movie camera, the microphone, the mimeograph, the dictating machine, ship-to-shore telegraphy. He was granted 1,093 patents in the U.S. alone and two to three thousand more in foreign countries. He refused to patent the fluoroscope, because he wanted doctors and surgeons to use it freely. His company produced over 1,700 movies, including *The Great Train Robbery*, the first movie to tell a story, and *Parsifal*, probably the first opera on film.

⁶Few corporations had research budgets in those days; foundations and government agencies spent little or nothing on research; so Edison dramatized himself to raise money, playing the homespun sage deliberately, cultivating careless dress, clowning for reporters. He scoffed at formal education and professors, thought four or five hours of sleep enough for anyone and often worked 40 to 50 straight hours, napping in his laboratory. He was not interested in anything that was not *useful*: It was his greatest shortcoming.

⁷His deafness (“I have not heard a bird sing since I was 12”) intensified an astounding capacity for concentration. His second wife said that when absorbed in a problem, Edison lived “in the highest state of exhilaration, seeing nothing, hearing nothing, thinking nothing...except what has a vital bearing on the task.”

⁸He was a ravenous reader, loved Shakespeare and Tom Paine, had over

10,000 volumes in his home, and started on a new problem by collecting everything in print on the subject; assistants scoured the foreign literature. He filled 2,500 notebooks with research records, ideas, hunches. His memory was as prodigious as his energy.

⁹His genius lay in an almost inexhaustible ingenuity; but his success flowed from a tenacious indifference to failure. He seemed incapable of despair: Searching for a domestic source of rubber, he tested 17,000 (!) different plants; and after 8,000 unsuccessful trials on a nickel-iron storage battery, he remarked cheerfully, "Well, at least we know 8,000 things that won't work."

¹⁰He had one quality that is uncommon in heroes: the courage to brave the wrath of those who idolized him. "A personal God means absolutely nothing to me," he once said, and set off a furor. Accused of blasphemy, Edison replied, "I tried to say exactly what I honestly believe to be the truth...I have never seen the slightest scientific proof of...heaven and hell, of future life, or of a personal God...I don't believe in the God of the theologians; but that there is a Supreme Intelligence, I do not doubt." He dryly noted that "billions of prayers" had never prevented diseases or wars, and when a preacher asked whether to put a lightning rod on a church steeple, Edison replied, "By all means, as Providence is apt to be absent-minded."

¹¹He was no intellectual. He had no head for the grand abstractions, the encompassing theories of science. He revered Faraday, confessing, "I am not a scientist; I am an inventor." But the line between pure and applied science is not always rigid; ingenious devices and newly discovered facts, pedestrian though they seem, often inspire new theories. Edison's passion for experiment, his canniness of observation, his imaginative conception of novel combinations, his ability to find

fresh ways of solving old problems, to follow intuition and persevere in the search for what was not until then known—these are surely part and parcel of scientific endeavor.

¹²He did, in fact, make two important scientific discoveries: "etheric force," which became the basis of wireless telegraphy (he registered a patent 11 years before Marconi) and radio; and the "Edison effect," by which electronics' was discovered and harnessed. He found he could "pull" an electrical current out of a vacuum, "discovering an inexhaustible source of free electrons," and broke the trail for De Forest's vacuum tube and television. Perhaps the greatest of Edison's inventions was-organized research itself. His laboratory in Menlo Park, N.J (1876) was the first to put researchers of different skills to work as a team on new problems. He was no "lone tinkerer"; he hired 80 first-rate "earnest men": chemists, physicists, mathematicians.

¹³His influence was greater than his inventions, for he showed men how revolutionary and beneficent the application of science could be. He made progress more than a dream. He lifted research to a magical place in the popular mind. He converted science into an ally, therefore a friend, for many who feared its impersonality. In a sense, he invented modern invention itself.

The boy from Ohio died in 1931, at 84, leaving cities around the globe diademed by light. How many men so radically altered, and so swiftly enriched, the world into which they were born? —LEO ROSTEN

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